Appendix A:
Notice of Preparation and NOP Response Letters

DUBLIN UNIFIED
School District

7471 Larkdale Avenue
Dublin, CA 94568
(510) 657-2350
www.dublin.k12.ca.us

NOTICE OF PREPARATION

DRAFT ENVIRONMENTAL IMPACT REPORT

Date: September 30, 2019

To: State Clearinghouse
Governor's Office of Planning and Research
Alameda County Clerk
Responsible and Trustee Agencies
Interested Individuals and Organizations

From: Chris Stevens
Chief Facilities Operations Officer
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568
stevenschris@dublinusd.org

The Dublin Unified School District (District) will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Promenade High School Project (proposed project). The District is requesting written comments from responsible Trustee agencies regarding the scope and content of the environmental document. The public is also invited to submit written comments regarding the scope of the EIR and issues that should be addressed as the document is prepared.

A Scoping Meeting will be held on Thursday, October 10th at 6:00 p.m. at Fallon Middle School, located at 3601 Kohnen Way in the City of Dublin.

Additionally, the District is accepting written responses within the California Environmental Quality Act (CEQA)-mandated 30-day comment period that begins on October 1, 2019 and ends **no later than 5:00 p.m. on October 30, 2019.** Public agencies should indicate a contact person in their response to this Notice of Preparation.

Responses should be directed to: Chris Stevens, Chief Facilities Operations Officer, Dublin Unified School District, 7471 Larkdale Avenue, Dublin, CA 94568; dusdceqa@dublinusd.org.

Project Location: The proposed school site is a 23.46-acre vacant property located at the southeast corner of Central Parkway and Chancery Lane in the City of Dublin, Alameda County, California (Assessor's Parcel Numbers [APNs] 985-78-2, -3, -4, -5, -6 and -7). The site also includes the areas that make up 0.71 acres of the total 23.46 acres and are identified as part of South Grafton Street and East Finnian Way on Assessor's Map 985 in between APNs 985-78-5, -6. And -7. The City of Dublin is surrounded by San Ramon and unincorporated Contra Costa County to the north, unincorporated Alameda County to the east and west, and Pleasanton and Livermore to the south and southeast, respectively. Figure 1, Project Site Location, and Figure 2, Project Site Plan, show the proposed project site in its surrounding and local contexts. Pursuant to the City of Dublin General Plan, the project site is designated Public/Semi-Public and Parks/Public Recreation on the west side and Neighborhood Commercial on the central and eastern portion. According to the official zoning map for the City of Dublin, the site is zoned Planned Development (PD). The project site is surrounded primarily by Medium/High-Density Residential and High-Density Residential land uses.

Board of Trustees
Amy Miller, President
Megan Rouse, Vice President
Dan Cherrier
Gabrielle Blackman

Superintendent
Dave Marken, Ph.D.
markendave@dublinusd.org

Project Background Information: The need for the proposed project is based on population growth and increased residential and commercial development in the City of Dublin, which has caused the District's school facilities to approach capacity. The District currently educates over 12,592 transitional-kindergarten/kindergarten through 12th grade students in its 12 schools; approximately 3,291 of these are at the high school level. Dublin High School, the only comprehensive high school that the District operates, has current capacity for 2,481 students. Thus, as of fall of 2018, Dublin High School's student enrollment exceeds capacity of the existing facility. The District, through a Draft Facilities Master Plan prepared in 2016, identified the need for construction of new schools and the modernization and improvement of existing schools, including the construction of a new comprehensive high school.

According to the 2019 School Facilities Needs Analysis prepared on behalf of the District, the District will experience an increase in student enrollment of approximately 554 students from new development that is planned within the District, including 98 at the high school level, over the next five years. A demographics study prepared by Davis Demographics on behalf of the District projects that the District will experience an increase of approximately 1,298 students overall at the high school level from fall of 2018 to the fall of 2025. Thus, according to the Davis Demographics study, Dublin High School will have a deficit of capacity of well over 1,000 students by 2025, and construction of new facilities must occur to relieve this current and projected deficiency.

Project Description: The proposed project consists of the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

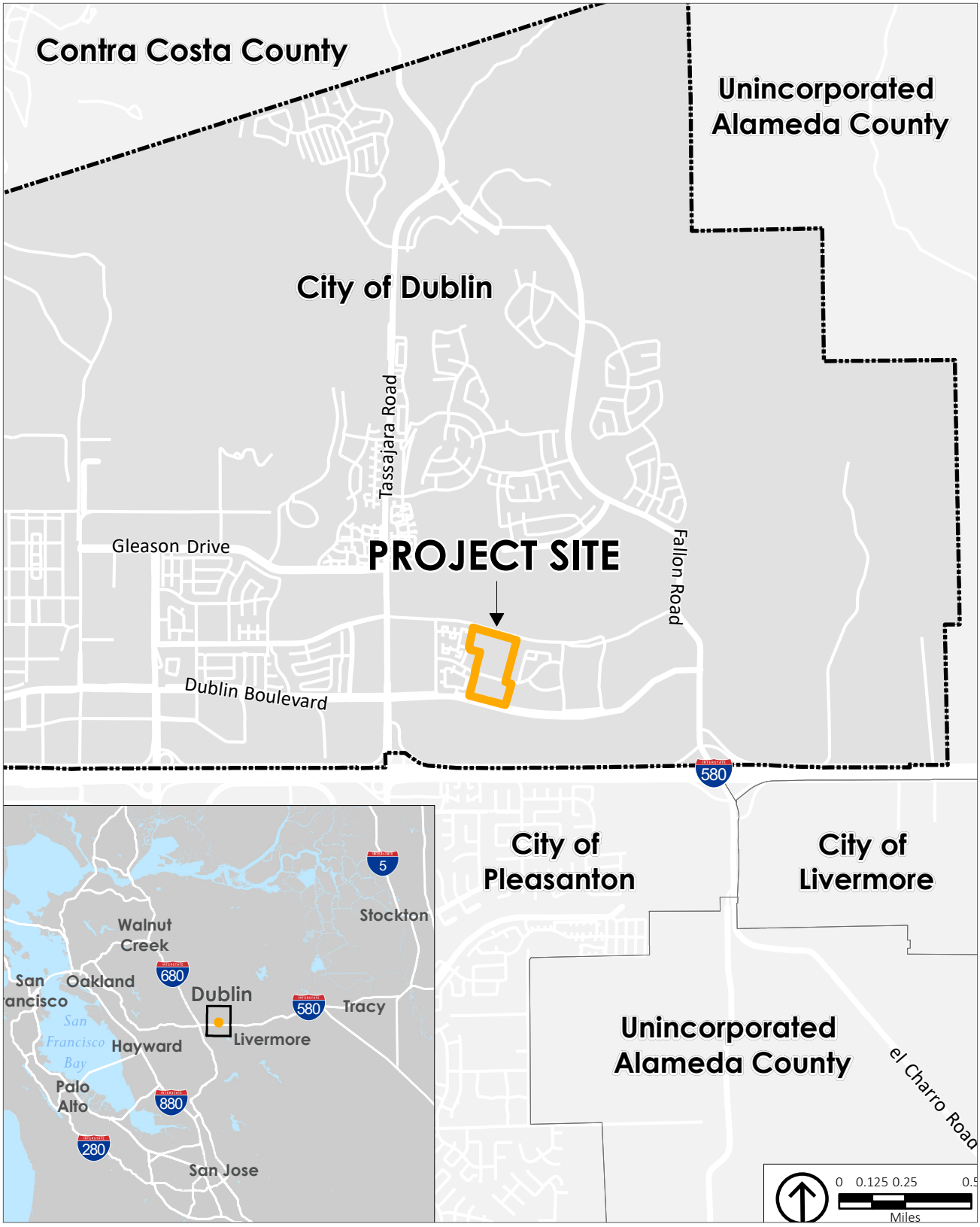
Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

Phase II will accommodate the remaining 1,237 students, and will consist of a second 70,500 sf academy, a 26,490 sf theatre, an orchestra pit, 5,060 sf of VAPA classrooms, a 7,815 sf basement, 4,500 sf of concessions, an aquatic complex, a 400 sf pressbox, and 4,000 sf of bleachers.

Construction of the proposed project would occur on a total of approximately 24 acres.

Potential Environmental Effects: The EIR will evaluate the project for potential impacts on the environment and determine the potential environmental consequences of future change. The proposed project could potentially affect the following environmental factors, each of which will be addressed in the EIR: Aesthetics; Air Quality and Greenhouse Gas Emissions; Biological Resources; Cultural Resources; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population and Housing; Public Services; Transportation and Circulation; Tribal Cultural Resources; Energy; Recreation; Utilities and Service Systems; and Wildfire.

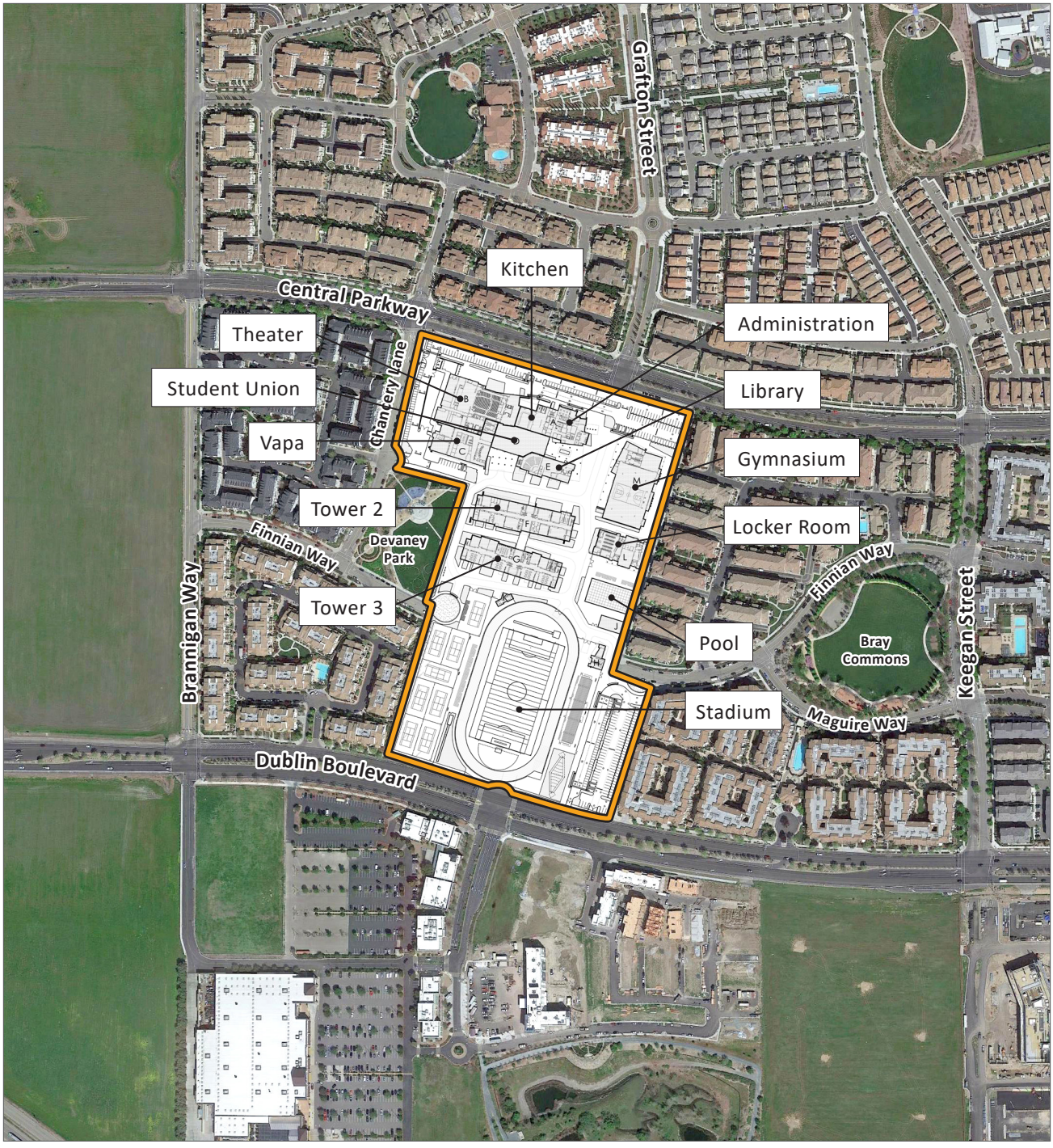
Environmental Effects Not Likely to Require Further Analysis: The proposed project is not anticipated to result in significant environmental effects in the following areas: Agricultural Resources; or Mineral Resources, and these topics are not anticipated to be analyzed in the EIR.



Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Project Site Location



Source: Google Earth Professional, 2018. PlaceWorks, 2018.

Figure 2
Project Site Plan

ALAMEDA
County Transportation Commission

1111 Broadway, Suite 800, Oakland, CA 94607 • 510.208.7400 • www.AlamedaCTC.org

October 30, 2019

Chris Stevens
Facilities Department
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568

SUBJECT: Response to the Notice of Preparation of a Draft Environmental Impact Report for the Promenade High School Project in Dublin

Dear Mr. Stevens,

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of the Draft Environmental Impact Report (DEIR) for the Promenade High School Project in Dublin. The proposed project would construct a new high school, on the currently vacant 23.5-acre site, with capacity for approximately 2,500 students and is split into two phases of construction. Phase 1 includes just under 199,000 square-feet of academic and administrative support facilities as well as a 134-space parking garage. In Phase 2 the proposed project would construct another 325,000 square feet of academic and performance art facilities. The project site is located at the southeast corner of Central Parkway and Chancery Lane, in the City of Dublin. The project site is designated as Public/Semi-Public and Park/Public Recreation on the west side and Neighborhood Commercial on the central and eastern portion under the City of Dublin's General Plan and zoned as Planned Development.

The Alameda County Transportation Commission (Alameda CTC) respectfully submits the following comments:

Basis for Congestion Management Program (CMP) Review

- It appears that the proposed project may generate at least 100 p.m. peak-hour trips over existing conditions, and therefore the CMP Land Use Analysis Program requires the City to conduct a transportation impact analysis of the project. For information on the CMP, please visit: https://www.alamedactc.org/planning/congestion-management-program/.

Use of Countywide Travel Demand Model

- The Alameda Countywide Travel Demand Model should be used for CMP Land Use Analysis purposes. The CMP requires local jurisdictions to conduct travel model runs themselves or through a consultant. The City of Dublin and the Alameda CTC signed a Countywide Model Agreement on July 17, 2008. Before the model can be used for this project, a letter must be submitted to the Alameda CTC requesting use of the model and describing the project. A copy of a sample letter agreement is available upon request. The most current version of the Alameda CTC Countywide Travel Demand Model was updated in June 2018 to be consistent with the assumptions of Plan Bay Area 2040.

Impacts

- The DEIR should address all potential impacts of the project on the Metropolitan Transportation System (MTS) roadway network.
  - MTS roadway facilities in the project area include
    - In the city of Dublin: Dublin Boulevard, Tassajara Road, I-580, I-680, Fallon Road
    - In the city of Pleasanton: I-680, Santa Rita Road
  - For the purposes of CMP Land Use Analysis, the Highway Capacity Manual 2010 freeway and urban streets methodologies are the preferred methodologies to study vehicle delay impacts.
  - The Alameda CTC has *not* adopted any policy for determining a threshold of significance for Level of Service for the Land Use Analysis Program of the CMP. Professional judgment should be applied to determine the significance of project impacts (Please see Chapter 6 of the 2019 CMP for more information).

- The DEIR should address potential impacts, including both capacity and performance of the project on Metropolitan Transportation System (MTS) transit operators.
  - MTS transit operators potentially affected by the project include: BART and LAVTA (Wheels)
  - Transit impacts for consideration include the effects of project vehicle traffic on mixed flow transit operations, transit capacity, transit access/egress, need for future transit service, and consistency with adopted plans. See Appendix J of the 2019 CMP document for more details.

- The DEIR should address potential impacts of the project to people biking and walking in and near the Promenade High School Project area, especially nearby roads included in the Countywide High-injury Network and major barriers identified in the Countywide Active Transportation Plan.
  - Impacts to consider on conditions for cyclists include effects of vehicle traffic on cyclist safety and performance, site development and roadway improvements, and consistency with adopted plans. See Appendix J of the 2019 CMP document for more details.

Mitigation Measures

- Alameda CTC's policy regarding mitigation measures is that to be considered adequate they must be:
  - Adequate to sustain CMP roadway and transit service standards;
  - Fully funded; and
  - Consistent with project funding priorities established in the Capital Improvement Program of the CMP, the Countywide Transportation Plan (CTP), and the Regional Transportation Plan (RTP) or the Federal Transportation Improvement Program, if the agency relies on state or federal funds programmed by Alameda CTC.

- The DEIR should discuss the adequacy of proposed mitigation measure according to the criteria above. In particular, the DEIR should detail when proposed roadway or transit route improvements are expected to be completed, how they will be funded, and the effect on service standards if only the funded portions of these mitigation measures are built prior to Project completion. The DEIR should also address the issue of transit funding as a mitigation measure in the context of the Alameda CTC mitigation measure criteria discussed above.

- Jurisdictions are encouraged to discuss multimodal tradeoffs associated with mitigation measures that involve changes in roadway geometry, intersection control, or other changes to the transportation network. This analysis should identify impacts to automobiles, transit, bicyclists, and pedestrians. The HCM 2010 MMLOS methodology is encouraged as a tool to evaluate these tradeoffs, but project sponsors may use other methodologies as appropriate for particular contexts or types of mitigations.

- The DEIR should consider the use of TDM measures, in conjunction with roadway and transit improvements, as a means of attaining acceptable levels of service. Whenever possible, mechanisms that encourage ridesharing, flextime, transit, bicycling, telecommuting and other means of reducing peak hour traffic trips should be considered. The Alameda CTC CMP Menu of TDM Measures and TDM Checklist may be useful during the review of the development proposal and analysis of TDM mitigation measures (See Appendices F and G of the 2019 CMP). The proposed project may also consider enrollment in the Alameda County Safe Routes to School Program as a TDM strategy.

Thank you for the opportunity to comment on this NOP. Please contact me at (510) 208-7426 or Chris G. Marks, Associate Transportation Planner at (510) 208-7453, if you have any questions.

Sincerely,

Saravana Suthanthira
Principal Transportation Planner

cc: Chris G. Marks, Associate Transportation Planner

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
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www.dot.ca.gov

Making Conservation a California Way of Life.

October 29, 2019

SCH #2019100001
GTS # 04-ALA-2019-00466
GTS ID: 17259
ALA/580/ PM 17.55

Chris Stevens
Chief Facilities Operations Officer
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568

Promenade High School Project – Notice of Preparation (NOP)

Dear Chris Stevens:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Promenade High School Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the September 30, 2019 NOP.

Project Understanding

The Dublin Unified School District proposes to develop, construct, operate, and maintain a high school and related educational purposes. The new high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases. Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

Phase II will accommodate the remaining 1,237 students, and will consist of a second 70,500 sf academy, a 26,490 sf theatre, an orchestra pit, 5,060 sf of VAPA classrooms, a 7,815 sf basement, 4,500 sf of concessions, an aquatic complex, a 400 sf press box, and 4,000 sf of bleachers. Construction of the proposed project

would occur on a total of approximately 24 acres. Regional access is provided from the Interstate (I)-580 and Tassajara Road interchange about 0.56 mile away.

Travel Demand Analysis

Please submit a travel demand analysis that provides Vehicle Miles Traveled (VMT) analysis resulting from the proposed project. With the enactment of Senate Bill (SB) 743, Caltrans is focusing on transportation infrastructure that supports smart growth and efficient development to ensure alignment with State policies using efficient development patterns, innovative travel demand reduction strategies, multimodal improvements, and VMT as the primary transportation impact metric. Please ensure that the travel demand analysis includes:

- A vicinity map, regional location map, and site plan clearly showing project access in relation to the State Transportation Network (STN). Ingress and egress for all project components should be clearly identified. Clearly identify the State right-of-way (ROW). Project driveways, local roads and intersections, car/bike parking, and transit facilities should be mapped.

- A VMT analysis pursuant to the City of Dublin's guidelines or, if the City of Dublin has no guidelines, the Office of Planning and Research's Draft Guidelines. Projects that result in automobile VMT per capita greater than 15% below existing (i.e. baseline) city-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City of Dublin.

- A schematic illustration of walking, biking and auto conditions at the project site and study area roadways. Potential safety issues for all road users should be identified and fully mitigated.

- The project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access to pedestrians, bicycle, and transit facilities must be maintained.

- Clarification of the intensity of events/receptions to be held at the location and how the associated travel demand and VMT will be mitigated.

Traffic Operations

Phase I and Phase II traffic impacts to the eastbound and westbound ramp intersections at both the I-580/Tassajara Rd/Santa Rita Rd and I-580/Fallon Rd/El Charro Rd interchanges should be analyzed and mitigation should be proposed as needed. Also, please identify the expected number of peak hour trips.

Multimodal Planning

The project's primary and secondary effects on pedestrians, bicyclists, travelers with disabilities, and transit users should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access for pedestrians and bicyclists to transit facilities must be maintained. Smart growth approaches are consistent with MTC's Regional Transportation Plan/SCS and should help meet Caltrans Strategic Management Plan targets.

Vehicle Trip Reduction

From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 4d: Suburban Communities (Neighborhoods)** where location efficiency factors, such as community design, are relatively weak and regional accessibility varies. Given the place, type and size of the project, it should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions. Such measures are critical to facilitating efficient site access. The measures listed below can promote smart mobility and reduce regional VMT.

- Project design to encourage walking, bicycling and transit access;
- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information system;
- Transit subsidies on an ongoing basis;
- Ten percent vehicle parking reductions;
- Charging stations and designated parking spaces for electric vehicles;
- Carpool and clean-fuel parking spaces;
- Designated parking spaces for a car share program;
- Unbundled parking;
- Showers, changing rooms and clothing lockers for employees that commute via active transportation;
- Emergency Ride Home program;
- Employee transportation coordinator;

- Secured bicycle storage facilities;
- Fix-it bicycle repair station(s);
- Bicycle route mapping resources;
- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area; and
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement.

Transportation Demand Management programs should be documented with annual monitoring reports by an onsite TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities. These smart growth approaches are consistent with the MTC's Regional Transportation Plan/SCS goals and would help meet Caltrans Strategic Management Plan sustainability goals.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees

Please identify project-generated travel demand and estimate the costs of public transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair share contributions toward multi-modal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT.

Construction-Related Impacts

Potential impacts to the State ROW from project-related temporary access points should be analyzed. Mitigation for significant impacts due to construction and noise should be identified in the EIR. Project work that requires movement of oversized or excessive load vehicles on state roadways requires a transportation permit that is issued by Caltrans. To apply, visit: https://dot.ca.gov/programs/traffic-operations/transportation-permits.

Prior to construction, coordination is required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the STN.

Lead Agency

As the Lead Agency, the Dublin Unified School District is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Andrew Chan at 510-622-5433 or andrew.chan@dot.ca.gov.

Sincerely,

Mark Leong
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

DUBLIN
CALIFORNIA
THE NEW
AMERICAN
BACKYARD

October 30, 2019

Chris Stevens, Chief Facilities Operations Officer
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568
stevenschris@dublinusd.org

Subject: Notice of Preparation for Draft Environmental Impact Report for Promenade High School Project

Dear Mr. Stevens,

The City of Dublin appreciates the opportunity to provide comments on the scope of the Draft Environmental Impact Report (EIR) that will be prepared for the Promenade High School (proposed project) and issues that should be addressed. The proposed project would develop a new high school and related educational facilities for approximately 2,500 students on a vacant 23.46-acre site located north of Dublin Boulevard, south of Central Parkway, east of Chancery Way, and adjacent to Finnian Way at both the eastern and western boundaries.

Existing Conditions

The Draft EIR should acknowledge the following existing conditions related to public improvements and easements adjacent to and within the project site:

- There are two unimproved dedicated public streets within the properties (Finnian Way and Grafton Street), along with unimproved easements (Public Access Easement, Sidewalk Easement, and Emergency Vehicle Access Easement).
- There are two parcels within the subject properties, known as Parcels A and B of Parcel Map 9717, which are intended for future conveyance to the City as public streets (Finnian Way and Grafton Street).
- There are existing improvements and facilities located within the properties in the Public Service Easement and Storm Drain Easement.
- The existing City facilities within the properties are a 60-inch diameter storm drain line, 30-inch diameter storm drain line, 24-inch to 30-inch diameter storm drain line, and 24-inch to 36-inch to 42-inch storm drain line, along with appurtenant structures and facilities (i.e., manholes and drainage inlets).

City Council 925.833.6650
City Manager 925.833.6650
Community Development 925.833.6610
Economic Development 925.833.6650
Finance/IT 925.833.6640
Fire Prevention 925.833.6606
Human Resources 925.833.6605
Parks & Community Services 925.833.6645
Police 925.833.6670
Public Works 925.833.6630

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- There is an existing "Easement Grant Deed" to the City, dated February 2, 2001, County Recorder No. 2001060792, for a non-exclusive easement for public access purposes over portions of parcels shown on the Tract 7148 final map as "Public Access Easement (PAE)."
- There is an existing "Maintenance and Irrevocable License Agreement Relating to Parcel Map 9717" with the City, dated October 6, 2009, County Recorder No. 2009367778, for permitted uses (public access, traffic signs, street lights, street trees, utilities) within the licensed areas depicted on the parcel map as "Sidewalk Easement (SWE)."
- There is a "stub-out" for a future fourth leg of the intersection of Dublin Boulevard and Grafton Street, which is located along the southern boundary. The stub-out has existing pavement, curb ramps, curb and gutter, and traffic signal facilities.
- There is a "stub-out" for a future fourth leg of the intersection of Central Parkway and Grafton Street, which is located along the northern boundary. The stub-out has existing pavement, curb and gutter, and traffic signal facilities.
- There is a "stub-out" for a future fourth leg of the intersection of Chancery Lane and Dunmore Lane, which is located along the north side of Devaney Square. The stub-out has existing pavement and curb and gutter.
- Each "dead end" of Finnian Way at the eastern and western boundaries has an unpaved turnaround located on the subject properties.
- The City park, Devany Square, has improved pathways that "dead end" at the property lines of the subject properties.
- There is an existing concrete pedestrian pathway located on the subject properties along the eastern boundary adjacent to the existing residences.
- There are existing ornamental trees and a concrete pathway located on the subject properties along the western boundary from Finnian Way to Dublin Boulevard adjacent to existing residences.

Impact Analysis

- Aesthetics – Given the close proximity of existing high density residential development to the project site, the EIR should evaluate potential aesthetic impacts that may result from the degradation of the existing visual character and quality of the site and its surroundings. Mitigation should consider the placement of proposed buildings, parking areas, swimming pool, football stadium, and other facilities and the addition of landscaping and/or other buffers to reduce impacts to surrounding residential uses. In addition, lighting of proposed parking areas, swimming pool, football stadium, tennis courts, and other facilities would introduce new sources of light and glare that could result in adverse impacts. Mitigation should consider the placement of lighting, height of light standards, brightness, cut off features, and other methods to reduce impacts to surrounding residential uses.
- Land Use and Planning – The proposed project has the potential to divide an established neighborhood by eliminating Finnian Way as a through street and, in particular, would alter public access to Devany Square for residents who live east of the project site. Mitigation for impacts to the neighborhood should consider providing circulation through the site to connect the two neighborhoods and access to Devany Square from the east. In addition, the proposed project would

not be consistent with the Dublin General Plan as documented in the attached March 18, 2018 Planning Commission Staff Report on Dublin Unified School District's Acquisition of the Dublin Ranch Area G Property and General Plan Conformity, which should be disclosed in the EIR.

- Noise – The proposed project has the potential to permanently increase ambient noise levels in the surrounding area during the day, night and weekends. Potential noise impacts from public announcement equipment, class bell system, and general noise from student activities and school events should be evaluated in the EIR with consideration given to nearby residents. Mitigation should consider building placement to provide buffering, limiting the hours of noise generating activities, and other methods to reduce noise impacts to surrounding residential uses.

- Recreation – Given the close proximity of an existing City park to the project site, the EIR should evaluate the potential increase in use of Devany Square such that physical deterioration of the park would occur or be accelerated. Mitigation should include limitations on the use of the park by students, increase trash pick-up, possible improvements or changes to the park to address future use by students, and other methods to ensure the impacts to the park are reduced.

- Transportation – The traffic impact analysis prepared for the proposed project must be analyzed using the current version of the City of Dublin Citywide Travel Demand Model (Citywide Model). In order to adequately analyze impacts, the Citywide Model land uses must be updated to reflect the changes associated with the new high school. The Citywide Model street network also needs to be updated to incorporate street network changes proposed by the project. Signalize intersections that should be included in the analysis must be evaluated using the Select Link analysis approach to determine the trip distribution associated with the new high school. The initial list of intersections that are needed for the traffic impact analysis include the following, but these should be updated with the Select Link analysis indicated above in coordination with the City of Dublin staff:

    - Dublin Boulevard/Grafton Street
    - Dublin Boulevard/Brannigan Street
    - Dublin Boulevard/Tassajara Road
    - Dublin Boulevard/Keegan Street
    - Dublin Boulevard/Fallon Road
    - Fallon Road/Central Parkway
    - Fallon Road/Gleason Drive
    - Tassajara Road/Gleason Drive
    - Gleason Drive/ Branigan Street
    - Gleason Drive/ Grafton Street
    - Central Parkway/Brannigan Street
    - Central Parkway/Tassajara Road
    - Central Parkway/Grafton Street
    - Central Parkway Chancery Lane
    - Central Parkway/Keegan Street

- Central Parkway/Finnian Way

If the proposed project attracts vehicle trips that are accessing the project from the I -80 freeway, additional intersections must be included at the I -80 interchanges. Additionally, all project driveways must be evaluated for safe access and circulation for all modes of transportation and for all project scenarios.

Additional Comments

The City's Public Works Department has the following additional project-related comments:

- **Storm Water** – Site improvements and development of the subject properties will affect the ability of the City to enter the subject properties to inspect and maintain the existing City storm drainage facilities until they are removed or relocated with the future construction of the high school. Will Dublin Unified School District (DUSD) take on the maintenance of the existing storm drainage facilities in the interim? Will DUSD take on the ownership and maintenance of any new and relocated storm drainage facilities in perpetuity? DUSD will be required to collect and convey all storm water run-on and runoff and discharge to an adequately sized facility downstream, after appropriate treatment and flow control measures. Connection to and use of the City's public storm drainage system will require review and approval by the City Public Works Department.
- **Storm Water** – The subject properties shall comply with the California Regional Water Quality Control Board San Francisco Bay Region Order No. R2-2003-0031 for waste discharge requirements for the Dublin Ranch watershed. Connection to and use of the City's public storm drainage system will require review and approval by the City Public Works Department.
- **Emergency Vehicle Access** – Site improvements and development of the subject properties will affect the ability for emergency services to use the existing Emergency Vehicle Access Easement (EVAE) until the easement is relocated with the future development of the site for the future high school. Will DUSD allow emergency services to use the existing EVAE in the interim?
- **Pedestrian and Bicycle Access** – Site improvements and development of the subject properties may affect the ability of the public to use the existing pathways along the eastern and western boundaries, and the existing Sidewalk Easement (SWE) or Public Access Easement (PAE) until they are relocated with the future development of the site for the future high school. Will DUSD allow the public to use the existing SWE and PAE in the interim? Will DUSD provide relocated or new public access easements for pedestrians and bicycles through the subject properties in perpetuity?
- **Public Right of Way Improvements, Pedestrian/Bicycle, Landscaping** – Improvements and development of the frontages of Dublin Boulevard, Central Parkway, Chancery Lane, and Finnian Way will require City review and issuance of an Encroachment Permit for any work within the public street rights of way. All proposed sidewalks shall meet ADA and Public Works standards for sidewalks, pedestrian paths, and bike paths within the public street rights of way. All pedestrian/bicycle facilities and landscaping within the public street rights of way shall be in compliance with the City's adopted Bicycle and Pedestrian Master Plan, Eastern Dublin Specific Plan, and Streetscape Master Plan, as applicable.
- **Public Right of Way Improvements, Traffic Signals** – Modifications to the existing traffic signals and appurtenances at the intersections of Dublin Boulevard/Grafton Street and Central Parkway/Grafton Street shall be coordinated and reviewed by the City Public Works Department.

- **Public Right of Way Improvements, Bus Stops** – Installation of bus stops, pull-outs, shelters, etc. along Dublin Boulevard and Central Parkway shall be coordinated and reviewed by LAVTA and the City Public Works Department.
- **Public Right of Way Improvements, Finnian Way turnarounds** – Turnarounds shall be provided at each terminus of Finnian Way east and west and shall be in compliance with Fire District requirements and reviewed by the City Public Works Department.
- **Public Park Interface** – Improvements within or adjacent to Devany Square will require City review and potentially issuance of an Encroachment Permit for any work on City-owned property. All connections to existing pedestrian pathways within Devany Square shall be coordinated with City Public Works Department. Will DUSD connect to or separate high school use from the public park use? Will there be increased need for City maintenance services (i.e. waste receptacles service, landscape maintenance due to increased wear and tear, etc.)?

Should you have any questions or need additional information, please feel free to contact me at (925) 833-6610 or by e-mail at kristie.wheeler@dublin.ca.gov.

Sincerely,

Kristie R. Wheeler

Kristie R. Wheeler
Assistant Community Development Director

Enclosures
March18, 2018 Planning Commission Staff Report

STAFF REPORT
PLANNING COMMISSION

DATE: **March 13, 2018**

TO: Planning Commission

SUBJECT: Report on Dublin Unified School District's Proposed Acquisition of the Dublin Ranch Area G Property and General Plan Conformity
Prepared by:Mandy Kang, Senior Planner and Lauren Quint, Assistant City Attorney

EXECUTIVE SUMMARY:

The Dublin Unified School District (DUSD) is considering the acquisition of real property within the City of Dublin for use as a public school. The subject property consists of approximately 25.1 acres located at the southeast Corner of Chancery Lane and Central Parkway, known as Area G or more commonly known as "The Promenade" property. The majority of the site has a General Plan land use designation of Neighborhood Commercial, with a smaller portion designated Public/Semi-Public.

In accordance with Public Resources Code 21151.2, DUSD provided the City with written notification of its proposed acquisition, which provides the Planning Commission with an opportunity to investigate the proposed site and provide a written report of the investigation and recommendation. In addition, per Government Code section 65402, prior to DUSD acquiring the property, the Planning Commission must review the proposal for consistency with the General Plan.

The proposed use of the site for a school is inconsistent with the existing Neighborhood Commercial land use designation in the General Plan. Understanding that DUSD has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and uses their ability to override applicable zoning ordinances, recommendations are provided in order to help ensure compatibility with the surrounding uses.

RECOMMENDATION:

Staff recommends that the Planning Commission approve the Written Report of the Planning Commission to the Dublin Unified School District pursuant to Public Resources Code §21151.2 and Government Code §65402, for submission to the Dublin Unified School District.

SITE DESCRIPTION:

The subject property consists of approximately 25.1 acres located at the southeast Corner of Chancery Lane and Central Parkway as shown in Figure 1 below. The APN's

are 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005. 985-0078-006, and 985-0078-007. The site is currently empty and commonly referred to as "Dublin Ranch Area G" or the "Promenade" property.

Figure 1. Subject Property



The property has a General Plan land use designation of Neighborhood Commercial and Public/Semi-Public and is zoned Planned Development. The property is surrounded by Medium Density Residential to the north, Medium-High Density and High Density Residential to the east, Parks/Public Recreation and High Density Residential to the west, and Mixed Use commercial and residential uses to the south.

The Dublin Unified School District (DUSD) is considering the acquisition of the subject property in the City of Dublin for use as a public school. In accordance with Public Resources Code 21151.2, DUSD has provided the City with written notification of the proposed acquisition (Attachment 1). The Public Resources Code states that "to promote the safety of pupils and comprehensive community planning the governing board of each school district before acquiring title to property for a new school site or for an addition to a present school site, shall give the planning commission having jurisdiction notice in writing of the proposed acquisition. The planning commission shall investigate the proposed site and within 30 days after receipt of the notice shall submit to the governing board a written report of the investigation and its recommendations concerning acquisition of the site."

In addition, the law provides that the governing board shall not acquire title to the property until the report of the Planning Commission has been received, and if the report does not favor the acquisition of the property for a school site, the governing board of the school district shall not acquire title to the property until 30 days after the report is received.

Finally, pursuant to Government Code section 65402(a), the acquisition of a property by a public agency must be reviewed by the Planning Commission for consistency with the

General Plan, and a determination as to this consistency must be made within forty (40) days.

ANALYSIS:

Consistency with the General Plan (Government Code §65402):

The acquisition of the site for use as a public school is not consistent with the General Plan land use designation of Neighborhood Commercial.

The majority of the proposed school site (approximately 22.0 acres) has a current General Plan land use designation of Neighborhood Commercial which provides for the creation of community and neighborhood oriented commercial centers that serve the retail, service and entertainment needs of the community. A small portion of the site (approximately 3.1 acres) has a General Plan land use designation of Public/Semi-Public which provides for a combination of public facility and semi-public facility land uses.

Uses allowed within the Neighborhood Commercial designation include, but are not limited to: office uses which provide neighborhood and citywide services such as real estate, accounting and legal establishments; local-serving commercial services such as laundries, dry cleaners, beauty salons or finance establishments; local and community serving retail; restaurants and bars; hotels and bed-and-breakfast inns; and entertainment and cultural facilities. Uses allowed within the Public/Semi-Public designation include, but are not limited to: child care centers, youth centers, senior centers, special needs program facilities, religious institutions, clubhouses, community centers, community theatres, hospitals, private schools and other facilities that provide cultural, education, or other similar services and benefit the community.

The current Neighborhood Commercial land use designation does not allow for use of the site as a public school.

Consistency with the Zoning Designation:

The acquisition of the site by DUSD to operate a public school is not consistent with the current zoning designation for the subject site and the proposed use does not conform to the requirements of the Planned Development Zoning Development Plan for Dublin Ranch Area G.

The site is part of the Eastern Dublin Specific Plan which highlights many policies and guidelines related to the overall development of sites designated for commercial uses within a neighborhood. The site is part of a Planned Development Zoning District (Ordinance No. 06-00) with a specific development plan for Dublin Ranch Area G. The Planned Development identifies specific uses for Public/Semi-Public sites which would allow uses such as, but not limited to public facilities, community centers and religious facilities. The majority of the site is designated PD-Village Center (Neighborhood Commercial) and would include, but not be limited to the following uses: drug stores, bakeries, small retail, offices and small eating, drinking and entertainment establishments.

There are several other development standards in the Planned Development Zoning which address vehicular streets, sidewalks and streetscape elements, open spaces, pedestrian circulation, etc. throughout the site. The overall intent for this site was to have six PD-Village Center parcels and one Public/Semi-Parcel parcel, with a network of small streets connecting the neighborhood to shopping areas.

A public school is inconsistent with the existing requirements and standards set forth above.

DUSD's Ability to Render Zoning Inapplicable

In general, although there is no explicit requirement that local agencies, such as DUSD, comply with general plans, local agencies are required to comply with applicable zoning ordinances of the City in which the territory of the local agency is situated. (See Gov. Code, § 53091.) However, the governing board of a school district, "by a vote of two-thirds of its members, may render a city or county zoning ordinance inapplicable to a proposed use of property by the school district." (Gov. Code, § 53094, subd. (b).)

Investigation and Recommendations (Public Resources Code §21151.2)

An investigation of the site has been completed and the following recommendations are made in accordance with Public Resources Code §21151.2. Understanding that DUSD has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and utilizes their power to override applicable zoning ordinances, the Planning Commission offers the following recommendations in accordance with Public Resources Code §21151.2. The District has not yet presented a development plan for the site. Therefore, the comments and recommendations are general in nature and should be considered when planning a school for this site in order to help ensure compatibility with the surrounding uses. It will also be important for the District to engage in a conversation with the surrounding residents during the design phase of the project.

<u>Site Planning</u>
The subject property was originally envisioned as a walkable, neighborhood serving commercial center that is surrounding by existing dense townhomes, condominiums and apartments. These residential units were designed with the presumption that this site would ultimately develop with small scale commercial uses. Therefore, DUSD should use sensitive site planning to maintain a high quality of life and reduce potential negative impacts to the surrounding neighborhoods with the operation of a school on this site. The following are general comments regarding site planning:

- Buildings, parking areas, and play fields should be located in such a manner to reduce impacts to surrounding residential uses.
    - Careful consideration should be given to the placement of on-site play fields and the impact resulting from lights, public announcement equipment, and general noise during the day time, evenings and weekends.
    - Parking areas should be located to reduce visual impacts, noise impacts, and nuisances to surrounding residents.
    - Adequate parking should be provided to ensure that overflow parking does not impact the surrounding neighborhoods.
    - Building placement should be carefully considered given the close proximity of residential uses, including the potential visual impacts of

buildings and noise impacts generated by the use of a class bell system and areas for students to congregate.

- The homes fronting on to the site have a minimal setback and separation to the site. It was anticipated that future development of the site would include a buffer separating the uses. Please consider providing a generous buffer, such as landscaping, to separate these homes from the proposed school.
- The interface with the adjacent 2 acre Devany Square should be taken into consideration when creating the site plan for the school.

Traffic and Circulation

The City has planned a comprehensive circulation network through the General Plan and the Bicycle and Pedestrian Master Plan. The intent is to facilitate movement by all modes of transportation through the site and to facilitate connections the surrounding neighborhoods. Careful consideration to the location and design of the access points to the school is critical to ensure efficient circulation to and from the school while minimizing impacts to the surrounding neighborhoods. The City would like to collaborate with DUSD on traffic and circulation. Therefore, we request that DUSD consult with the City's Transportation and Operations Manager early and often during the design process. The following are general comments regarding traffic and circulation:

- The General Plan and the Bicycle and Pedestrian Master Plan should be consulted and adhered to as best as possible to facilitate full and efficient connectivity for all modes of transportation.
- The location of the primary and secondary access points to the school site should be designed to minimize potential impacts to the roadway network and surrounding neighborhoods.
- Access and circulation by all modes of transportation (i.e. vehicles, pedestrians and bicycles) should be considered when designing the site.
- The loading and unloading of students from buses and vehicles should be coordinated with pedestrian entrances.
- Currently, Grafton Street is planned to connect north/south through the site and Finnian Way is planned to connect east/west through the site. Consideration should be given to the development of the site and impacts to access and circulation to and through the site.
- Similarly, a future extension of the Class 1 bike path is planned to extend along the western side of the site from Central Parkway to Dublin Boulevard, between the Neighborhood Commercial and Public/Semi-Public parcels. This pathway will connect northern neighborhoods to the commercial areas south of Dublin Boulevard. Consideration should be given to maintaining such a planned connection.

Public Works

- There are future planned public improvements that still need to be implemented as part of the site improvements, including but not limited to street extensions, street widening, traffic signals, street dedication, and easement dedications.
- The proposed project site is located in the Dublin Ranch Water Shed and will require coordination with the Dublin Ranch Home Owner's Association.
- The proposed project will also be subject to the clean water requirements of the Municipal Regional Permit (MRP), as applicable, including provisions C-3, C-6 and C-10.

Report to DUSD

A written report of the above findings is included as Attachment 2 of this Staff Report. The Planning Commission may choose to incorporate some or all of the comments set forth into the report.

ENVIRONMENTAL REVIEW

Determination of compliance with the General Plan is not considered a project as defined pursuant to Section §21065 of the California Environmental Quality Act (CEQA), and therefore no further environmental review is required at this time. Should DUSD proceed with the development of a school on this site, that would be considered a project and subject to review under CEQA.

NOTICING REQUIREMENTS/PUBLIC OUTREACH

Per Section 8.132 of the Zoning Ordinance, a Notice of Public Hearing is only required when a Public Hearing is required for certain projects. Since determination of compliance with the General Plan is not considered a project, a Public Hearing is not required, and therefore, a Notice of Public Hearing is not required. It is anticipated that future actions by DUSD to acquire the site and construct a school would be subject to a public notice

ATTACHMENTS:

1. Notice of Proposed School Site Acquisition from DUSD, dated February 14, 2018
2. Written Report of the Planning Commission to DUSD Pursuant to Public Resources Code §21151.2 and Government Code §65402

DUBLIN UNIFIED
School District

DUBLIN SCHOOLS

DUBLIN UNIFIED SCHOOL DISTRICT

7471 Larkdale Avenue, Dublin, CA 94568-1599•925-828-2551•FAX 925-829-6532

All Dublin Students Will Become Lifelong Learners

SUPERINTENDENT
Leslie Boozer, Ed.D., J.D.
(925) 828-2551

BOARD OF TRUSTEES
Amy Miller
President

Dan Cherrier
Vice President

Dan Cunningham
Trustee

Megan Rouse
Trustee

Joe Giannini
Trustee

February 14, 2018

Planning Commission
c/o Chris Foss, City Manager
City of Dublin
100 Civic Plaza
Dublin, CA 94568

Re: Dublin Unified School District/Proposed Property Acquisition Project; Notification Pursuant to Public Resources Code Section 21151.2 and Government Code Section 65402

Dear Chris:

This is to advise you that the Dublin Unified School District is considering the acquisition of real property in the County of Alameda and within the City of Dublin sphere of influence for District use. The subject property consists of approximately 23 acres located at the Southwest corner of Chancery Lane and Central Parkway in Dublin, Alameda County APNs 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005, 985-0078-006, and 985-0078-007. The site is commonly referred to as the "Promenade" property. The District is considering the acquisition of the property for a potential public school. The property is generally depicted in the attached for your reference.

This letter is to provide you with formal notice under Public Resources Code section 21151.2 and Government Code section 65402 regarding the possible acquisition of the property. (Copies of those code sections also are attached for your reference.)

Please process this notice in accordance with the above-referenced code sections. If you have any questions, please contact the undersigned at your convenience. Thank you.

Sincerely,

Joe Sorrera
Assistant Superintendent
Business Services

Enclosures

PUBLIC RESOURCES CODE SECTION 21151.2:

To promote the safety of pupils and comprehensive community planning the governing board of each school district before acquiring title to property for a new school site or for an addition to a present school site, shall give the planning commission having jurisdiction notice in writing of the proposed acquisition. The planning commission shall investigate the proposed site and within 30 days after receipt of the notice shall submit to the governing board a written report of the investigation and its recommendations concerning acquisition of the site.

The governing board shall not acquire title to the property until the report of the planning commission has been received. If the report does not favor the acquisition of the property for a school site, or for an addition to a present school site, the governing board of the school district shall not acquire title to the property until 30 days after the commission's report is received.

GOVERNMENT CODE SECTION 65402:

(a) If a general plan or part thereof has been adopted, no real property shall be acquired by dedication or otherwise for street, square, park or other public purposes, and no real property shall be disposed of, no street shall be vacated or abandoned, and no public building or structure shall be constructed or authorized, if the adopted general plan or part thereof applies thereto, until the location, purpose and extent of such acquisition or disposition, such street vacation or abandonment, or such public building or structure have been submitted to and reported upon by the planning agency as to conformity with said adopted general plan or part thereof. The planning agency shall render its report as to conformity with said adopted general plan or part thereof within forty (40) days after the matter was submitted to it, or such longer period of time as may be designated by the legislative body.

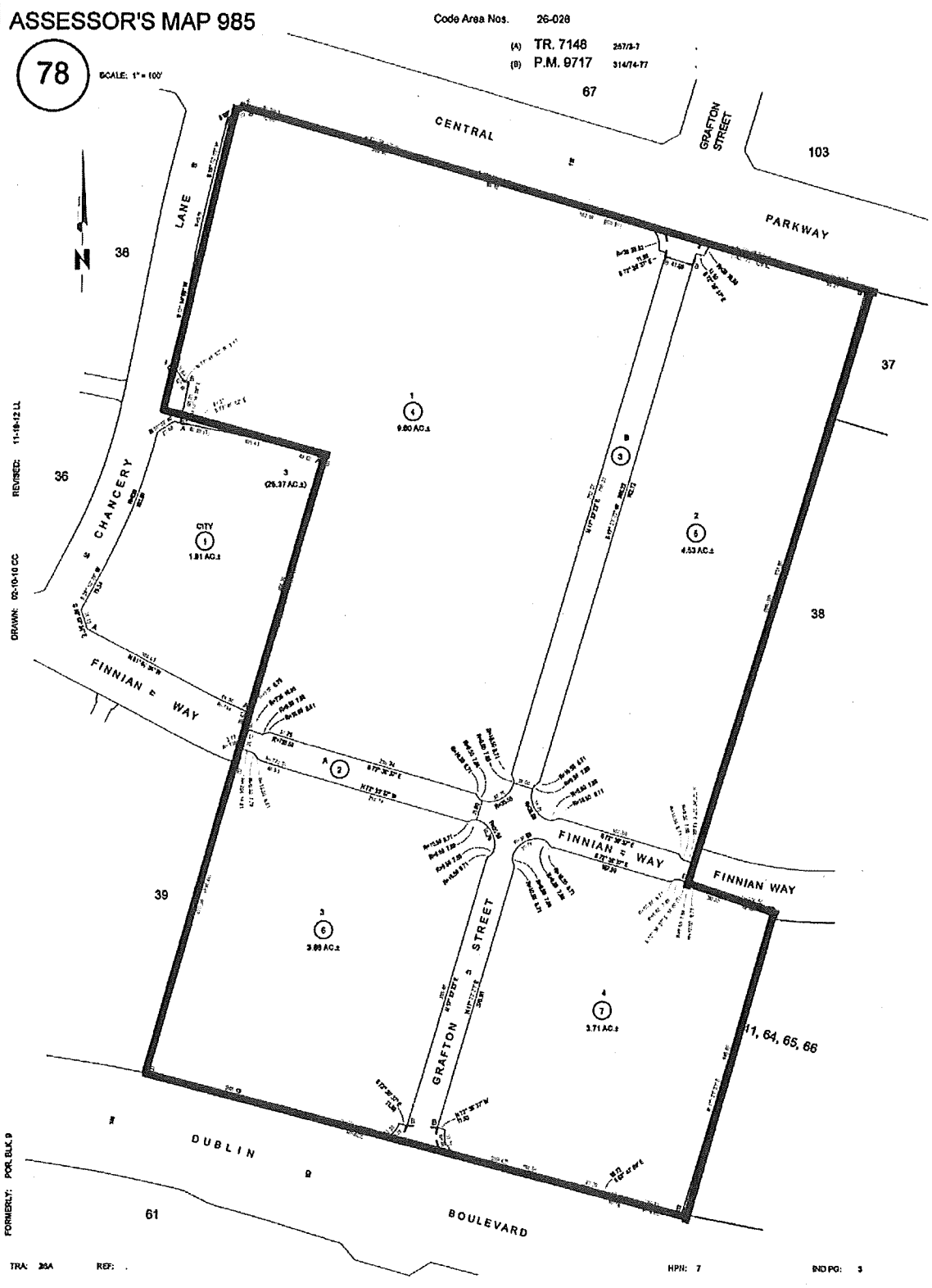
If the legislative body so provides, by ordinance or resolution, the provisions of this subdivision shall not apply to: (1) the disposition of the remainder of a larger parcel which was acquired and used in part for street purposes; (2) acquisitions, dispositions, or abandonments for street widening; or (3) alignment projects, provided such dispositions for street purposes, acquisitions, dispositions, or abandonments for street widening, or alignment projects are of a minor nature.

(b) A county shall not acquire real property for any of the purposes specified in paragraph (a), nor dispose of any real property, nor construct or authorize a public building or structure, in another county or within the corporate limits of a city, if such city or other county has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, and a city shall not acquire real property for any of the purposes specified in paragraph (a), nor dispose of any real property, nor construct or authorize a public building or structure, in another city or in unincorporated territory, if such other city or the county in which such unincorporated territory is situated has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, until the location, purpose and extent of such acquisition, disposition, or such public building or structure have been submitted to and reported upon by the planning agency having jurisdiction, as to conformity with said adopted general plan or part thereof. Failure of the planning agency to report within forty (40) days after the matter has been submitted to it shall be conclusively deemed a finding that the proposed acquisition, disposition, or public building or structure is in conformity with said adopted general plan or part thereof. The provisions of this paragraph (b) shall not apply to acquisition or abandonment for street widening or alignment projects of a minor nature if the legislative body having the real property within its boundaries so provides by ordinance or resolution.

(c) A local agency shall not acquire real property for any of the purposes specified in paragraph (a) nor dispose of any real property, nor construct or authorize a public building or structure, in any county or city, if such county or city has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, until the location, purpose and extent of such acquisition, disposition, or such public building or structure have been submitted to and reported upon by the planning agency having jurisdiction, as to conformity with said adopted general plan or part thereof. Failure of the planning agency to report within forty (40) days after the matter has been submitted to it shall be conclusively deemed a finding that the proposed acquisition, disposition, or public building or structure is in conformity with said adopted general plan or part thereof. If the planning agency disapproves the location, purpose or extent of such acquisition, disposition, or the public building or structure, the disapproval may be overruled by the local agency.

Local agency as used in this paragraph (c) means an agency of the state for the local performance of governmental or proprietary functions within limited boundaries. Local agency does not include the state, or county, or a city.

For Assessment Use Only



WRITTEN REPORT OF THE PLANNING COMMISSION TO THE DUBLIN UNIFIED SCHOOL DISTRICT PURSUANT TO PUBLIC RESOURCES CODE §21151.2 AND GOVERNMENT CODE §65402

The Planning Commission of the City of Dublin finds that the proposed acquisition of approximately 23 acres located at the southeast corner of Chancery Lane and Central Parkway (APN's 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005. 985-0078-006, and 985-0078-007) is inconsistent with the General Plan and associated Zoning Ordinance.

Understanding that the Dublin Unified School District has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and utilizes their power to override applicable zoning ordinances, the Planning Commission offers the following recommendations in accordance with Public Resources Code §21151.2. The District has not yet presented a development plan for the site. Therefore, the comments and recommendations are general in nature and should be considered when planning a school for this site in order to help ensure compatibility with the surrounding uses. It will also be important for the District to engage in a conversation with the surrounding residents during the design phase of the project.

Site Planning

The subject property was originally envisioned as a walkable, neighborhood serving commercial center that is surrounding by existing dense townhomes, condominiums and apartments. These residential units were designed with the presumption that this site would ultimately develop with small scale commercial uses. Therefore, DUSD should use sensitive site planning to maintain a high quality of life and reduce potential negative impacts to the surrounding neighborhoods with the operation of a school on this site. The following are general comments regarding site planning:

- Buildings, parking areas, and play fields should be located in such a manner to reduce impacts to surrounding residential uses.
    - Careful consideration should be given to the placement of on-site play fields and the impact resulting from lights, public announcement equipment, and general noise during the day time, evenings and weekends.
    - Parking areas should be located to reduce visual impacts, noise impacts, and nuisances to surrounding residents.
    - Adequate parking should be provided to ensure that overflow parking does not impact the surrounding neighborhoods.
    - Building placement should be carefully considered given the close proximity of residential uses, including the potential visual impacts of buildings and noise impacts generated by the use of a class bell system and areas for students to congregate.
- The homes fronting on to the site have a minimal setback and separation to the site. It was anticipated that future development of the site would include a buffer separating the uses. Please consider providing a generous buffer, such as landscaping, to separate these homes from the proposed school.
- The interface with the adjacent 2-acre Devany Square should be taken into consideration when creating the site plan for the school.

Traffic and Circulation

The City has planned a comprehensive circulation network through the General Plan and the Bicycle and Pedestrian Master Plan. The intent is to facilitate movement by all modes of

transportation through the site and to facilitate connections the surrounding neighborhoods. Careful consideration to the location and design of the access points to the school is critical to ensure efficient circulation to and from the school while minimizing impacts to the surrounding neighborhoods. The City would like to collaborate with DUSD on traffic and circulation. Therefore, we request that DUSD consult with the City's Transportation and Operations Manager early and often during the design process. The following are general comments regarding traffic and circulation:

- The General Plan and the Bicycle and Pedestrian Master Plan should be consulted and adhered to as best as possible to facilitate full and efficient connectivity for all modes of transportation.
- The location of the primary and secondary access points to the school site should be designed to minimize potential impacts to the roadway network and surrounding neighborhoods.
- Access and circulation by all modes of transportation (i.e. vehicles, pedestrians and bicycles) should be considered when designing the site.
- The loading and unloading of students from buses and vehicles should be coordinated with pedestrian entrances.

- Currently, Grafton Street is planned to connect north/south through the site and Finnian Way is planned to connect east/west through the site. Consideration should be given to the development of the site and impacts to access and circulation to and through the site.
- Similarly, a future extension of the Class 1 bike path is planned to extend along the western side of the site from Central Parkway to Dublin Boulevard, between the Neighborhood Commercial and Public/Semi-Public parcels. This pathway will connect northern neighborhoods to the commercial areas south of Dublin Boulevard. Consideration should be given to maintaining such a planned connection.

<u>Public Works</u>

- There are future planned public improvements that still need to be implemented as part of the site improvements, including but not limited to street extensions, street widening, traffic signals, street dedication, and easement dedications.
- The proposed project site is located in the Dublin Ranch Water Shed and will require coordination with the Dublin Ranch Home Owner's Association.
- The proposed project will also be subject to the clean water requirements of the Municipal Regional Permit (MRP), as applicable, including provisions C-3, C-6 and C-10.

DUBLIN
CALIFORNIA
THE NEW
AMERICAN
BACKYARD

October 30, 2019

Chris Stevens, Chief Facilities Operations Officer
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568
stevenschris@dublinusd.org

Subject: Notice of Preparation for Draft Environmental Impact Report for Promenade High School Project

Dear Mr. Stevens,

The City of Dublin appreciates the opportunity to provide comments on the scope of the Draft Environmental Impact Report (EIR) that will be prepared for the Promenade High School (proposed project) and issues that should be addressed. The proposed project would develop a new high school and related educational facilities for approximately 2,500 students on a vacant 23.46-acre site located north of Dublin Boulevard, south of Central Parkway, east of Chancery Way, and adjacent to Finnian Way at both the eastern and western boundaries.

Existing Conditions

The Draft EIR should acknowledge the following existing conditions related to public improvements and easements adjacent to and within the project site:

- There are two unimproved dedicated public streets within the properties (Finnian Way and Grafton Street), along with unimproved easements (Public Access Easement, Sidewalk Easement, and Emergency Vehicle Access Easement).
- There are two parcels within the subject properties, known as Parcels A and B of Parcel Map 9717, which are intended for future conveyance to the City as public streets (Finnian Way and Grafton Street).
- There are existing improvements and facilities located within the properties in the Public Service Easement and Storm Drain Easement.
- The existing City facilities within the properties are a 60-inch diameter storm drain line, 30-inch diameter storm drain line, 24-inch to 30-inch diameter storm drain line, and 24-inch to 36-inch to 42-inch storm drain line, along with appurtenant structures and facilities (i.e., manholes and drainage inlets).

City Council 925.833.6650
City Manager 925.833.6650
Community Development 925.833.6610
Economic Development 925.833.6650
Finance/IT 925.833.6640
Fire Prevention 925.833.6606
Human Resources 925.833.6605
Parks & Community Services 925.833.6645
Police 925.833.6670
Public Works 925.833.6630

100 Civic Plaza
Dublin, CA 94568
P 925.833.6650
F 925.833.6651
www.dublin.ca.gov

- There is an existing "Easement Grant Deed" to the City, dated February 2, 2001, County Recorder No. 2001060792, for a non-exclusive easement for public access purposes over portions of parcels shown on the Tract 7148 final map as "Public Access Easement (PAE)."
- There is an existing "Maintenance and Irrevocable License Agreement Relating to Parcel Map 9717" with the City, dated October 6, 2009, County Recorder No. 2009367778, for permitted uses (public access, traffic signs, street lights, street trees, utilities) within the licensed areas depicted on the parcel map as "Sidewalk Easement (SWE)."
- There is a "stub-out" for a future fourth leg of the intersection of Dublin Boulevard and Grafton Street, which is located along the southern boundary. The stub-out has existing pavement, curb ramps, curb and gutter, and traffic signal facilities.
- There is a "stub-out" for a future fourth leg of the intersection of Central Parkway and Grafton Street, which is located along the northern boundary. The stub-out has existing pavement, curb and gutter, and traffic signal facilities.
- There is a "stub-out" for a future fourth leg of the intersection of Chancery Lane and Dunmore Lane, which is located along the north side of Devaney Square. The stub-out has existing pavement and curb and gutter.
- Each "dead end" of Finnian Way at the eastern and western boundaries has an unpaved turnaround located on the subject properties.
- The City park, Devany Square, has improved pathways that "dead end" at the property lines of the subject properties.
- There is an existing concrete pedestrian pathway located on the subject properties along the eastern boundary adjacent to the existing residences.
- There are existing ornamental trees and a concrete pathway located on the subject properties along the western boundary from Finnian Way to Dublin Boulevard adjacent to existing residences.

Impact Analysis

- Aesthetics – Given the close proximity of existing high density residential development to the project site, the EIR should evaluate potential aesthetic impacts that may result from the degradation of the existing visual character and quality of the site and its surroundings. Mitigation should consider the placement of proposed buildings, parking areas, swimming pool, football stadium, and other facilities and the addition of landscaping and/or other buffers to reduce impacts to surrounding residential uses. In addition, lighting of proposed parking areas, swimming pool, football stadium, tennis courts, and other facilities would introduce new sources of light and glare that could result in adverse impacts. Mitigation should consider the placement of lighting, height of light standards, brightness, cut off features, and other methods to reduce impacts to surrounding residential uses.
- Land Use and Planning – The proposed project has the potential to divide an established neighborhood by eliminating Finnian Way as a through street and, in particular, would alter public access to Devany Square for residents who live east of the project site. Mitigation for impacts to the neighborhood should consider providing circulation through the site to connect the two neighborhoods and access to Devany Square from the east. In addition, the proposed project would

not be consistent with the Dublin General Plan as documented in the attached March 18, 2018 Planning Commission Staff Report on Dublin Unified School District's Acquisition of the Dublin Ranch Area G Property and General Plan Conformity, which should be disclosed in the EIR.

- Noise – The proposed project has the potential to permanently increase ambient noise levels in the surrounding area during the day, night and weekends. Potential noise impacts from public announcement equipment, class bell system, and general noise from student activities and school events should be evaluated in the EIR with consideration given to nearby residents. Mitigation should consider building placement to provide buffering, limiting the hours of noise generating activities, and other methods to reduce noise impacts to surrounding residential uses.
- Recreation – Given the close proximity of an existing City park to the project site, the EIR should evaluate the potential increase in use of Devany Square such that physical deterioration of the park would occur or be accelerated. Mitigation should include limitations on the use of the park by students, increase trash pick-up, possible improvements or changes to the park to address future use by students, and other methods to ensure the impacts to the park are reduced.
- Transportation – The traffic impact analysis prepared for the proposed project must be analyzed using the current version of the City of Dublin Citywide Travel Demand Model (Citywide Model). In order to adequately analyze impacts, the Citywide Model land uses must be updated to reflect the changes associated with the new high school. The Citywide Model street network also needs to be updated to incorporate street network changes proposed by the project. Signalize intersections that should be included in the analysis must be evaluated using the Select Link analysis approach to determine the trip distribution associated with the new high school. The initial list of intersections that are needed for the traffic impact analysis include the following, but these should be updated with the Select Link analysis indicated above in coordination with the City of Dublin staff:

    - Dublin Boulevard/Grafton Street
    - Dublin Boulevard/Brannigan Street
    - Dublin Boulevard/Tassajara Road
    - Dublin Boulevard/Keegan Street
    - Dublin Boulevard/Fallon Road
    - Fallon Road/Central Parkway
    - Fallon Road/Gleason Drive
    - Tassajara Road/Gleason Drive
    - Gleason Drive/ Branigan Street
    - Gleason Drive/ Grafton Street
    - Central Parkway/Brannigan Street
    - Central Parkway/Tassajara Road
    - Central Parkway/Grafton Street
    - Central Parkway Chancery Lane
    - Central Parkway/Keegan Street

- Central Parkway/Finnian Way

If the proposed project attracts vehicle trips that are accessing the project from the I -80 freeway, additional intersections must be included at the I -80 interchanges. Additionally, all project driveways must be evaluated for safe access and circulation for all modes of transportation and for all project scenarios.

Additional Comments

The City's Public Works Department has the following additional project-related comments:

- **Storm Water** – Site improvements and development of the subject properties will affect the ability of the City to enter the subject properties to inspect and maintain the existing City storm drainage facilities until they are removed or relocated with the future construction of the high school. Will Dublin Unified School District (DUSD) take on the maintenance of the existing storm drainage facilities in the interim? Will DUSD take on the ownership and maintenance of any new and relocated storm drainage facilities in perpetuity? DUSD will be required to collect and convey all storm water run-on and runoff and discharge to an adequately sized facility downstream, after appropriate treatment and flow control measures. Connection to and use of the City's public storm drainage system will require review and approval by the City Public Works Department.
- **Storm Water** – The subject properties shall comply with the California Regional Water Quality Control Board San Francisco Bay Region Order No. R2-2003-0031 for waste discharge requirements for the Dublin Ranch watershed. Connection to and use of the City's public storm drainage system will require review and approval by the City Public Works Department.
- **Emergency Vehicle Access** – Site improvements and development of the subject properties will affect the ability for emergency services to use the existing Emergency Vehicle Access Easement (EVAE) until the easement is relocated with the future development of the site for the future high school. Will DUSD allow emergency services to use the existing EVAE in the interim?
- **Pedestrian and Bicycle Access** – Site improvements and development of the subject properties may affect the ability of the public to use the existing pathways along the eastern and western boundaries, and the existing Sidewalk Easement (SWE) or Public Access Easement (PAE) until they are relocated with the future development of the site for the future high school. Will DUSD allow the public to use the existing SWE and PAE in the interim? Will DUSD provide relocated or new public access easements for pedestrians and bicycles through the subject properties in perpetuity?
- **Public Right of Way Improvements, Pedestrian/Bicycle, Landscaping** – Improvements and development of the frontages of Dublin Boulevard, Central Parkway, Chancery Lane, and Finnian Way will require City review and issuance of an Encroachment Permit for any work within the public street rights of way. All proposed sidewalks shall meet ADA and Public Works standards for sidewalks, pedestrian paths, and bike paths within the public street rights of way. All pedestrian/bicycle facilities and landscaping within the public street rights of way shall be in compliance with the City's adopted Bicycle and Pedestrian Master Plan, Eastern Dublin Specific Plan, and Streetscape Master Plan, as applicable.
- **Public Right of Way Improvements, Traffic Signals** – Modifications to the existing traffic signals and appurtenances at the intersections of Dublin Boulevard/Grafton Street and Central Parkway/Grafton Street shall be coordinated and reviewed by the City Public Works Department.

- **Public Right of Way Improvements, Bus Stops** – Installation of bus stops, pull-outs, shelters, etc. along Dublin Boulevard and Central Parkway shall be coordinated and reviewed by LAVTA and the City Public Works Department.
- **Public Right of Way Improvements, Finnian Way turnarounds** – Turnarounds shall be provided at each terminus of Finnian Way east and west and shall be in compliance with Fire District requirements and reviewed by the City Public Works Department.
- **Public Park Interface** – Improvements within or adjacent to Devany Square will require City review and potentially issuance of an Encroachment Permit for any work on City-owned property. All connections to existing pedestrian pathways within Devany Square shall be coordinated with City Public Works Department. Will DUSD connect to or separate high school use from the public park use? Will there be increased need for City maintenance services (i.e. waste receptacles service, landscape maintenance due to increased wear and tear, etc.)?

Should you have any questions or need additional information, please feel free to contact me at (925) 833-6610 or by e-mail at kristie.wheeler@dublin.ca.gov.

Sincerely,

Kristie R. Wheeler

Kristie R. Wheeler
Assistant Community Development Director

Enclosures
March18, 2018 Planning Commission Staff Report

STAFF REPORT
PLANNING COMMISSION

DATE: **March 13, 2018**

TO: Planning Commission

SUBJECT: Report on Dublin Unified School District's Proposed Acquisition of the Dublin Ranch Area G Property and General Plan Conformity
Prepared by:Mandy Kang, Senior Planner and Lauren Quint, Assistant City Attorney

EXECUTIVE SUMMARY:

The Dublin Unified School District (DUSD) is considering the acquisition of real property within the City of Dublin for use as a public school. The subject property consists of approximately 25.1 acres located at the southeast Corner of Chancery Lane and Central Parkway, known as Area G or more commonly known as "The Promenade" property. The majority of the site has a General Plan land use designation of Neighborhood Commercial, with a smaller portion designated Public/Semi-Public.

In accordance with Public Resources Code 21151.2, DUSD provided the City with written notification of its proposed acquisition, which provides the Planning Commission with an opportunity to investigate the proposed site and provide a written report of the investigation and recommendation. In addition, per Government Code section 65402, prior to DUSD acquiring the property, the Planning Commission must review the proposal for consistency with the General Plan.

The proposed use of the site for a school is inconsistent with the existing Neighborhood Commercial land use designation in the General Plan. Understanding that DUSD has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and uses their ability to override applicable zoning ordinances, recommendations are provided in order to help ensure compatibility with the surrounding uses.

RECOMMENDATION:

Staff recommends that the Planning Commission approve the Written Report of the Planning Commission to the Dublin Unified School District pursuant to Public Resources Code §21151.2 and Government Code §65402, for submission to the Dublin Unified School District.

SITE DESCRIPTION:

The subject property consists of approximately 25.1 acres located at the southeast Corner of Chancery Lane and Central Parkway as shown in Figure 1 below. The APN's

are 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005. 985-0078-006, and 985-0078-007. The site is currently empty and commonly referred to as "Dublin Ranch Area G" or the "Promenade" property.

Figure 1. Subject Property



The property has a General Plan land use designation of Neighborhood Commercial and Public/Semi-Public and is zoned Planned Development. The property is surrounded by Medium Density Residential to the north, Medium-High Density and High Density Residential to the east, Parks/Public Recreation and High Density Residential to the west, and Mixed Use commercial and residential uses to the south.

The Dublin Unified School District (DUSD) is considering the acquisition of the subject property in the City of Dublin for use as a public school. In accordance with Public Resources Code 21151.2, DUSD has provided the City with written notification of the proposed acquisition (Attachment 1). The Public Resources Code states that "to promote the safety of pupils and comprehensive community planning the governing board of each school district before acquiring title to property for a new school site or for an addition to a present school site, shall give the planning commission having jurisdiction notice in writing of the proposed acquisition. The planning commission shall investigate the proposed site and within 30 days after receipt of the notice shall submit to the governing board a written report of the investigation and its recommendations concerning acquisition of the site."

In addition, the law provides that the governing board shall not acquire title to the property until the report of the Planning Commission has been received, and if the report does not favor the acquisition of the property for a school site, the governing board of the school district shall not acquire title to the property until 30 days after the report is received.

Finally, pursuant to Government Code section 65402(a), the acquisition of a property by a public agency must be reviewed by the Planning Commission for consistency with the

General Plan, and a determination as to this consistency must be made within forty (40) days.

ANALYSIS:

Consistency with the General Plan (Government Code §65402):

The acquisition of the site for use as a public school is not consistent with the General Plan land use designation of Neighborhood Commercial.

The majority of the proposed school site (approximately 22.0 acres) has a current General Plan land use designation of Neighborhood Commercial which provides for the creation of community and neighborhood oriented commercial centers that serve the retail, service and entertainment needs of the community. A small portion of the site (approximately 3.1 acres) has a General Plan land use designation of Public/Semi-Public which provides for a combination of public facility and semi-public facility land uses.

Uses allowed within the Neighborhood Commercial designation include, but are not limited to: office uses which provide neighborhood and citywide services such as real estate, accounting and legal establishments; local-serving commercial services such as laundries, dry cleaners, beauty salons or finance establishments; local and community serving retail; restaurants and bars; hotels and bed-and-breakfast inns; and entertainment and cultural facilities. Uses allowed within the Public/Semi-Public designation include, but are not limited to: child care centers, youth centers, senior centers, special needs program facilities, religious institutions, clubhouses, community centers, community theatres, hospitals, private schools and other facilities that provide cultural, education, or other similar services and benefit the community.

The current Neighborhood Commercial land use designation does not allow for use of the site as a public school.

Consistency with the Zoning Designation:

The acquisition of the site by DUSD to operate a public school is not consistent with the current zoning designation for the subject site and the proposed use does not conform to the requirements of the Planned Development Zoning Development Plan for Dublin Ranch Area G.

The site is part of the Eastern Dublin Specific Plan which highlights many policies and guidelines related to the overall development of sites designated for commercial uses within a neighborhood. The site is part of a Planned Development Zoning District (Ordinance No. 06-00) with a specific development plan for Dublin Ranch Area G. The Planned Development identifies specific uses for Public/Semi-Public sites which would allow uses such as, but not limited to public facilities, community centers and religious facilities. The majority of the site is designated PD-Village Center (Neighborhood Commercial) and would include, but not be limited to the following uses: drug stores, bakeries, small retail, offices and small eating, drinking and entertainment establishments.

There are several other development standards in the Planned Development Zoning which address vehicular streets, sidewalks and streetscape elements, open spaces, pedestrian circulation, etc. throughout the site. The overall intent for this site was to have six PD-Village Center parcels and one Public/Semi-Parcel parcel, with a network of small streets connecting the neighborhood to shopping areas.

A public school is inconsistent with the existing requirements and standards set forth above.

DUSD's Ability to Render Zoning Inapplicable

In general, although there is no explicit requirement that local agencies, such as DUSD, comply with general plans, local agencies are required to comply with applicable zoning ordinances of the City in which the territory of the local agency is situated. (See Gov. Code, § 53091.) However, the governing board of a school district, "by a vote of two-thirds of its members, may render a city or county zoning ordinance inapplicable to a proposed use of property by the school district." (Gov. Code, § 53094, subd. (b).)

Investigation and Recommendations (Public Resources Code §21151.2)

An investigation of the site has been completed and the following recommendations are made in accordance with Public Resources Code §21151.2. Understanding that DUSD has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and utilizes their power to override applicable zoning ordinances, the Planning Commission offers the following recommendations in accordance with Public Resources Code §21151.2. The District has not yet presented a development plan for the site. Therefore, the comments and recommendations are general in nature and should be considered when planning a school for this site in order to help ensure compatibility with the surrounding uses. It will also be important for the District to engage in a conversation with the surrounding residents during the design phase of the project.

<u>Site Planning</u>
The subject property was originally envisioned as a walkable, neighborhood serving commercial center that is surrounding by existing dense townhomes, condominiums and apartments. These residential units were designed with the presumption that this site would ultimately develop with small scale commercial uses. Therefore, DUSD should use sensitive site planning to maintain a high quality of life and reduce potential negative impacts to the surrounding neighborhoods with the operation of a school on this site. The following are general comments regarding site planning:

- Buildings, parking areas, and play fields should be located in such a manner to reduce impacts to surrounding residential uses.
    - Careful consideration should be given to the placement of on-site play fields and the impact resulting from lights, public announcement equipment, and general noise during the day time, evenings and weekends.
    - Parking areas should be located to reduce visual impacts, noise impacts, and nuisances to surrounding residents.
    - Adequate parking should be provided to ensure that overflow parking does not impact the surrounding neighborhoods.
    - Building placement should be carefully considered given the close proximity of residential uses, including the potential visual impacts of

buildings and noise impacts generated by the use of a class bell system and areas for students to congregate.

- The homes fronting on to the site have a minimal setback and separation to the site. It was anticipated that future development of the site would include a buffer separating the uses. Please consider providing a generous buffer, such as landscaping, to separate these homes from the proposed school.
- The interface with the adjacent 2 acre Devany Square should be taken into consideration when creating the site plan for the school.

Traffic and Circulation

The City has planned a comprehensive circulation network through the General Plan and the Bicycle and Pedestrian Master Plan. The intent is to facilitate movement by all modes of transportation through the site and to facilitate connections the surrounding neighborhoods. Careful consideration to the location and design of the access points to the school is critical to ensure efficient circulation to and from the school while minimizing impacts to the surrounding neighborhoods. The City would like to collaborate with DUSD on traffic and circulation. Therefore, we request that DUSD consult with the City's Transportation and Operations Manager early and often during the design process. The following are general comments regarding traffic and circulation:

- The General Plan and the Bicycle and Pedestrian Master Plan should be consulted and adhered to as best as possible to facilitate full and efficient connectivity for all modes of transportation.
- The location of the primary and secondary access points to the school site should be designed to minimize potential impacts to the roadway network and surrounding neighborhoods.
- Access and circulation by all modes of transportation (i.e. vehicles, pedestrians and bicycles) should be considered when designing the site.
- The loading and unloading of students from buses and vehicles should be coordinated with pedestrian entrances.
- Currently, Grafton Street is planned to connect north/south through the site and Finnian Way is planned to connect east/west through the site. Consideration should be given to the development of the site and impacts to access and circulation to and through the site.
- Similarly, a future extension of the Class 1 bike path is planned to extend along the western side of the site from Central Parkway to Dublin Boulevard, between the Neighborhood Commercial and Public/Semi-Public parcels. This pathway will connect northern neighborhoods to the commercial areas south of Dublin Boulevard. Consideration should be given to maintaining such a planned connection.

Public Works

- There are future planned public improvements that still need to be implemented as part of the site improvements, including but not limited to street extensions, street widening, traffic signals, street dedication, and easement dedications.
- The proposed project site is located in the Dublin Ranch Water Shed and will require coordination with the Dublin Ranch Home Owner's Association.
- The proposed project will also be subject to the clean water requirements of the Municipal Regional Permit (MRP), as applicable, including provisions C-3, C-6 and C-10.

Report to DUSD

A written report of the above findings is included as Attachment 2 of this Staff Report. The Planning Commission may choose to incorporate some or all of the comments set forth into the report.

ENVIRONMENTAL REVIEW

Determination of compliance with the General Plan is not considered a project as defined pursuant to Section §21065 of the California Environmental Quality Act (CEQA), and therefore no further environmental review is required at this time. Should DUSD proceed with the development of a school on this site, that would be considered a project and subject to review under CEQA.

NOTICING REQUIREMENTS/PUBLIC OUTREACH

Per Section 8.132 of the Zoning Ordinance, a Notice of Public Hearing is only required when a Public Hearing is required for certain projects. Since determination of compliance with the General Plan is not considered a project, a Public Hearing is not required, and therefore, a Notice of Public Hearing is not required. It is anticipated that future actions by DUSD to acquire the site and construct a school would be subject to a public notice

ATTACHMENTS:

1. Notice of Proposed School Site Acquisition from DUSD, dated February 14, 2018
2. Written Report of the Planning Commission to DUSD Pursuant to Public Resources Code §21151.2 and Government Code §65402

DUBLIN UNIFIED
School District

DUBLIN SCHOOLS

DUBLIN UNIFIED SCHOOL DISTRICT

7471 Larkdale Avenue, Dublin, CA 94568-1599•925-828-2551•FAX 925-829-6532

All Dublin Students Will Become Lifelong Learners

SUPERINTENDENT

Leslie Boozer, Ed.D., J.D.
(925) 828-2551

BOARD OF TRUSTEES

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President

Dan Cherrier
Vice President

Dan Cunningham
Trustee

Megan Rouse
Trustee

Joe Giannini
Trustee

February 14, 2018

Planning Commission
c/o Chris Foss, City Manager
City of Dublin
100 Civic Plaza
Dublin, CA 94568

Re: Dublin Unified School District/Proposed Property Acquisition Project; Notification Pursuant to Public Resources Code Section 21151.2 and Government Code Section 65402

Dear Chris:

This is to advise you that the Dublin Unified School District is considering the acquisition of real property in the County of Alameda and within the City of Dublin sphere of influence for District use. The subject property consists of approximately 23 acres located at the Southwest corner of Chancery Lane and Central Parkway in Dublin, Alameda County APNs 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005, 985-0078-006, and 985-0078-007. The site is commonly referred to as the "Promenade" property. The District is considering the acquisition of the property for a potential public school. The property is generally depicted in the attached for your reference.

This letter is to provide you with formal notice under Public Resources Code section 21151.2 and Government Code section 65402 regarding the possible acquisition of the property. (Copies of those code sections also are attached for your reference.)

Please process this notice in accordance with the above-referenced code sections. If you have any questions, please contact the undersigned at your convenience. Thank you.

Sincerely,

Joe Sorrera
Assistant Superintendent
Business Services

Enclosures

PUBLIC RESOURCES CODE SECTION 21151.2:

To promote the safety of pupils and comprehensive community planning the governing board of each school district before acquiring title to property for a new school site or for an addition to a present school site, shall give the planning commission having jurisdiction notice in writing of the proposed acquisition. The planning commission shall investigate the proposed site and within 30 days after receipt of the notice shall submit to the governing board a written report of the investigation and its recommendations concerning acquisition of the site.

The governing board shall not acquire title to the property until the report of the planning commission has been received. If the report does not favor the acquisition of the property for a school site, or for an addition to a present school site, the governing board of the school district shall not acquire title to the property until 30 days after the commission's report is received.

GOVERNMENT CODE SECTION 65402:

(a) If a general plan or part thereof has been adopted, no real property shall be acquired by dedication or otherwise for street, square, park or other public purposes, and no real property shall be disposed of, no street shall be vacated or abandoned, and no public building or structure shall be constructed or authorized, if the adopted general plan or part thereof applies thereto, until the location, purpose and extent of such acquisition or disposition, such street vacation or abandonment, or such public building or structure have been submitted to and reported upon by the planning agency as to conformity with said adopted general plan or part thereof. The planning agency shall render its report as to conformity with said adopted general plan or part thereof within forty (40) days after the matter was submitted to it, or such longer period of time as may be designated by the legislative body.

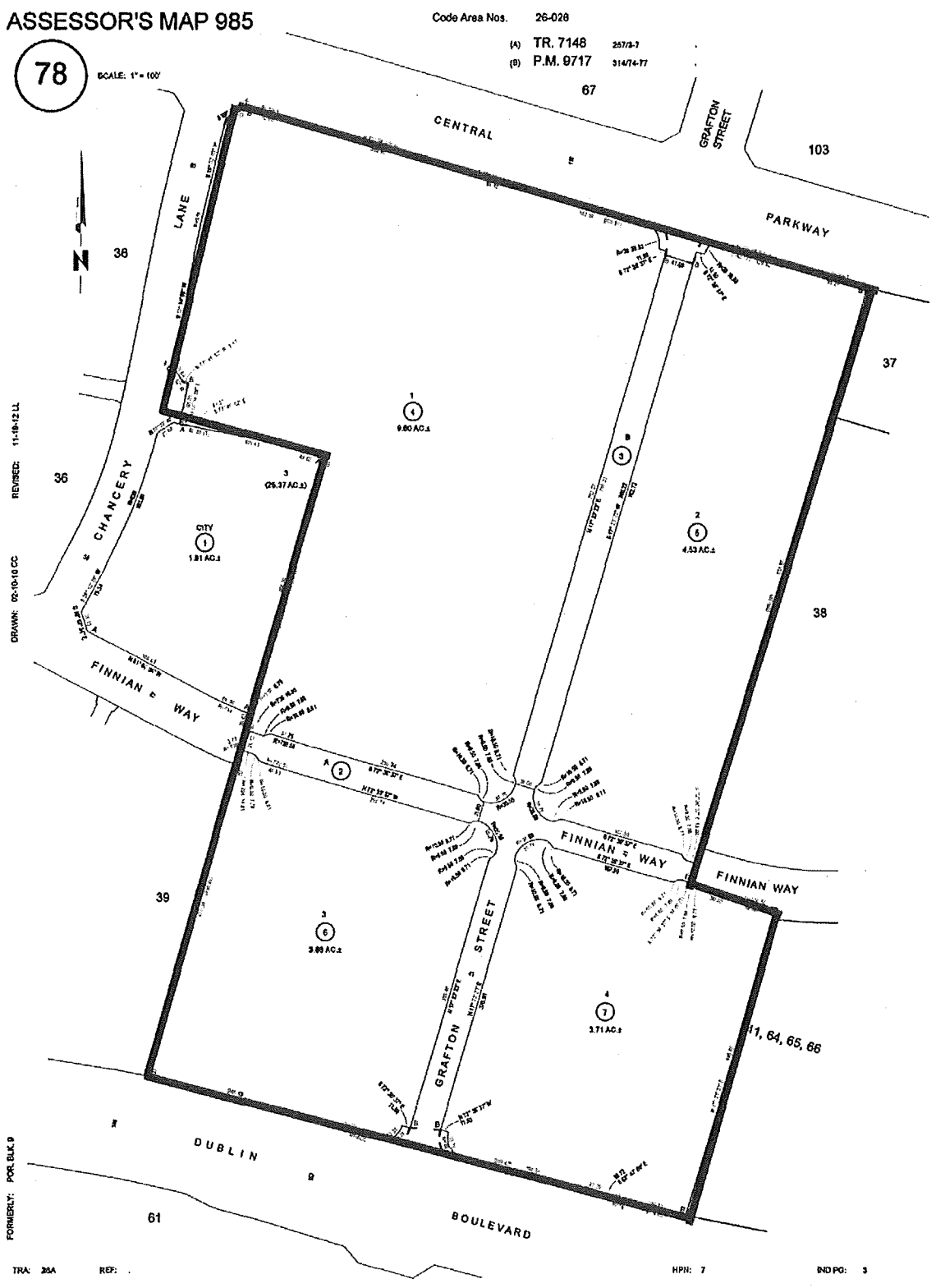
If the legislative body so provides, by ordinance or resolution, the provisions of this subdivision shall not apply to: (1) the disposition of the remainder of a larger parcel which was acquired and used in part for street purposes; (2) acquisitions, dispositions, or abandonments for street widening; or (3) alignment projects, provided such dispositions for street purposes, acquisitions, dispositions, or abandonments for street widening, or alignment projects are of a minor nature.

(b) A county shall not acquire real property for any of the purposes specified in paragraph (a), nor dispose of any real property, nor construct or authorize a public building or structure, in another county or within the corporate limits of a city, if such city or other county has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, and a city shall not acquire real property for any of the purposes specified in paragraph (a), nor dispose of any real property, nor construct or authorize a public building or structure, in another city or in unincorporated territory, if such other city or the county in which such unincorporated territory is situated has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, until the location, purpose and extent of such acquisition, disposition, or such public building or structure have been submitted to and reported upon by the planning agency having jurisdiction, as to conformity with said adopted general plan or part thereof. Failure of the planning agency to report within forty (40) days after the matter has been submitted to it shall be conclusively deemed a finding that the proposed acquisition, disposition, or public building or structure is in conformity with said adopted general plan or part thereof. The provisions of this paragraph (b) shall not apply to acquisition or abandonment for street widening or alignment projects of a minor nature if the legislative body having the real property within its boundaries so provides by ordinance or resolution.

(c) A local agency shall not acquire real property for any of the purposes specified in paragraph (a) nor dispose of any real property, nor construct or authorize a public building or structure, in any county or city, if such county or city has adopted a general plan or part thereof and such general plan or part thereof is applicable thereto, until the location, purpose and extent of such acquisition, disposition, or such public building or structure have been submitted to and reported upon by the planning agency having jurisdiction, as to conformity with said adopted general plan or part thereof. Failure of the planning agency to report within forty (40) days after the matter has been submitted to it shall be conclusively deemed a finding that the proposed acquisition, disposition, or public building or structure is in conformity with said adopted general plan or part thereof. If the planning agency disapproves the location, purpose or extent of such acquisition, disposition, or the public building or structure, the disapproval may be overruled by the local agency.

Local agency as used in this paragraph (c) means an agency of the state for the local performance of governmental or proprietary functions within limited boundaries. Local agency does not include the state, or county, or a city.

For Assessment Use Only



WRITTEN REPORT OF THE PLANNING COMMISSION TO THE DUBLIN UNIFIED SCHOOL DISTRICT PURSUANT TO PUBLIC RESOURCES CODE §21151.2 AND GOVERNMENT CODE §65402

The Planning Commission of the City of Dublin finds that the proposed acquisition of approximately 23 acres located at the southeast corner of Chancery Lane and Central Parkway (APN's 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005. 985-0078-006, and 985-0078-007) is inconsistent with the General Plan and associated Zoning Ordinance.

Understanding that the Dublin Unified School District has identified the need for an additional school site, if the District proceeds with the proposed site acquisition and utilizes their power to override applicable zoning ordinances, the Planning Commission offers the following recommendations in accordance with Public Resources Code §21151.2. The District has not yet presented a development plan for the site. Therefore, the comments and recommendations are general in nature and should be considered when planning a school for this site in order to help ensure compatibility with the surrounding uses. It will also be important for the District to engage in a conversation with the surrounding residents during the design phase of the project.

Site Planning

The subject property was originally envisioned as a walkable, neighborhood serving commercial center that is surrounding by existing dense townhomes, condominiums and apartments. These residential units were designed with the presumption that this site would ultimately develop with small scale commercial uses. Therefore, DUSD should use sensitive site planning to maintain a high quality of life and reduce potential negative impacts to the surrounding neighborhoods with the operation of a school on this site. The following are general comments regarding site planning:

- Buildings, parking areas, and play fields should be located in such a manner to reduce impacts to surrounding residential uses.
    - Careful consideration should be given to the placement of on-site play fields and the impact resulting from lights, public announcement equipment, and general noise during the day time, evenings and weekends.
    - Parking areas should be located to reduce visual impacts, noise impacts, and nuisances to surrounding residents.
    - Adequate parking should be provided to ensure that overflow parking does not impact the surrounding neighborhoods.
    - Building placement should be carefully considered given the close proximity of residential uses, including the potential visual impacts of buildings and noise impacts generated by the use of a class bell system and areas for students to congregate.
- The homes fronting on to the site have a minimal setback and separation to the site. It was anticipated that future development of the site would include a buffer separating the uses. Please consider providing a generous buffer, such as landscaping, to separate these homes from the proposed school.
- The interface with the adjacent 2-acre Devany Square should be taken into consideration when creating the site plan for the school.

Traffic and Circulation

The City has planned a comprehensive circulation network through the General Plan and the Bicycle and Pedestrian Master Plan. The intent is to facilitate movement by all modes of

transportation through the site and to facilitate connections the surrounding neighborhoods. Careful consideration to the location and design of the access points to the school is critical to ensure efficient circulation to and from the school while minimizing impacts to the surrounding neighborhoods. The City would like to collaborate with DUSD on traffic and circulation. Therefore, we request that DUSD consult with the City's Transportation and Operations Manager early and often during the design process. The following are general comments regarding traffic and circulation:

- The General Plan and the Bicycle and Pedestrian Master Plan should be consulted and adhered to as best as possible to facilitate full and efficient connectivity for all modes of transportation.
- The location of the primary and secondary access points to the school site should be designed to minimize potential impacts to the roadway network and surrounding neighborhoods.
- Access and circulation by all modes of transportation (i.e. vehicles, pedestrians and bicycles) should be considered when designing the site.
- The loading and unloading of students from buses and vehicles should be coordinated with pedestrian entrances.

- Currently, Grafton Street is planned to connect north/south through the site and Finnian Way is planned to connect east/west through the site. Consideration should be given to the development of the site and impacts to access and circulation to and through the site.
- Similarly, a future extension of the Class 1 bike path is planned to extend along the western side of the site from Central Parkway to Dublin Boulevard, between the Neighborhood Commercial and Public/Semi-Public parcels. This pathway will connect northern neighborhoods to the commercial areas south of Dublin Boulevard. Consideration should be given to maintaining such a planned connection.

Public Works

- There are future planned public improvements that still need to be implemented as part of the site improvements, including but not limited to street extensions, street widening, traffic signals, street dedication, and easement dedications.
- The proposed project site is located in the Dublin Ranch Water Shed and will require coordination with the Dublin Ranch Home Owner's Association.
- The proposed project will also be subject to the clean water requirements of the Municipal Regional Permit (MRP), as applicable, including provisions C-3, C-6 and C-10.

dusdceqa Unknown <dusdceqa@dublinusd.org>

Future DUSD Comprehensive High School Project EIR

1 message

Computer Person <ts1234ts@gmail.com> Thu, Oct 17, 2019 at 11:24 AM
To: dusdceqa@dublinusd.org

RE Building Plans and EIR for New Dublin HS:

There are NO tennis court facilities in the fly-over at all.
That's terrible for PE students, teams, and general public. (There need to be at least 12 lighted courts with sufficient side spacing and separate entrancing.)

There is not enough parking provided. (High Schools need lots of parking for classes and events.)
There is not a sufficient dedicated drop-off and wait line location. (Traffic congestion and traffic flow are not properly planned.)

Planners are being incompetent here on some basics.

dusdceqa Unknown <dusdceqa@dublinusd.org>

RESPONSE TO DRAFT EIR - Promenade High School Project (proposed project).

David Hammer <davidrhammer45@gmail.com> Mon, Oct 14, 2019 at 4:39 PM
To: dusdceqa@dublinusd.org
Cc: milleramy@dublinusd.org, rousemegan@dublinusd.org, cherrierdan@dublinusd.org, blackmangabi@dublinusd.org, Mukherjee2525@mydusd.org, Athi9183@mydusd.org, markendave@dublinusd.org, bustosvicki@dublinusd.org

Dear Mr. Stevens,

I am an attorney representing a home owner in Dublin who will be affected by the proposed school. My client does not wish to be identified.

This is a formal response pursuant to CEQA to the Draft EIR.

As noted in the project plans, the proposed school would be surrounded by high density residential housing. On three sides there are three story condominiums and apartments. Along the entire east side there is no street or buffer zone between the school and the adjacent condominiums. The negative environmental impacts of noise and traffic cannot be mitigated. The problem is that the parcel is too small and does not allow for a buffer zone between non-compatible adjacent uses. In contrast, the existing Dublin High School located at the corner of Village Parkway and Brighton Dr. has a buffer zone around all of the school property, except for nine single family dwellings to the southeast and eight mixed housing units to the northwest. The EIR needs to fully address these issues so that the project can be evaluated on its merits.

I am confident when the unmitigated environmental effects are identified that the project will be cancelled, and litigation can be avoided.

Please acknowledge receipt of this response.

Thank you for your courtesy and consideration.

David R Hammer
Attorney at Law
California State Bar No. 63352
56 Oakmont Dr.

Rancho Mirage, CA 92270

dusdceqa Unknown <dusdceqa@dublinusd.org>

Promenade High School Draft EIR

1 message

Jim H <canyonjim@msn.com> Mon, Oct 21, 2019 at 7:54 PM
To: "dusdceqa@dublinusd.org" <dusdceqa@dublinusd.org>

James R Hull

3349 Monaghan St.

Dublin, CA 94568

canyonjim@msn.com

October 21, 2019

Chris Stevens

Chief Facilities Operations Officer

Dublin Unified School District

7471 Larkdale Avenue

Dublin,CA 94568

Dear Mr. Stevens,

Recently, I received from you a Notice of Preparation for the Promenade High School Project Draft Environmental Impact Report. Within this letter it states that the public is invited to comment regarding the scope of the EIR and issues that should be addressed.

Being that I live adjacent to the project site, and after reviewing the enclosed site plan, I have concerns regarding traffic circulation, and parking within the site and in the surrounding neighborhoods.

My first concern regards parking. The project description cites a 134 stall parking garage, but I do not see an actual garage location indicated on the project site plan. Is the garage located along Central Parkway, or is it located at the southeast corner of the project site? Are the 134 spaces inclusive of staff parking, or are the 134 spaces reserved for the student body. Either way, 134 spaces seems to be far below what will be needed, especially when phase II is completed; and most importantly, street parking in my neighborhood is already very limited. How will students be discouraged from parking in my neighborhood? Carpooling parking preference? Permits for residents? If so, who will administer the permits for residents (and not at our expense)?

My biggest concern is about the potential negative impact the Promenade High School will have on traffic flow along Central Parkway. The project site plan appears to indicate a number of parking spaces along the northern border of the site adjacent to Central Parkway. This street is only one lane in each direction. I think that vehicular access to the high school from Central Parkway is a terrible idea, which will result in traffic jams 2X daily, air pollution from stationary vehicles, and will be unsafe for cyclists. I frequently ride my bike, and I always try to avoid riding near school zones; with this project being so near my home, I'll have no route choice. A Central Parkway access point can't be good for students who ride their bikes, either. Additionally, I don't see where this project site has included a safe pickup and drop-off area. There should be an adequate one, and it should be located along Dublin Boulevard and not Central Parkway.

My final concern is about noise generated from events held at the stadium. It is my hope that a curfew, rigidly enforced, is set no later than 9pm.

Thank you for allowing me to suggest issues to be included in the Draft EIR for the Promenade High School site.

Sincerely,

James R Hull

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

October 30, 2019

Chris Stevens, Chief Facilities Operations Officer
Dublin Unified School District
7471 Larkdale Avenue
Dublin, CA 94568

Sent by e-mail to: dusdceqa@dublinusd.org

Re: Promenade High School Project – Notice of Preparation of an EIR

Dear Mr. Stevens,

Zone 7 Water Agency (Zone 7, or Zone 7 of the Alameda County Flood Control and Water Conservation District) has reviewed the referenced document in the context of Zone 7's mission to provide water supply, flood protection, and groundwater and stream management within the Livermore-Amador Valley. Following are our comments for your consideration:

1. Stormwater Evaluation and Detention. The EIR should include a comprehensive analysis of stormwater runoff. We encourage DUSD and the City of Dublin to explore options to incorporate more detention into this site; this could include deeper / larger ponds or ditches beyond the MRP C.3 or GSI requirements.

2. Artificial turf. It is our understanding that artificial turf, in practice, is not water-free and has potential environmental concerns including runoff of pollutants. While Zone 7 does not have an official position on the use of artificial turf, we feel these are important issues that should be fully addressed in the EIR.

3. Groundwater Wells. A preliminary records search indicates that there are no wells or groundwater issues in the project area. Please verify these results in the field and report any unknown wells to Zone 7. Also, be advised that a Zone 7 drilling permit is needed for any water well or soil boring work that may be planned for this project. The drilling permit application and fee schedule can be downloaded from our website: http://www.zone7water.com/permits-a-fees/64-well-drilling-and-destruction-permits.

4. Development Impact Fee. New development and the expansion of existing development may impose a burden on the existing flood protection and storm drainage infrastructure within the Zone 7 service area. Developments creating new impervious areas within the Livermore-Amador Valley are subject to the assessment of the Development Impact Fee for Flood Protection and Storm Water Drainage. These fees are collected for Zone 7 by the local governing agency: 1) upon approval of final map for public improvements creating new impervious areas; and/or 2) upon issuance of a building or use permit required for site improvements creating new impervious areas. Fees are dependent on whether post-project impervious area

conditions are greater than pre-project conditions and/or whether fees have previously been paid. Please refer to Zone 7's Flood Protection & Storm Water Drainage Development Impact Fee Ordinance and additional information at: http://www.zone7water.com/permits-a-fees.

In an effort to ensure that mailed notices and referrals from your agency make their way to the appropriate staff at Zone 7 in a timely manner, we are requesting that your databases / mailing lists are updated to reflect the following points of contact, specifically for routine development referrals and for CEQA / environmental reviews.

For CEQA / environmental review:	**For development review / referral:**
Zone 7 Water Agency **Attn: CEQA Review / Elke Rank** 100 North Canons Parkway Livermore, CA 94551 ceqa@zone7water.com Staff contact: Elke Rank, erank@zone7water.com	Zone 7 Water Agency **Attn: Dev Referral / Steven Ellis** 100 North Canons Parkway Livermore, CA 94551 reviewers@zone7water.com Staff contact: Steven Ellis, sellis@zone7water.com

We appreciate the opportunity to comment on this project. If you have any questions on this letter, please feel free to contact me at (925) 454-5005 or via email at erank@zone7water.com .

Sincerely,

Elke Rank

Elke Rank
cc: Carol Mahoney, Amparo Flores, file

dusdceqa Unknown <dusdceqa@dublinusd.org>

Press Releases to The Independent

1 message

Editor <editmail@compuserve.com> Sun, Oct 20, 2019 at 9:32 PM
To: dusdceqa@dublinusd.org

Hello,

I'm hoping you can add The Independent to your e-mail list for press releases.

editmail@compuserve.com

Thank you!
Carol Graham
carolgraham927@yahoo.com

The Independent

*Free print or online subscription: www.independentnews.com

dusdceqa Unknown <dusdceqa@dublinusd.org>

RE: Proposed High School project

1 message

RysiekAla_2 <a.r.wieckowski@comcast.net> Wed, Oct 23, 2019 at 1:42 PM
To: dusdceqa@dublinusd.org
Cc: warbuckle@commoninterest.com, Melody Murray <mmurray@commoninterest.com>

Chris

This High School project is proposed to be built in most dense residential area in our community.

There are at least three other locations nearby that would not affect the lives of residents as much as the proposed location.

1 – Between Tassajara RD. and Lowes store/Brannigan St, near I580.

2 – Between new Kaiser Medical facility and Target, near I580.

3 - Between new Kaiser Medical facility and Hotel Aloft, near I580.

With potential late afternoon or evening games, the residents facing the parking and stadium would likely be exposed to a significantly increased amount of noise, commotion and traffic. This proposed location is definitely not ideal and it poses a real concern with respect to noise, safety and the overall enjoyment of our otherwise peaceful community.

I've been speaking with a number of residence and all have expressed the same concerns.

We are asking Dublin School District to please reconsider the location of this school.

Regards,

Richard Wieckowski

Name: Xun Wu

Agency/Address: 4278 Fitzwilliam ST. Dublin CA. 94568.

Contact Information: Xunwu0921@gmail.com

Comments on the Future Comprehensive high school in Dublin Draft EIR:

I am living right next to the High school. So I am Really covered about the noise and traffic of it.

I am on the pool and locker room side. will any walls being bulid to stop noise?

~~Can we build more~~

Also Dublin Blvd is pretty busy now, ~~How will~~ we should Have more students go through central park way

~~I am~~ I am not comfortable to Have more students come though the sides to school. it will be noise around as well

Name: Junkun He

Agency/Address: 4317 Clarinbridge cir. Dublin ca

Contact Information: he.junkun@yahoo.com

PLACEWORKS

Comments on the Future Comprehensive high school in Dublin Draft EIR:

Traffic control & Noise control are main issue..

Name: Kristi Marleau

Agency/Address: 3551 Central Pkwy

Contact Information: kmarleau@gmail.com

Comments on the Future Comprehensive high school in Dublin Draft EIR:

When analyzing VMT, include the effects of additional traffic on Central Parkway if parking is sited on the Central side of campus, which may impact [redacted] biking and pedestrian comfort levels and therefore increase VMT.

When one parking lot is full, will drivers have to go all the way around the block to get to the other? How will this impact VMT?

All parking access should be on Dublin Blvd, which can handle the traffic. Bicyclists and pedestrians should have low stress access to campus via Central Parkway

dusdceqa Unknown <dusdceqa@dublinusd.org>

Future DUSD Comprehensive High School Project EIR

1 message

Nobody Cares <a.spambox2011@gmail.com> Tue, Oct 15, 2019 at 8:20 PM
To: dusdceqa@dublinusd.org

"Over two dozen planning meetings with students, staff, the City, and our community"

I call this BS. Nobody ever spoke with community and Promenade neighborhood. Never. Please correct your statement. So far every single resident in this community is strongly against building school in the middle of residential high density development with inadequate roads, parking space and many other issues that your planning community never discussed. Please, include this in your future press releases as well.

Thank you!

Appendix B:
Air Quality, Greenhouse Gas and Health Risk Modeling

Air Quality and Greenhouse Gas Appendix

Construction, Operations, and Existing Conditions Emissions Worksheets

Criteria Air Pollutant Emissions Summary - Construction

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Unmitigated	2.84	11.19	8.99	0.03	1.10	0.34	1.45	0.32	0.32	0.64
Total Mitigated	2.35	5.44	9.48	0.03	1.10	0.04	1.15	0.32	0.04	0.37

UNMITIGATED

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	2.41	6.54	5.87	0.01	0.16	0.33	0.49	0.06	0.31	0.37
Total Offsite	0.42	4.65	3.11	0.02	0.94	0.02	0.96	0.26	0.01	0.27
check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FOR CONSTRUCTION RISK ASSESSMENT - Unmitigated Run

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.24	2.61	1.86	0.00	0.16	0.12	0.28	0.06	0.11	0.17
2020 Offsite	0.04	0.86	0.28	0.00	0.08	0.00	0.08	0.02	0.00	0.02
2021 Onsite	0.30	2.78	2.77	0.00	0.00	0.15	0.15	0.00	0.14	0.14
2021 Offsite	0.26	2.58	1.93	0.01	0.57	0.01	0.58	0.16	0.01	0.16
2022 Onsite	1.87	1.14	1.24	0.00	0.00	0.06	0.06	0.00	0.06	0.06
2022 Offsite	0.12	1.22	0.91	0.01	0.29	0.00	0.30	0.08	0.00	0.08

FOR CONSTRUCTION REGIONAL EMISSIONS - Unmitigated Run

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020	0.28	3.47	2.14	0.01	0.24	0.12	0.36	0.09	0.11	0.20
Total 2021	0.56	5.36	4.70	0.02	0.57	0.16	0.73	0.16	0.15	0.31
Total 2022	1.99	2.36	2.14	0.01	0.29	0.06	0.36	0.08	0.06	0.14
Construction Total	2.84	11.19	8.99	0.03	1.10	0.34	1.45	0.32	0.32	0.64
Check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MITIGATED

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	1.92	0.79	6.37	0.01	0.16	0.03	0.19	0.06	0.03	0.09
Total Offsite	0.42	4.65	3.11	0.02	0.94	0.02	0.96	0.26	0.01	0.27
check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FOR CONSTRUCTION RISK ASSESSMENT - Mitigated Run

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.05	0.19	1.99	0.00	0.16	0.01	0.16	0.06	0.01	0.07
2020 Offsite	0.04	0.86	0.28	0.00	0.08	0.00	0.08	0.02	0.00	0.02
2021 Onsite	0.09	0.41	3.03	0.00	0.00	0.02	0.02	0.00	0.02	0.02
2021 Offsite	0.26	2.58	1.93	0.01	0.57	0.01	0.58	0.16	0.01	0.16
2022 Onsite	1.79	0.19	1.35	0.00	0.00	0.01	0.01	0.00	0.01	0.01
2022 Offsite	0.12	1.22	0.91	0.01	0.29	0.00	0.30	0.08	0.00	0.08

FOR CONSTRUCTION REGIONAL EMISSIONS - Mitigated Run

tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020	0.09	1.05	2.26	0.01	0.24	0.01	0.25	0.09	0.01	0.10
Total 2021	0.35	2.99	4.96	0.02	0.57	0.02	0.60	0.16	0.02	0.18
Total 2022	1.91	1.41	2.26	0.01	0.29	0.01	0.30	0.08	0.01	0.09
Construction Total	2.35	5.44	9.48	0.03	1.10	0.04	1.15	0.32	0.04	0.37
Check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2 Rough Grading- 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive dust					0.10	0.00	0.10	0.04	0.00	0.04
Off-Road	0.12	1.38	0.88	0.00		0.06	0.06		0.06	0.06
Total	0.12	1.38	0.88	0.00	0.10	0.06	0.16	0.04	0.06	0.10

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive dust					0.10	0.00	0.10	0.04	0.00	0.04
Off-Road	0.02	0.09	0.91	0.00		0.00	0.00		0.00	0.00
Total	0.02	0.09	0.91	0.00	0.10	0.00	0.10	0.04	0.00	0.05

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3 Grading Soil Haul- 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.02	0.67	0.12	0.00	0.04	0.00	0.04	0.01	0.00	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.67	0.12	0.00	0.04	0.00	0.04	0.01	0.00	0.01

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.02	0.67	0.12	0.00	0.04	0.00	0.04	0.01	0.00	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.67	0.12	0.00	0.04	0.00	0.04	0.01	0.00	0.01

3.4 Utilities Relocation - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.01	0.05	0.07	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.05	0.07	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.01	0.09	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.01	0.09	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5 Fine Grading - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.05	0.00	0.05	0.02	0.00	0.02
Off-Road		0.06	0.73	0.46	0.00		0.03	0.03		0.03	0.03
Total		0.06	0.73	0.46	0.00	0.05	0.03	0.09	0.02	0.03	0.05

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.05	0.00	0.05	0.02	0.00	0.02
Off-Road		0.01	0.05	0.48	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.05	0.48	0.00	0.05	0.00	0.06	0.02	0.00	0.02

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6 Offsite Paving- 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.03	0.31	0.32	0.00		0.02	0.02		0.02	0.02
Paving	0.00					0.00	0.00		0.00	0.00
Total	0.03	0.31	0.32	0.00		0.02	0.02		0.02	0.02

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.01	0.03	0.38	0.00		0.00	0.00		0.00	0.00
Paving	0.00					0.00	0.00		0.00	0.00
Total	0.01	0.03	0.38	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.02	0.14	0.13	0.00		0.01	0.01		0.01	0.01
Total	0.02	0.14	0.13	0.00		0.01	0.01		0.01	0.01

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Worker	0.01	0.01	0.09	0.00	0.02	0.00	0.02	0.01	0.00	0.01
Total	0.02	0.16	0.12	0.00	0.03	0.00	0.03	0.01	0.00	0.01

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.00	0.02	0.13	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.02	0.13	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Worker	0.01	0.01	0.09	0.00	0.02	0.00	0.02	0.01	0.00	0.01
Total	0.02	0.16	0.12	0.00	0.03	0.00	0.03	0.01	0.00	0.01

3.6 OffSite Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.04	0.41	0.47	0.00		0.02	0.02		0.02	0.02
Paving	0.00					0.00	0.00		0.00	0.00
Total	0.04	0.41	0.47	0.00		0.02	0.02		0.02	0.02

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.01	0.04	0.55	0.00		0.00	0.00		0.00	0.00
Paving	0.00					0.00	0.00		0.00	0.00
Total	0.01	0.04	0.55	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.25	2.27	2.16	0.00		0.13	0.13		0.12	0.12
Total	0.25	2.27	2.16	0.00		0.13	0.13		0.12	0.12

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.07	2.44	0.52	0.01	0.14	0.01	0.15	0.04	0.00	0.05
Worker	0.19	0.13	1.40	0.00	0.43	0.00	0.43	0.11	0.00	0.12
Total	0.26	2.58	1.91	0.01	0.57	0.01	0.58	0.16	0.01	0.16

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Off-Road	0.08	0.36	2.31	0.00		0.01	0.01		0.01	0.01
Total	0.08	0.36	2.31	0.00		0.01	0.01		0.01	0.01

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr									
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.07	2.44	0.52	0.01	0.14	0.01	0.15	0.04	0.00	0.05
Worker	0.19	0.13	1.40	0.00	0.43	0.00	0.43	0.11	0.00	0.12
Total	0.26	2.58	1.91	0.01	0.57	0.01	0.58	0.16	0.01	0.16

3.8 Offsite Landscaping - 2021

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.01	0.09	0.14	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.09	0.14	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.01	0.17	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.01	0.17	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7 Building Construction- 2022

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.11	1.02	1.06	0.00		0.05	0.05		0.05	0.05
Total		0.11	1.02	1.06	0.00		0.05	0.05		0.05	0.05

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.03	1.16	0.24	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Worker		0.09	0.06	0.64	0.00	0.21	0.00	0.21	0.06	0.00	0.06
Total		0.12	1.22	0.88	0.01	0.28	0.00	0.29	0.08	0.00	0.08

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.04	0.18	1.15	0.00		0.01	0.01		0.01	0.01
Total		0.04	0.18	1.15	0.00		0.01	0.01		0.01	0.01

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.03	1.16	0.24	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Worker		0.09	0.06	0.64	0.00	0.21	0.00	0.21	0.06	0.00	0.06
Total		0.12	1.22	0.88	0.01	0.28	0.00	0.29	0.08	0.00	0.08

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Off-Road	0.01	0.10	0.13	0.00		0.01	0.01		0.00	0.00
Paving	0.01					0.00	0.00		0.00	0.00
Total	0.02	0.10	0.13	0.00		0.01	0.01		0.00	0.00

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Off-Road	0.00	0.01	0.16	0.00		0.00	0.00		0.00	0.00
Paving	0.01					0.00	0.00		0.00	0.00
Total	0.01	0.01	0.16	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10 Architectural Coating- 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Architectural Coating	1.74					0.00	0.00		0.00	0.00
Off Road	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00
Total	1.74	0.02	0.02	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Architectural Coating	1.74					0.00	0.00		0.00	0.00
Off Road	0.00	0.00	0.02	0.00		0.00	0.00		0.00	0.00
Total	1.74	0.00	0.02	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.11 Finishing/Landscaping- 2022

Unmitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Off-Road		0.00	0.01	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.01	0.02	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Off-Road		0.00	0.00	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.02	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Criteria Air Pollutant Emissions Summary - Construction Unmitigated

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Total Construction Days	2020	2021	2022	Calendar Days
535	144	261	130	747

Unmigated Run - with Best Control Measures for Fugitive Dust

average lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	11	42	34	0	4	1	5	1	1	2
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	4	48	30	0	3	2	5	1	2	3
TOTAL 2021	4	41	36	0	4	1	6	1	1	2
TOTAL 2022	31	36	33	0	5	1	5	1	1	2
	24									

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	9.02	24.45	21.95	0.04	0.59	1.23	1.82	0.24	1.15	1.39
Total Offsite	1.59	17.40	11.64	0.07	3.53	0.06	3.59	0.97	0.05	1.02
	0	0			0	0		0	0	

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	3.34	36.32	25.88	0.05	2.18	1.65	3.83	0.90	1.52	2.42
2021 Onsite	2.31	21.32	21.26	0.03	0.00	1.16	1.16	0.00	1.09	1.09
2022 Onsite	28.79	17.58	19.01	0.03	0.00	0.91	0.91	0.00	0.86	0.86
	25	51	44	0	2	2	4	1	2	3

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.57	11.92	3.84	0.04	1.10	0.04	1.14	0.30	0.04	0.35
2021 Offsite	1.99	19.75	14.78	0.08	4.39	0.06	4.45	1.20	0.06	1.26
2022 Offsite	1.90	18.74	13.97	0.08	4.50	0.06	4.56	1.23	0.05	1.29
	3	33	21	0	6	0	7	2	0	2

Criteria Air Pollutant Emissions Summary - Construction Mitigated

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Total Construction Days	2020	2021	2022	Calendar Days
535	144	261	130	747

Mitigated- Tier 4 Emission Standards for Equipment >50 HP

average lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	9	20	35	0	4	0	4	1	0	1
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	1	15	31	0	3	0	3	1	0	1
TOTAL 2021	3	23	38	0	4	0	5	1	0	1
TOTAL 2022	29	22	35	0	5	0	5	1	0	1
check	33	59	104	0	12	0	13	4	0	4

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	7.20	2.95	23.79	0.04	0.59	0.11	0.70	0.24	0.11	0.35
Total Offsite	1.59	17.40	11.64	0.07	3.53	0.06	3.59	0.97	0.05	1.02
check	0	0	0	0	0	0	0	0	0	0

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.65	2.67	27.58	0.05	2.18	0.09	2.27	0.90	0.09	0.99
2021 Onsite	0.70	3.13	23.23	0.03	0.00	0.12	0.12	0.00	0.12	0.12
2022 Onsite	27.48	2.91	20.74	0.03	0.00	0.11	0.11	0.00	0.11	0.11
check										

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.57	11.92	3.84	0.04	1.10	0.04	1.14	0.30	0.04	0.35
2021 Offsite	1.99	19.75	14.78	0.08	4.39	0.06	4.45	1.20	0.06	1.26
2022 Offsite	1.90	18.74	13.97	0.08	4.50	0.06	4.56	1.23	0.05	1.29
Check										

Criteria Air Pollutant Emissions Summary - Operations

Proposed High School

Mitigated Operational

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Area		1	0	0	0		0	0		0	0
Energy		0	0	0	0		0	0		0	0
Mobile		1	1	9	0	2	0	2	1	0	1
Waste							0	0		0	0
Water							0	0		0	0
Total		3	1	9	0	2	0	2	1	0	1
BAAQMD Threshold (T/YR)		10	10	NA	NA	NA	NA	15	NA	NA	10
Exceeds thresholds		No	No					No			No

Criteria Air Pollutant Emissions Summary - Operations

Annual emissions divided by 365 days/year to obtain average daily emissions.

Proposed Project

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	8	0	0	0	0	0	0	0	0	0
Energy	0	1	1	0	0	0	0	0	0	0
Mobile	8	5	51	0	12	0	12	3	0	3
Waste	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0
Total	16	6	52	0	12	0	12	3	0	3
BAAQMD Threshold (Daily)	54	54					82			54
Exceeds Threshold	No	No					No			No

GHG Emissions Inventory

Construction

	$MTCO_2e$ Total Project*	
2020	853	
2021	1,390	
2022	671	
Total Construction	**2,914**	
30-Yr Amortized Construction Emissions	**97**	
BAAQMD Bright-Line Screening Threshold	660	$MTCO_2e$/Year
Exceed Threshold?	**No**	

*CalEEMod, Version 2016.3.2.

Operation*

Proposed High School		
Area	0	$MTCO_2e$/Year**
Energy	561	$MTCO_2e$/Year
Mobile	1,769	$MTCO_2e$/Year
Solid Waste	292	$MTCO_2e$/Year
Water	29	$MTCO_2e$/Year
Total	**2,651**	**$MTCO_2e$/Year**
BAAQMD Bright-Line Screening Threshold	660	$MTCO_2e$/Year
Exceed Threshold?	**Yes**	

*CalEEMod, Version 2016.3.2.

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 30 years per BAAQMD methodology; International Energy Agency, 2008, Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings, March.

CalEEMod Inputs and Assumptions

CalEEMod Inputs - Future High School Development Project, Construction

Name: Future High School Development Project
Project Number: DBSD-02
Project Location: southeast corner of Central Parkway and Chancery Lane (Dublin, Alameda County)
County: Alameda County
Climate Zone: 4
Land Use Setting: Urban
Operational Year: 2022
Utility Company: PG&E
Air Basin: SFBAAB
Air District: Bay Area Air Quality Management District (BAAQMD)

Project Site Acreage 23.46
Disturbed Site Acreage 23.46

Project Components	SQFT	Acres	Number of Floors
New Construction			
Administration Building	22,330	0.513	1
Student Union Building	13,200	0.303	1
Kitchen	6,500	0.149	1
Library	20,900	0.480	1
Gymnasium	31,000	0.712	1
Locker Room	17,500	0.402	1
Academy Building 1	70,500	0.539	3
Visual/Performing Arts Classrooms (Phase 1)	17,059	0.392	1
Academy Building 2	70,500	1.618	1
Theater	26,490	0.608	1
Visual/Performing Arts Classrooms (Phase 2)	5,060	0.116	1
Basement	7,815	0.179	1
Concessions	4,500	0.103	1
Bleachers	4,000	0.092	1
Pressbox	400	0.009	1
Building J	6,200	0.14	1
Total Building SQFT	323,954	6.36	
Parking Lot	189,500	4.35	
Parking Structure	56,669	1.30	
Total Other Asphalt Surfaces	11,250	0.26	
Total Hardscape	379,500	8.71	
Total Landscape	99,000	2.27	
Additional Area- Landscape	9,045	0.21	
Total	**744,964**	**17.10**	

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	High School	323.954	1000 sqft	6.36	323,954
Parking*	Parking Lot	189.500	1000 sqft	4.35	189,500
Parking	Enclosed Structure	56.669	1000 sqft	1.30	56,669
Parking	Other Asphalt Surfaces	11.250	1000 sqft	0.26	11,250
Parking	Other Non-asphalt Surfaces	487.545	1000 sqft	11.19	487,545
				23.46	

Soil Haul [1]

Construction Activities	Haul Truck Capacity (cy)	Import Volume (CY)	No. of total one-way import haul (trip ends)	No. of total one-way haul (trip ends/day)	Export Volume (CY)	No. of total one-way export haul (trip ends)	No. of total one-way haul (trip ends/day)	Total Days
Rough Grading	25	45,000	3600	360	12,650	1,012	101	10

Export Haul Travel Distance (1-Way): 20

Architectural Coating
Percentage of Proposed Buildings' Interior Painted: 100%
Percentage of Proposed Buildings' Exterior Painted: 100%

BAAQMD Regulation 8, Rule 3
Interior Paint VOC content: 100 grams per liter
Exterior Paing VOC content: 150 grams per liter

Non-Residential Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
Total Building	323,954	2.0	647,908	485,931	161,977
			647,908	485,931	161,977
Parking Lot	246,169	6%	14,770	-	14,770
			14,770		14,770

[1] CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.
[2] The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.
[3] 100% of the interior and exterior of buildings to be modernized will be painted

BAAQMD Construction BMPs

Replace Ground Cover	PM10:	5	% Reduction
Replace Ground Cover	PM2.5:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
	Clean Paved Road	9	% PM Reduction

Construction Activities and Schedule Assumptions: Future High School Development Project

** Construction schedule provided by applicant*

		Construction Schedule		
Construction Activities	**Phase Type**	**Start Date**	**End Date**	**CalEEMod Duration**
Rough Grading	Grading	6/15/2020	8/30/2020	55
Grading Soil Haul	Grading	6/15/2020	8/30/2020	55
Utilities Relocation	Trenching	9/1/2020	10/30/2020	44
Offsite Paving	Paving	11/1/2020	3/31/2021	108
Offsite Landscaping	Trenching	4/1/2021	8/1/2021	87
Fine Grading	Grading	11/1/2020	12/10/2020	29
Increment 2 Building Construction	Building Construction	12/11/2020	4/30/2022	361
Increment 3 Building Construction	Building Construction	2/1/2021	7/1/2022	370
Paving	Paving	5/1/2022	5/25/2022	18
Increment 2 Architectural Coating	Architectural Coating	5/26/2022	6/18/2022	17
Increment 3 Architectural Coating	Architectural Coating	5/26/2022	7/1/2022	27
Finishing/Landscaping	Trenching	6/19/2022	7/1/2022	10

CalEEMod Construction Schedule Inputs

Construction Activities	**Phase Type**	**Start Date**	**End Date**	**CalEEMod Duration (Workday)**
Rough Grading	Grading	6/15/2020	8/30/2020	55
Grading Soil Haul	Grading	8/15/2020	8/30/2020	10
Utilities Relocation	Trenching	9/1/2020	10/30/2020	44
Offsite Paving	Paving	11/1/2020	3/31/2021	108
Offsite Landscaping	Trenching	4/1/2021	8/1/2021	87
Fine Grading	Grading	11/1/2020	12/10/2020	29
Building Construction	Building Construction	12/11/2020	7/1/2022	406
Paving	Paving	5/1/2022	5/25/2022	18
Architectural Coating	Architectural Coating	5/26/2022	7/1/2022	27
Finishing/Landscaping	Trenching	6/19/2022	7/1/2022	10

* All soil import and export modeled to occur within a 10 day period. However, per BAAQMD methodology, emissions are calculated based on average annual emissions.

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Construction Equipment Details							
	Equipment	**model**	**# of Equipment**	**hr/day**	**hp**	**load factor***	**total trips**
Rough Grading							
	Excavators		2	8	158	0.38	
	Graders		1	8	187	0.41	
	Rubber Tired Dozers		1	8	247	0.4	
	Scrapers		2	8	367	0.48	
	Tractors/Loaders/Backhoes		2	8	97	0.37	
	Worker Trips						20
	Vendor Trips						0
	Hauling Trips						0
	Water Trucks						4
Rough Grading Soil Haul							
	no additional equipment required for grading soil haul						
	Worker Trips						0
	Vendor Trips						0
	Hauling Trips						4612
	Water Trucks						0
Utilities Trenching							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						0
	Hauling Trips						0
Offsite Paving							
	Pavers		2	8	130	0.42	
	Paving Equipment		2	8	132	0.36	
	Rollers		2	8	80	0.38	
	Worker Trips						15
	Vendor Trips						0
	Hauling Trips						0
Offsite Landscaping							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						0
	Hauling Trips						0
Fine Grading							
	Excavators		2	8	158	0.38	
	Graders		1	8	187	0.41	
	Rubber Tired Dozers		1	8	247	0.4	
	Scrapers		2	8	367	0.48	
	Tractors/Loaders/Backhoes		2	8	97	0.37	
	Worker Trips						20
	Vendor Trips						0
	Hauling Trips						0
	Water Trucks						4
Building Construction							
	Cranes		1	7	231	0.29	
	Forklifts		3	8	89	0.2	
	Generator Sets		1	8	84	0.74	
	Tractors/Loaders/Backhoes		3	7	97	0.37	
	Welders		1	8	46	0.45	
	Worker Trips						449
	Vendor Trips						175
	Hauling Trips						0
Paving							
	Pavers		2	8	130	0.42	
	Paving Equipment		2	8	132	0.36	
	Rollers		2	8	80	0.38	
	Worker Trips						15
	Vendor Trips						0
	Hauling Trips						0
Architectural Coating							
	Air Compressors		1	6	78	0.48	
	Worker Trips						90
	Vendor Trips						0
	Hauling Trips						0
Finishing/Landscaping							
	Excavators		1	8	158	0.3819	
	Worker Trips						3
	Vendor Trips						0
	Hauling Trips						0

CalEEMod Inputs - Future High School Development Project, Operations

Name: Future High School Development Project
Project Number: DBSD-02
Project Location: southeast corner of Central Parkway and Chancery Lane (Dublin, Alameda County)
County: Alameda County
Climate Zone: 4
Land Use Setting: Urban
Operational Year: 2022
Utility Company: PG&E
Air Basin: SFBAAB
Air District: Bay Area Air Quality Management District (BAAQMD)

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	High School	2,500	students	6.36	323,954.00
Parking*	Parking Lot	189.50	1000 sqft	4.35	189,500.00
Parking	Enclosed Structure with Elevator	56.67	1000 sqft	1.30	56,669.00
Parking	Other Asphalt Surfaces	11.25	1000 sqft	0.26	11,250.00
Parking	Other Non-asphalt Surfaces	487.54	1000 sqft	11.19	487,544.60
				23.46	

** Google Earth estimate*

CalEEMod Inputs Summary

Trips Inputs

Trip Rate: 1.5482 trips/student/day

Adjusted Trips Input

Trips	Assumed Percentage of Trips*	Number of Trips	Miles Traveled Per Trip**	VMT
Admin/Staff (CC)	28%	396,240	9.50	3,764,280.0
Students (CW)	67%	946,594	1.70	1,609,209.1
Vendors(CNW)	5%	66,040	7.30	482,092.0
TOTAL	100%	1,408,874	0	5,855,581

Water Use (Gal/Yr)

Indoor 11,561,910.00
Outdoor 28,317,600.00
*assumes 100% aerobic treatment

Solid Waste (Tons/Yr) 579.89

Architectural Coating *see Construction Assumptions*

Electricity (Buildings)
Existing Energy

Existing residential and non-residential modeled using historic energy demand rates in CalEEMod. Modeling is conservative because the net increase in energy use due to the project is likely smaller than reflected due to improved building energy efficiency between the project and existing land uses.

Non-Residential Exceed Title 24	**30%**	Improvement over 2016

Sources:
[1] California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. Accessed on April 3, 2019.

Trips Calculation

Student Trips

Land Use Type	Average Daily Trips[1]	CalEEMod Trip Rate	Saturday Trips	CalEEMod Trip Rate	Sunday Trips	CalEEMod Trip Rate
High School	5,080	**2.03**	0	**0.00**	0	**0.00**

Trips	Weekday Annual Trip Ends	Average Trip Rate (mi/trip)	Annual Vehicle Miles Traveled
High School	1,320,800	**1.70**	**2,245,360**

Source: [1] Fehr and Peers. 2019. Draft Memorandum. Promenade High School Tranportation Analysis Trip Generation, Distribution and Study Locations Assumptions

Trips Input

Trips	Assumed Percentage of Trips*	Number of Trips	Miles Traveled Per Trip**	VMT
Admin/Staff (CC)	30%	396,240	9.50	3,764,280.0
Students (CW)	65%	858,520	1.70	1,459,484.0
Vendors(CNW)	5%	66,040	7.30	482,092.0
TOTAL	100%	1,320,800		5,705,856

*Based on similar projects in the region
**Student trip length based on information from Fehr and Peers (See Appendix E). Average trip length for admin/staff and vendors based on similar projects in the region.

Net Stadium/Theater Trips

New Capacity Event (Weekday)	Events Per Year	Attendance per day	Trip Rate*	Daily Trips	Average Trip Length**
Capacity Events	11	4,000	0.640	2,560	1.70

New Non-Capacity (weekday)	Events Per Year	Attendance per day	Trip Rate*	Daily Trips	Average Trip Length***
Games	34	400	0.640	256	1.70
Practices	186	131	0.640	84	1.70
Student Events	24	1,000	0.640	640	1.70
Theater (Capacity)	26	820	0.640	525	1.70
Theater (Non-Capacity)	26	410	0.640	262	1.70

Total Stadium Events 255
Total Theater Events 51

CalEEMod Inputs
Trip Rate for Daily Emissions: 1.23 trips/student
Trip Rate for Annual GHG Emissions: 0.10 trips/student
Average Trip Length for Daily: 1.70 miles/trip
Average Trip Length for Annual: 1.70 miles/trip

Net Trip Ends Per Year **88,074**
Net Annual VMT **149,725**
assuming 100% Primary Trips

Adjusted Trips Input

Trips	Assumed Percentage of Trips*	Number of Trips	Miles Traveled Per Trip**	VMT
Admin/Staff (CC)	28%	396,240.0	9.50	3,764,280.0
Students (CW)	67%	946,593.6	1.70	1,609,209.1
Vendors(CNW)	5%	66,040.0	7.30	482,092.0
TOTAL	100%	1,408,874		5,855,581

Total Annual High School + Events VMT 5,855,581 miles
Total Annual High School + Events Trip Ends 1,408,874 trip ends

High School Inputs
Trip Rate: 1.548 trips/student/day
Average Trip Length: 4.1562 miles/trip

Water/Wastewater/Solid Waste Calculations

Water Use (CalEEMod Defaults)

Land Use	Indoor	Outdoor	Total (gal/yr)
High School	11,012,400.00	28,317,600.00	39,330,000.00

*Assumes 100% aerobic treatment.

Solid Waste (CalEEMod Defaults

Land Use	Total Solid Waste (tons/yr)
High School	456.25

Water Use During Events (assumes all indoor/wastewater)

Event	No. of Spectators	Water Demand Rate (gal/day/seat)*	Total Indoor Water Use (gal/event)	No. of Events	Annual Indoor Water Use (gal/yr)
Stadium Capacity Events	4,000	4	16,000	11	176,000
Games	400	4	1,600	34	54,400
Practices	131	4	525	186	97,650
Student Events	1,000	4	4,000	24	96,000
Theater (Capacity)	820	4	3,280	26	83,640
Theater (Non-Capacity)	410	4	1,640	26	41,820
				TOTAL	**549,510**

**School Stadium Sewage Generation Rate. City of Los Angeles. 2006. L.A. CEQA Thresholds Guide.*

Solid Waste

Spectator Solid Waste Rate:* 0.09 tons/100 visitors/year

Event	No. of Users	No. of Events	Total Users Per Year	Solid Waste Generation Rate (ton/user/year)	Solid Waste (ton/yr)
Stadium Capacity Events	4,000	11	44,000	0.0009	40
Games	400	34	13,600	0.0009	12
Practices	131	186	24,413	0.0009	22
Student Events	1,000	24	24,000	0.0009	22
Theater (Capacity)	820	26	20,910	0.0009	19
Theater (Non-Capacity)	410	26	10,455	0.0009	9
				TOTAL	**123.64**

**Based on CalEEMod solid waste generation rate for an arena (see Appendix D of the California Emissions Estimator Model User's Guide, Version 2016.3.2, October 2017)*

Water Use (Gal/Yr)	
Indoor	11,561,910.00
Outdoor	28,317,600.00
Solid Waste (Tons/Yr)	579.89

Architectural Coating *see Construction Assumptions*

Electricity (Buildings)

Existing Energy

Existing residential and non-residential modeled using historic energy demand rates in CalEEMod. Modeling is conservative because the net increase in energy use due to the project is likely smaller than reflected due to improved building energy efficiency between the project and existing land uses.

Non-Residential Exceed Title 24	**30%**	Improvement over 2016

Sources:

[1] California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. Accessed on April 3, 2019. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

Lighting (Electricity Use)

Electricity:

	Total Average kW/Event *	Events/Year	Hours**	Kwh (Annual)
Stadium Capacity Events	67.52	11	6	4,456
Games	67.52	34	6	13,774
Practices	67.52	186	6	75,352
Student Events	67.52	24	6	9,723
				0
			Total Annual kWh	103,306

Calculation of GHGs from Field Lighting (EBCE)

CO_2***	CH_4***	N_2O***	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
358.04196	1.03308	1.44570	360.52	0.000164
				MT/Year
			CO_2e from Lighting	**16.89**

**Based on Musco Lighting Plan for the proposed stadium as provided by the District.*

***Based on worst case estimate*

****California Air Pollution Control Officers Association (CAPCOA). 2016. California Emissions Estimator Model (CalEEMod), Version 2016.3.2. Based on the California Air Resources Board (CARB) Local Government Operations Protocol (LGO) for CO_2 and E-Grid values for CH_4 and N_2O. Appendix D, Default Data Tables. Table 1.2, Electrical Utility Emission Factors of GHGs.*

	Global Warming Potentials (GWP)
CO_2	1
CH_4	25
N_2O	298

Source: Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press.

City of Dublin Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for East Bay Community Energy (EBCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply EBCE. The team consulted EBCE's Power Mix, which identifies the percent of EBCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with EBCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects EBCE's particular sources of electricity.

Source: East Bay Community Energy (EBCE). 2020. Power Mix. https://ebce.org/power-mix/. Accessed March 22, 2020

$MTCO_2e$			$MTCO_2e/kWh$
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	0.00052518
Large hydro	21.00%	21.00%	0.00000000
Natural gas	0.00%	0.00%	0.00040027
Nuclear	0.00%	0.00%	0.00000000
Oil	0.00%	0.00%	0.00061190
Other/unspecified	38.00%	38.00%	0.00042800
Biomass	0.00%	0.00%	0.00006741
Geothermal	1.00%	1.00%	0.00008747
Small hydro	0.00%	0.00%	0.00000000
Solar	15.00%	15.00%	0.00000000
Wind	25.00%	25.00%	0.00000000
	100.00%	100.00%	

	MTCO2e/kWh
Emission factor	**0.000163515**
Calculation check	0.000163515

MTCO2e/MWh
0.1635147471
lbsCO2e/MWh
360.485

City of Dublin Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for East Bay Community Energy (EBCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply EBCE. The team consulted EBCE's Power Mix, which identifies the percent of EBCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with EBCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects EBCE's particular sources of electricity.

Source: East Bay Community Energy (EBCE). 2020. Power Mix. https://ebce.org/power-mix/. Accessed March 22, 2020

$MTCO_2$			$MTCO_2$/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	0.000525182
Large hydro	21.00%	21.00%	0
Natural gas	0.00%	0.00%	0.000400274
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	0.0006119
Other/unspecified	38.00%	38.00%	0.00042508
Biomass	0.00%	0.00%	6.7393E-05
Geothermal	1.00%	1.00%	8.74747E-05
Small hydro	0.00%	0.00%	0
Solar	15.00%	15.00%	0
Wind	25.00%	25.00%	0
	100.00%	100.00%	

	MTCO2/kWh
Emission factor	**0.0001624068**

MTCO2/MWh
0.162406765783
lbsCO2/MWh
358.042

City of Dublin Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for East Bay Community Energy (EBCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply EBCE. The team consulted EBCE's Power Mix, which identifies the percent of EBCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with EBCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects EBCE's particular sources of electricity.

Source: East Bay Community Energy (EBCE). 2020. Power Mix. https://ebce.org/power-mix/. Accessed March 22, 2020

$MTCH_4$			$MTCO_4$/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	5.89676E-12
Large hydro	21.00%	21.00%	0
Natural gas	0.00%	0.00%	7.52558E-12
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	2.00932E-11
Other/unspecified	38.00%	38.00%	0.00000005
Biomass	0.00%	0.00%	2.51224E-10
Geothermal	1.00%	1.00%	0
Small hydro	0.00%	0.00%	0
Solar	15.00%	15.00%	0
Wind	25.00%	25.00%	0
	100.00%	100.00%	

	MTCH4/kWh
Emission factor	**0.000000018744**

MTCH4/MWh
0.0000187440454848
lbsCH4/MWh
0.041323

City of Dublin Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for East Bay Community Energy (EBCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply EBCE. The team consulted EBCE's Power Mix, which identifies the percent of EBCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with EBCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects EBCE's particular sources of electricity.

Source: East Bay Community Energy (EBCE). 2020. Power Mix. https://ebce.org/power-mix/. Accessed March 22, 2020

MTN_2O			MTN_2O/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	8.61834E-12
Large hydro	21.00%	21.00%	0
Natural gas	0.00%	0.00%	8.14808E-13
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	3.97229E-12
Other/unspecified	38.00%	38.00%	0.00
Biomass	0.00%	0.00%	3.29476E-11
Geothermal	1.00%	1.00%	0
Small hydro	0.00%	0.00%	0
Solar	15.00%	15.00%	0
Wind	25.00%	25.00%	0
	100.00%	100.00%	

	MTN2O/kWh
Emission factor	**0.000000002**

MTN2O/MWh
0.00000220055879906
lbsN2O/MWh
0.00485135

Changes to the CalEEMod Defaults - Fleet Mix 2022

Average Daily Trips: 5,080

Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.0452	0.002184	0.002561	0.005524	0.000326	0.000721	100%
Trips	2,847	200	967	550	81	26	122	230	11	13	28	2	4	5,080
Percent	0.80			0.11		0.10								
Proportion	0.704375	0.049380	0.239301	1.000000	0.166563	0.054076	0.249288	0.469864	0.022703	0.026622	0.006944	0.003389	0.007495	
Assumed Mix	0.97			0.02		0.01						100%		
adjusted with														
Assumed	0.683244	0.047899	0.232122	0.020000	0.001666	0.000541	0.002493	0.004699	0.000227	0.000266	0.006735	0.000034	0.000075	100%
Trips	3,471	243	1,179	102	8	3	13	24	1	1	34	0	0	5,080
Calibrated for														
zero heavy-duty														
trucks	0.683244	0.047899	0.232122	0.020000	0.001666	0.000541	0.002493	0.004699	0	0	0.006735	0.000034	0.000075	100.0%
Modified	**0.683581**	**0.047923**	**0.232237**	**0.020010**	**0.001666**	**0.000541**	**0.002494**	**0.004701**	**0**	**0**	**0.006739**	**0.000034**	0.000075	**100.0%**
Trips	3,473	243	1,180	102	**8**	**3**	**13**	**24**	**0**	**0**	34	0	**0**	5,080
Assumed Mix	97%			2%		1%								100%

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Assumes a mix of approximately 98% passenger vehicles, 2% medium duty trucks, and 0% heavy duty trucks and buses.

EMFAC2017 Derived CalEEMod Annual Emission Rates: Year 2022[1,2]

Season	Pollutant	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH
Annual	CH4_IDLEX	0	0	0	0	0.0055501	0.003855235	0.002766677	0.023945699	0.0086425	0	0	0.061054	0
Annual	CH4_RUNEX	0.0024283	0.0049478	0.0035879	0.0044191	0.0097787	0.007678351	0.004782131	0.031819694	0.0103928	0.9541522	0.34547	0.0045518	0.0048406
Annual	CH4_STREX	0.0550086	0.0759483	0.0738754	0.0894944	0.0166524	0.010837204	0.007384419	2.24411E-07	0.023311	0.0011066	0.261656	0.0053546	0
Annual	CO_IDLEX	0	0	0	0	0.1898815	0.150906781	0.345703698	6.253002138	0.5596239	0	0	2.551433	0
Annual	CO_RUNEX	0.6129457	1.0369668	0.8118576	0.9107556	0.8847938	0.674356663	0.407002386	0.464710664	1.0379043	6.751879	20.542022	0.3591665	0.3665703
Annual	CO_STREX	2.3148848	2.5384735	2.9635475	3.4532297	1.1591554	0.765682386	0.885599621	0.004716566	2.6028135	0.0734193	9.0692972	0.7814524	0
Annual	CO2_NBIO_IDLEX	0	0	0	0	9.0075894	13.66535346	76.16732003	1147.773328	85.846282	0	0	341.69361	0
Annual	CO2_NBIO_RUNEX	255.30507	304.07608	329.0151	396.32324	821.37826	813.8547677	1096.173121	1465.862585	1506.4053	1661.0775	215.58186	1012.0923	1013.7553
Annual	CO2_NBIO_STREX	53.968026	65.076484	70.883443	85.193763	12.498504	9.480990694	7.179588703	0.05135875	20.171217	0.8571304	62.200061	4.4717082	0
Annual	NOX_IDLEX	0	0	0	0	0.058371	0.092460646	0.555002295	6.001491966	0.4134268	0	0	2.9751608	0
Annual	NOX_RUNEX	0.0404248	0.0917068	0.0743486	0.0938383	0.8462457	0.969088559	1.981889677	3.375256433	1.6527692	1.4137959	1.1710726	3.811646	4.0409336
Annual	NOX_STREX[3]	0.2009009	0.2723747	0.3078463	0.3798015	0.3568969	0.236398717	1.487776564	2.008047495	0.7131377	0.0093262	0.2737026	1.0793515	0
Annual	PM10_IDLEX	0	0	0	0	0.0007748	0.001268942	0.001119428	0.003083645	0.0007674	0	0	0.0031878	0
Annual	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061209733	0.13034	0.0741758	0.01176	0.7448002	0.13034
Annual	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096358	0.010524608	0.012000003	0.035682671	0.012	0.0316072	0.004	0.0106964	0.016
Annual	PM10_RUNEX	0.00152	0.001961	0.0014903	0.0016493	0.0109985	0.015370587	0.032914578	0.034680521	0.0210176	0.0059191	0.0020417	0.0228367	0.0860784
Annual	PM10_STREX	0.0018354	0.0024943	0.0018197	0.0020708	0.0002729	0.000153095	8.34141E-05	3.92395E-07	0.0001943	5.388E-06	0.0033519	6.06E-05	0
Annual	PM25_IDLEX	0	0	0	0	0.0007413	0.001214048	0.001071002	0.002950248	0.0007342	0	0	0.0030499	0
Annual	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026232743	0.05586	0.0317896	0.00504	0.3192001	0.05586
Annual	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024089	0.002631152	0.003000001	0.008920668	0.003	0.0079018	0.001	0.0026741	0.004
Annual	PM25_RUNEX	0.0014014	0.0018049	0.0013717	0.0015211	0.0104717	0.014676554	0.031486493	0.033180243	0.0200896	0.0056627	0.0019111	0.0218319	0.0823547
Annual	PM25_STREX	0.0016876	0.0022936	0.0016732	0.0019044	0.0002509	0.000140765	7.66962E-05	3.60793E-07	0.0001787	4.954E-06	0.0031619	5.572E-05	0
Annual	ROG_DIURN	0.0411191	0.0895572	0.0585693	0.0687801	0.0019497	0.00116641	0.000295889	1.92777E-06	0.0014679	0.0001376	0.8075989	0.0002868	0
Annual	ROG_HTSK	0.1073768	0.1934897	0.1312254	0.1506407	0.0810254	0.050778617	0.015645615	9.7258E-05	0.0230223	0.0007544	0.7427537	0.0028603	0
Annual	ROG_IDLEX	0	0	0	0	0.0226015	0.017973302	0.016802794	0.451454182	0.0536164	0	0	0.2778415	0
Annual	ROG_RESTL	0.0401193	0.0793699	0.0611288	0.0725343	0.0011016	0.00066386	0.000169782	1.2619E-06	0.000686	3.328E-05	0.5031412	0.0001358	0
Annual	ROG_RUNEX	0.0096334	0.0215468	0.0145428	0.0187919	0.0986382	0.110256428	0.081688879	0.081154715	0.0908755	0.0137571	2.3621794	0.0618815	0.1042152
Annual	ROG_RUNLS	0.2263768	0.7045954	0.45031	0.485875	0.5780636	0.346764048	0.090522926	0.000589067	0.2628664	0.0046542	2.2845576	0.0189633	0
Annual	ROG_STREX	0.2522646	0.3811031	0.3473663	0.4508659	0.0838558	0.054214078	0.039823819	1.17362E-06	0.12135	0.0048274	2.0077266	0.0297024	0
Annual	SO2_IDLEX	0	0	0	0	8.752E-05	0.000131004	0.000721795	0.010752484	0.0008174	0	0	0.003255	0
Annual	SO2_RUNEX	0.0025254	0.003009	0.003255	0.0039177	0.0080293	0.007882836	0.01042344	0.013602258	0.0146211	0.0130979	0.0021334	0.0096829	0.0095836
Annual	SO2_STREX	0.0005341	0.000644	0.0007014	0.0008431	0.0001237	9.38221E-05	7.10479E-05	5.08236E-07	0.0001996	8.482E-06	0.0006155	4.425E-05	0
Annual	TOG_DIURN	0.0411314	0.0895841	0.0585868	0.0688008	0.0019497	0.00116641	0.000295889	1.92777E-06	0.0014679	0.0001376	0.8075989	0.0002868	0
Annual	TOG_HTSK	0.107409	0.1935477	0.1312647	0.1506858	0.0810254	0.050778617	0.015645615	9.7258E-05	0.0230223	0.0007544	0.7427537	0.0028603	0
Annual	TOG_IDLEX	0	0	0	0	0.032015	0.024650714	0.022094436	0.516939692	0.0699974	0	0	0.3985581	0
Annual	TOG_RESTL	0.0401313	0.0793937	0.0611472	0.072556	0.0011016	0.00066386	0.000169782	1.2619E-06	0.000686	3.328E-05	0.5031412	0.0001358	0
Annual	TOG_RUNEX	0.0139951	0.0314175	0.0211858	0.0272876	0.122864	0.130214929	0.094999892	0.120635995	0.1158049	0.9739253	2.9084649	0.0736881	0.1186421
Annual	TOG_RUNLS	0.2264447	0.7048068	0.4504451	0.4860207	0.5780636	0.346764048	0.090522926	0.000589067	0.2628664	0.0046542	2.2845576	0.0189633	0
Annual	TOG_STREX	0.2763072	0.4174248	0.3804737	0.4938319	0.0918116	0.059357592	0.043602069	1.28497E-06	0.132863	0.0052854	2.1844585	0.0325204	0
Summer	CH4_IDLEX	0	0	0	0	0.0055675	0.00386695	0.002610907	0.025101561	0.0087068	0	0	0.061142	0
Summer	CH4_RUNEX	0.0027514	0.0055491	0.004051	0.0049815	0.0100755	0.007802115	0.004834206	0.031821332	0.0107138	0.9541537	0.3335525	0.0046316	0.0048406
Summer	CH4_STREX	0.0455735	0.0624121	0.0611121	0.0739251	0.0156222	0.010167187	0.006901968	2.07761E-07	0.0217031	0.0009739	0.2146555	0.0044256	0
Summer	CO_IDLEX	0	0	0	0	0.1898815	0.150906781	0.29147134	6.126527687	0.5468315	0	0	2.5188384	0
Summer	CO_RUNEX	0.7257555	1.2103141	0.9556014	1.0672422	0.9099168	0.684295617	0.412503004	0.465398739	1.0716731	6.7519571	19.424957	0.3667933	0.3665703
Summer	CO_STREX	1.7688084	1.9322411	2.2607086	2.6213708	1.0663541	0.7047943	0.805715251	0.004291355	2.3497642	0.0588303	7.7834074	0.557757	0
Summer	CO2_NBIO_IDLEX	0	0	0	0	9.0075894	13.66535346	76.84698927	1142.221522	85.744711	0	0	347.8207	0
Summer	CO2_NBIO_RUNEX	275.63888	325.04724	349.63234	417.33626	821.42506	813.8730116	1096.182921	1465.863716	1506.4659	1661.0776	213.43279	1012.106	1013.7553
Summer	CO2_NBIO_STREX	52.946586	63.87244	69.553626	83.592595	12.332926	9.372545526	7.043668251	0.050684483	19.740993	0.8319554	58.893603	4.0997369	0
Summer	NOX_IDLEX	0	0	0	0	0.058371	0.092460646	0.553974678	5.800131469	0.4049745	0	0	3.0238962	0
Summer	NOX_RUNEX	0.035922	0.0807025	0.0657459	0.0829456	0.8047678	0.927230041	1.901570421	3.249915579	1.5681383	1.4135883	1.0220197	3.6530635	3.8839559
Summer	NOX_STREX[3]	0.1758501	0.2384867	0.2694867	0.3324733	0.3299302	0.218536754	1.482505927	2.008029128	0.6942478	0.0086107	0.2486521	1.0752685	0
Summer	PM10_IDLEX	0	0	0	0	0.0007748	0.001268942	0.000946821	0.002725134	0.0006516	0	0	0.002696	0
Summer	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061209733	0.13034	0.0741758	0.01176	0.7448002	0.13034
Summer	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096358	0.010524608	0.012000003	0.035682671	0.012	0.0316072	0.004	0.0106964	0.016
Summer	PM10_RUNEX	0.00152	0.001961	0.0014903	0.0016493	0.0109985	0.015370587	0.032914578	0.034680521	0.0210176	0.0059191	0.0020417	0.0228367	0.0860784
Summer	PM10_STREX	0.0018354	0.0024943	0.0018197	0.0020708	0.0002729	0.000153095	8.34141E-05	3.92395E-07	0.0001943	5.388E-06	0.0033519	6.06E-05	0
Summer	PM25_IDLEX	0	0	0	0	0.0007413	0.001214048	0.000905862	0.002607246	0.0006234	0	0	0.0025794	0
Summer	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026232743	0.05586	0.0317896	0.00504	0.3192001	0.05586
Summer	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024089	0.002631152	0.003000001	0.008920668	0.003	0.0079018	0.001	0.0026741	0.004
Summer	PM25_RUNEX	0.0014014	0.0018049	0.0013717	0.0015211	0.0104717	0.014676554	0.031486493	0.033180243	0.0200896	0.0056627	0.0019111	0.0218319	0.0823547
Summer	PM25_STREX	0.0016876	0.0022936	0.0016732	0.0019044	0.0002509	0.000140765	7.66962E-05	3.60793E-07	0.0001787	4.954E-06	0.0031619	5.572E-05	0
Summer	ROG_DIURN	0.102727	0.2283857	0.1438698	0.1688306	0.0048465	0.002892661	0.000751353	5.11445E-06	0.003539	0.0003319	2.3511216	0.0007142	0
Summer	ROG_HTSK	0.1185755	0.2212297	0.1448957	0.1655452	0.0904164	0.057469549	0.0175883	0.00010638	0.0245751	0.0008372	0.9865643	0.0030149	0
Summer	ROG_IDLEX	0	0	0	0	0.0226015	0.017973302	0.016202952	0.473263648	0.0544134	0	0	0.2779437	0
Summer	ROG_RESTL	0.0859646	0.1726844	0.12879	0.1535615	0.002393	0.001439884	0.000384418	3.08259E-06	0.0014848	7.039E-05	1.4493003	0.0003152	0
Summer	ROG_RUNEX	0.010729	0.0238505	0.0161709	0.0208095	0.1002558	0.110833821	0.081939582	0.081164111	0.0925042	0.0137613	2.2556637	0.0622611	0.1042152
Summer	ROG_RUNLS	0.2120281	0.6469514	0.4154092	0.4497916	0.5583922	0.334282712	0.086980209	0.000581884	0.2553942	0.0041791	2.1325068	0.0160251	0
Summer	ROG_STREX	0.205467	0.3082705	0.2826204	0.3661176	0.0783499	0.050658971	0.037053837	1.09199E-06	0.1126742	0.0042166	1.6259839	0.0245195	0
Summer	SO2_IDLEX	0	0	0	0	8.752E-05	0.000131004	0.000728329	0.010700765	0.0008165	0	0	0.0033129	0
Summer	SO2_RUNEX	0.0027266	0.0032166	0.003459	0.0041257	0.0080298	0.007883017	0.010423537	0.013602269	0.0146217	0.0130979	0.0021121	0.009683	0.0095836
Summer	SO2_STREX	0.0005239	0.0006321	0.0006883	0.0008272	0.000122	9.27489E-05	6.97028E-05	5.01564E-07	0.0001954	8.233E-06	0.0005828	4.057E-05	0
Summer	TOG_DIURN	0.1027577	0.2284542	0.1439129	0.1688812	0.0048465	0.002892661	0.000751353	5.11445E-06	0.003539	0.0003319	2.3511216	0.0007142	0
Summer	TOG_HTSK	0.118611	0.2212961	0.1449391	0.1655948	0.0904164	0.057469549	0.0175883	0.00010638	0.0245751	0.0008372	0.9865643	0.0030149	0
Summer	TOG_IDLEX	0	0	0	0	0.032015	0.024650714	0.021200574	0.541911576	0.0709047	0	0	0.3986744	0
Summer	TOG_RESTL	0.0859903	0.1727362	0.1288286	0.1536076	0.002393	0.001439884	0.000384418	3.08259E-06	0.0014848	7.039E-05	1.4493003	0.0003152	0
Summer	TOG_RUNEX	0.0155941	0.03478	0.0235623	0.0302316	0.1252245	0.131057459	0.095365717	0.120649706	0.1181814	0.9739315	2.7812387	0.0742421	0.1186421
Summer	TOG_RUNLS	0.2120917	0.6471455	0.4155338	0.4499265	0.5583922	0.334282712	0.086980209	0.000581884	0.2553942	0.0041791	2.1325068	0.0160251	0
Summer	TOG_STREX	0.2250497	0.337651	0.3095569	0.4010083	0.0857833	0.055465197	0.040569287	1.19559E-06	0.123364	0.0046166	1.7692316	0.0268457	0
Winter	CH4_IDLEX	0	0	0	0	0.0055365	0.003846104	0.002922195	0.01956619	0.0085724	0	0	0.0609834	0
Winter	CH4_RUNEX	0.0023466	0.0048006	0.0034692	0.0042875	0.0095699	0.007589269	0.004746175	0.003757827	0.0101745	0.9541511	0.357633	0.0044955	0.0048406
Winter	CH4_STREX	0.0613166	0.0850329	0.0824159	0.0999391	0.0174527	0.011357683	0.007744051	2.37044E-07	0.0244496	0.0012061	0.3023757	0.0060611	0
Winter	CO_IDLEX	0	0	0	0	0.1898815	0.150906781	0.404276849	6.372573435	0.5772897	0	0	2.5964447	0
Winter	CO_RUNEX	0.6074093	1.030513	0.8051673	0.9059514	0.8673872	0.667421815	0.403326131	0.372134359	1.0153974	6.7518267	22.286446	0.3538965	0.3665703
Winter	CO_STREX	2.7112644	2.9787844	3.473358	4.0577186	1.2418417	0.819675102	0.952814606	0.005073758	2.8011541	0.0856044	10.392138	0.9733232	0
Winter	CO2_NBIO_IDLEX	0	0	0	0	9.0075894	13.66535346	75.32452853	1145.689354	85.986546	0	0	333.23239	0
Winter	CO2_NBIO_RUNEX	253.28012	301.99518	326.96463	394.23842	821.34584	813.8420013	1096.16656	1439.720261	1506.3649	1661.0774	218.7289	1012.0828	1013.7553
Winter	CO2_NBIO_STREX	54.704398	65.943991	71.841204	86.348822	12.644014	9.575900929	7.293171398	0.051925134	20.506309	0.8780012	65.420924	4.7890994	0
Winter	NOX_IDLEX	0	0	0	0	0.058371	0.092460646	0.556434519	6.228796084	0.4250989	0	0	2.9078595	0

Winter	NOX_RUNEX	0.0443389	0.1008431	0.081702	0.103104	0.8663497	0.988235999	2.015917399	3.420035745	1.6932694	1.4139127	1.257251	3.8797876	4.105844
Winter	NOX_STREX[3]	0.2183626	0.2959349	0.334565	0.4127625	0.3784084	0.250650009	1.491876759	2.00806177	0.7279506	0.0098578	0.2922278	1.0823478	0
Winter	PM10_IDLEX	0	0	0	0	0.0007748	0.001268942	0.00135779	0.003515349	0.0009272	0	0	0.0038669	0
Winter	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.060689159	0.13034	0.0741758	0.01176	0.7448002	0.13034
Winter	PM10_PMTW	0.008	0.008	0.008	0.008	0.0096358	0.010524608	0.012000003	0.03537913	0.012	0.0316072	0.004	0.0106964	0.016
Winter	PM10_RUNEX	0.00152	0.001961	0.0014903	0.0016493	0.0109985	0.015370587	0.032914578	0.034643381	0.0210176	0.0059191	0.0020417	0.0228367	0.0860784
Winter	PM10_STREX	0.0018354	0.0024943	0.0018197	0.0020708	0.0002729	0.000153095	8.34141E-05	3.92395E-07	0.0001943	5.388E-06	0.0033519	6.06E-05	0
Winter	PM25_IDLEX	0	0	0	0	0.0007413	0.001214048	0.001299053	0.003363276	0.0008871	0	0	0.0036996	0
Winter	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.02600964	0.05586	0.0317896	0.00504	0.3192001	0.05586
Winter	PM25_PMTW	0.002	0.002	0.002	0.002	0.0024089	0.002631152	0.003000001	0.008844782	0.003	0.0079018	0.001	0.0026741	0.004
Winter	PM25_RUNEX	0.0014014	0.0018049	0.0013717	0.0015211	0.0104717	0.014676554	0.031486493	0.03314471	0.0200896	0.0056627	0.0019111	0.0218319	0.0823547
Winter	PM25_STREX	0.0016876	0.0022936	0.0016732	0.0019044	0.0002509	0.000140765	7.66962E-05	3.60793E-07	0.0001787	4.954E-06	0.0031619	5.572E-05	0
Winter	ROG_DIURN	0.0169487	0.0346126	0.0253481	0.0298148	0.0007867	0.000482656	0.000119007	7.88374E-07	0.0006737	6.849E-05	0.214882	0.0001283	0
Winter	ROG_HTSK	0.1117684	0.2068085	0.1364803	0.1564512	0.0901973	0.055398213	0.016497344	0.000105756	0.0238251	0.0007806	0.8876131	0.0029274	0
Winter	ROG_IDLEX	0	0	0	0	0.0226015	0.017973302	0.017380577	0.421254714	0.0525158	0	0	0.2777004	0
Winter	ROG_RESTL	0.0192729	0.0377509	0.029686	0.0349786	0.0005258	0.000324942	7.98239E-05	5.48274E-07	0.0003509	1.779E-05	0.1769709	6.733E-05	0
Winter	ROG_RUNEX	0.0094251	0.021141	0.0142259	0.0184927	0.0975187	0.109845	0.081518571	0.080197356	0.0897768	0.0137542	2.4692179	0.0616147	0.1042152
Winter	ROG_RUNLS	0.2654291	0.8659795	0.5468531	0.5865535	0.6411242	0.387437594	0.10239755	0.000647453	0.2870454	0.0058586	2.697623	0.0245996	0
Winter	ROG_STREX	0.2847266	0.431917	0.3922943	0.5099288	0.0881596	0.056993016	0.041921738	1.23545E-06	0.1275193	0.0052911	2.3461137	0.0336532	0
Winter	SO2_IDLEX	0	0	0	0	8.752E-05	0.000131004	0.00071372	0.010823905	0.0008188	0	0	0.0031751	0
Winter	SO2_RUNEX	0.0025054	0.0029884	0.0032347	0.0038971	0.008029	0.00788271	0.010423375	0.013602251	0.0146207	0.0130979	0.0021645	0.0096828	0.0095836
Winter	SO2_STREX	0.0005413	0.0006526	0.0007109	0.0008545	0.0001251	9.47613E-05	7.21718E-05	5.13841E-07	0.0002029	8.689E-06	0.0006474	4.739E-05	0
Winter	TOG_DIURN	0.0169538	0.034623	0.0253557	0.0298238	0.0007867	0.000482656	0.000119007	7.88374E-07	0.0006737	6.849E-05	0.214882	0.0001283	0
Winter	TOG_HTSK	0.1118019	0.2068705	0.1365213	0.1564981	0.0901973	0.055398213	0.016497344	0.000105756	0.0238251	0.0007806	0.8876131	0.0029274	0
Winter	TOG_IDLEX	0	0	0	0	0.032015	0.024650714	0.022963186	0.479566426	0.0687445	0	0	0.3983975	0
Winter	TOG_RESTL	0.0192787	0.0377622	0.0296949	0.0349891	0.0005258	0.000324942	7.98239E-05	5.48274E-07	0.0003509	1.779E-05	0.1769709	6.733E-05	0
Winter	TOG_RUNEX	0.0136906	0.0308236	0.0207226	0.0268461	0.1212305	0.129614573	0.094751379	0.09136196	0.1142017	0.9739211	3.0369082	0.0732988	0.1186421
Winter	TOG_RUNLS	0.2655087	0.8662393	0.5470172	0.5867294	0.6411242	0.387437594	0.10239755	0.000647453	0.2870454	0.0058586	2.697623	0.0245996	0
Winter	TOG_STREX	0.311863	0.4730813	0.4296836	0.5585223	0.0965237	0.062400179	0.045899027	1.35266E-06	0.1396176	0.0057931	2.5525	0.0368461	0

1 Source: California Air Resources Board. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/; California Air Pollution Control Officers Association (CAPCOA). 2017, November. California Emissions Estimator Model User's Guide, Version 2016.3.2, Appendix A.

2 Unless otherwise noted, per CalEEMod methodology, the calculated CalEEMod emission rates are derived from the emission rates obtained using the EMFAC2017 Web Database for the Los Angeles (SC) region .

3 Because EMFAC2017 provides vehicle trips data for MHDT and HHDT diesel trucks, the formula provided in Appendix A of the CalEEMod User's Guide in calculating the NO_X STREX emission rates are utilized.

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSK	ROG_RUNLS	ROG_RESTL	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSK	TOG_RUNLS	TOG_RESTL	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMBW	PM10_PMTW	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_PMBW	PM2_5_PMTW	SOx_RUNEX	SOx_IDLEX	SOx_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	GAS	8.941515273	987.2283999	178.9018376	0.400666829	0	0.0001071	0.088738	0.537463	0.023036	0.035192	0.584652	0	0.0001172	0.088738	0.537463	0.023036	0.035192	34.02235	0	4.303386	3.348986	0	0.216392	2140.185	0	46.85962	0.084822	0	0.000205	0.00071	0	0.000358	0.02	0.06174	0.000653	0	0.000329	0.005	0.02646	0.021179	0	0.000464	0.137375	0	0.006869
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	DSL	14783.07429	1924287.696	1614864.2761	0.080721448	4.983907	0	0	0	0	0	0.091885	5.673798	0	0	0	0	0	0.358494	68.45379	0	3.39429	65.73321	2.029512	1451.61	12566.84	0	0.003749	0.23149	0	0.034956	0.033465	0	0.035688	0.061205	0.033443	0.032017	0	0.008922	0.026231	0.013714	0.118725	0	0.228173	1.975332	0
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	NG	401.6657583	16371.39779	1566.496457	0.112813558	0.033009	0	0	0	0	0	3.470834	1.254071	0	0	0	0	0	10.92575	21.70469	0	1.139671	19.62483	0	3100.389	3919.05	0	3.328006	1.211259	0	0.004405	0.021493	0	0.036	0.06174	0.004214	0.020563	0	0.009	0.02646	0	0	0	0.633035	0.798924	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	GAS	655562.8607	23671849.59	3067758.174	0.009837973	0	0.262704	0.111673	0.235745	0.195395	0.199969	0.01435	0	0.287626	0.111673	0.235745	0.195395	0.199969	0.63507	0	2.40731	0.041014	0	0.209131	263.6152	0	56.20136	0.002521	0	0.057285	0.001476	0	0.001908	0.008	0.03675	0.001357	0	0.001754	0.002	0.01575	0.002609	0	0.000556	0.004598	0	0.027483
Alameda (SF)	2022	LDA	Aggregated	Aggregated	DSL	7449.571634	272434.9585	36681.30267	0.017444795	0	0	0	0	0	0	0.01886	0	0	0	0	0	0	0.241474	0	0	0.095144	0	0	211.3928	0	0	0.00081	0	0	0.009179	0	0	0.008	0.03675	0.008782	0	0	0.002	0.01575	0.001998	0	0	0.033228	0	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	ELEC	18845.44712	723655.3054	92270.33385	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	GAS	67404.57885	2377619.21	309278.2138	0.021660288	0	0.383997	0.194924	0.709945	0.366918	0.413949	0.031589	0	0.420426	0.194924	0.709945	0.366918	0.413949	1.043447	0	2.554171	0.092078	0	0.274333	306.3829	0	65.57057	0.004985	0	0.076525	0.001925	0	0.002509	0.008	0.03675	0.00177	0	0.002307	0.002	0.01575	0.003032	0	0.000649	0.007348	0	0.030294
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	DSL	42.40174294	683.4550294	136.9950746	0.203340803	0	0	0	0	0	0	0.23149	0	0	0	0	0	0	1.160946	0	0	1.122574	0	0	418.6313	0	0	0.009445	0	0	0.168169	0	0	0.008	0.03675	0.160894	0	0	0.002	0.01575	0.003958	0	0	0.065803	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	ELEC	441.5406461	18294.71878	2211.186985	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	GAS	214905.0349	7705519.547	998671.1525	0.014651996	0	0.353054	0.133326	0.457684	0.288683	0.2765	0.021373	0	0.386549	0.133326	0.457684	0.288683	0.2765	0.822247	0	3.007862	0.075136	0	0.312762	332.0345	0	72.04411	0.003638	0	0.075085	0.001471	0	0.001846	0.008	0.03675	0.001353	0	0.001698	0.002	0.01575	0.003286	0	0.000713	0.00642	0	0.034464
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	DSL	1342.824199	56264.23154	6557.806453	0.015827047	0	0	0	0	0	0	0.018018	0	0	0	0	0	0	0.137752	0	0	0.045436	0	0	282.9641	0	0	0.000735	0	0	0.005408	0	0	0.008	0.03675	0.005174	0	0	0.002	0.01575	0.002675	0	0	0.044478	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	ELEC	1945.894322	62876.37541	9794.744055	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	GAS	15745.14558	554242.3879	234579.2088	0.055756947	0.445508	0.127981	0.123661	0.88224	0.025047	0.044332	0.08136	0.650084	0.140123	0.123661	0.88224	0.025047	0.044332	1.023333	3.750554	1.769102	0.242183	0.038895	0.544696	1011.413	121.5208	19.0752	0.011383	0.123021	0.025415	0.002314	0.000416	0.008	0.07644	0.002128	0	0.000383	0.002	0.03276	0.010009	0.001203	0.000189	0.014635	0.003162	0.042363
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	DSL	9813.012391	383467.2215	123435.3511	0.160161328	0.10976	0	0	0	0	0	0.182851	0.124954	0	0	0	0	0	0.684557	0.909745	0	1.719325	2.067179	0	546.7123	133.6475	0	0.00746	0.005098	0	0.02355	0.02826?	0	0.012	0.07644	0.022532	0.027044	0	0.003	0.03276	0.005168	0.001263	0	0.085936	0.021008	0
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	GAS	2407.030997	83770.07736	35861.17539	0.039668539	0.445297	0.124069	0.116207	0.793569	0.022634	0.039769	0.057909	0.649776	0.13584	0.116207	0.793569	0.022634	0.039769	0.728419	3.756817	1.752263	0.243443	0.038851	0.540998	1158.615	140.0905	21.69724	0.008776	0.123665	0.024801	0.002117	0.00035	0.008	0.08918	0.001947	0	0.000322	0.002	0.03822	0.011465	0.001386	0.000215	0.015468	0.003107	0.041533
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	DSL	3673.426819	143342.1735	46207.08821	0.151498592	0.10976	0	0	0	0	0	0.172471	0.124954	0	0	0	0	0	0.642763	0.909745	0	1.393161	2.040212	0	612.3745	213.5035	0	0.007037	0.005098	0	0.022116	0.02835	0	0.012	0.08918	0.022116	0.027123	0	0.003	0.03822	0.005789	0.002018	0	0.096257	0.03356	0
Alameda (SF)	2022	MCY	Aggregated	Aggregated	GAS	2970.34576	226866.958	59140.69152	2.362179394	0	2.007727	0.742754	2.284558	1.006282	1.615198	2.908465	0	2.184458	0.742754	2.284558	1.006282	1.615198	20.54202	0	9.069297	1.171073	0	0.273703	215.5819	0	62.20006	0.34547	0	0.261656	0.002042	0	0.003352	0.004	0.01176	0.001911	0	0.003162	0.001	0.00504	0.002133	0	0.000616	0.06712	0	0.015439
Alameda (SF)	2022	MDV	Aggregated	Aggregated	GAS	131728.8101	4543407.132	606035.2203	0.019117572	0	0.46491	0.155296	0.50101	0.344071	0.326191	0.027844	0	0.509011	0.155296	0.50101	0.344071	0.326191	0.934455	0	3.555819	0.095818	0	0.391476	399.7146	0	87.84752	0.004552	0	0.092282	0.001578	0	0.002131	0.008	0.03675	0.001451	0	0.00196	0.002	0.01575	0.003955	0	0.000869	0.007686	0	0.037811
Alameda (SF)	2022	MDV	Aggregated	Aggregated	DSL	2947.784216	121177.4276	14326.4089	0.011251414	0	0	0	0	0	0	0.012809	0	0	0	0	0	0	0.19954	0	0	0.041499	0	0	367.6938	0	0	0.000523	0	0	0.004628	0	0	0.008	0.03675	0.004427	0	0	0.002	0.01575	0.003476	0	0	0.057796	0	0
Alameda (SF)	2022	MDV	Aggregated	Aggregated	ELEC	891.1758577	30124.05906	4551.41016	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0.004888	0	0.004021	0.014405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	MH	Aggregated	Aggregated	GAS	2284.865713	22127.24488	228.5779659	0.065034642	0	0.136836	0.084861	2.083417	0.034254	0.089687	0.094898	0	0.149818	0.084861	2.083417	0.034254	0.089687	1.666817	0	3.035707	0.4023	0	0.334687	1751.697	0	25.92563	0.014805	0	0.03234	0.001765	0	0.000394	0.012	0.13034	0.001622	0	0.000362	0.003	0.05586	0.017334	0	0.000257	0.024891	0	0.03517
Alameda (SF)	2022	MH	Aggregated	Aggregated	DSL	740.562742	7563.351715	74.0562742	0.104215385	0	0	0	0	0	0	0.118642	0	0	0	0	0	0	0.36657	0	0	4.040934	0	0	1013.755	0	0	0.004841	0	0	0.086078	0	0	0.016	0.13034	0.082355	0	0	0.004	0.05586	0.009584	0	0	0.159348	0	0
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	GAS	1624.237082	87728.64481	32497.73554	0.072714765	1.013529	0.218194	0.085722	0.495973	0.018612	0.032436	0.106105	1.478939	0.238895	0.085722	0.495973	0.018612	0.032436	1.673983	15.12588	4.852177	0.48158	0.08854	0.376653	1748.909	538.9732	39.33678	0.01488	0.264811	0.040459	0.001116	0	0.000457	0.012	0.13034	0.00121	0	0.00042	0.003	0.05586	0.017307	0.005334	0.000389	0.023786	0.007557	0.029446
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	DSL	14395.60419	933709.828	145556.5096	0.08253206	0.093473	0	0	0	0	0	0.093956	0.106412	0	0	0	0	0	0.287961	2.569256	0	2.122854	6.854641	1.735852	1034.844	881.2756	0	0.003833	0.004342	0	0.035883	0.013846	0	0.012	0.13034	0.034331	0.013247	0	0.003	0.05586	0.009777	0.008326	0	0.162663	0.138524	0
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	GAS	583.6694591	28951.23134	11678.05854	0.079177753	0.745312	0.163846	0.030705	0.350589	0.018305	0.039172	0.115536	1.087557	0.177202	0.030705	0.350589	0.018305	0.039172	1.761414	5.768861	3.474114	0.548147	0.064997	0.326706	1786.027	380.7547	26.90268	0.01637	0.198788	0.03109	0.001039	0	0.000259	0.012	0.13034	0.000955	0	0.000238	0.003	0.05586	0.017674	0.003768	0.000266	0.026658	0.00551	0.025892
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	DSL	401.2977337	30587.37114	3897.155945	0.101947739	0.996944	0	0	0	0	0	0.11606	1.134044	0	0	0	0	0	0.353096	13.32964	0	2.698305	15.95143	1.871104	1241.741	2778.085	0	0.004735	0.046305	0	0.039928	0.029783	0	0.012	0.13034	0.0382	0.028495	0	0.003	0.05586	0.011731	0.026246	0	0.195184	0.436676	0
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	GAS	91.69735116	4619.754283	366.7894047	0.031001139	10.64152	0.308151	0.029674	0.196737	0.005637	0.011902	0.045237	15.52808	0.337386	0.029674	0.196737	0.005637	0.011902	0.63574	82.24088	8.107255	0.241149	0.92653	0.509732	829.3142	2485.053	46.39218	0.006588	2.492375	0.055552	0.001392	0	0.000629	0.008	0.7448	0.00128	0	0.000578	0.002	0.3192	0.008207	0.024592	0.000459	0.016802	0.094428	0.051433
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	DSL	297.9675131	9556.096471	3438.503789	0.076810092	0.273417	0	0	0	0	0	0.087442	0.311265	0	0	0	0	0	0.225461	7.274888	0	5.53775	37.71015	1.140114	1100.454	3598.955	0	0.003568	0.0127	0	0.033204	0.040711	0	0.012	0.7448	0.031768	0.03895	0	0.003	0.3192	0.010397	0.034001	0	0.172976	0.565706	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	GAS	8.853795357	523.2122241	35.41518143	0.018099931	0	0.386756	0.060443	0.372876	0.010666	0.016223	0.026411	0	0.423449	0.060443	0.372876	0.010666	0.016223	0.340252	0	5.882088	0.281429	0	0.747181	1884.367	0	68.67019	0.00545	0	0.088656	0.001438	0	0.000432	0.010605	0.115982	0.001322	0	0.000397	0.002651	0.040706	0.018647	0	0.000668	0.022986	0	0.064624
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	DSL	576.8548075	68206.34297	2307.41923	0.001696402	0	0	0	0	0	0	0.120663	0	0	0	0	0	0	0.194806	0	0	1.608919	0	0	1641.502	0	0	0.118223	0	0	0.006524	0	0	0.031858	0.073578	0.006242	0	0	0.007964	0.031534	0.015518	0	0	0.258021	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03599	0.061768	0	0	0	0.008998	0.026472	0	0	0	0	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	NG	111.6048953	11743.0555	446.4195812	0.084882065	0	0	0	0	0	0	6.061811	0	0	0	0	0	0	45.74457	0	0	0.46518	0	0	1917.863	0	0	5.939595	0	0	0.003153	0	0	0.030685	0.076927	0.003016	0	0	0.007671	0.032969	0	0	0	0.390969	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2022
Season: Summer
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Y	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTL	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSOAK	TOG_RUNLOSS	TOG_RESTL	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMBW	PM10_PMTW	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_PMBW	PM2_5_PMTW	SOx_RUNEX	SOx_IDLEX	SOx_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	GAS	8.941515273	987.2283999	178.9018376	0.419146	0	0.000996	0.097061	0.530909	0.056273	0.093366	0.611617	0	0.001091	0.097061	0.530909	0.056273	0.093366	35.37563	0	3.915423	2.944418	0	0.199634	2142.41	0	46.24442	0.088044	0	0.00019	0.00071	0	0.000358	0.02	0.06174	0.000653	0	0.000329	0.005	0.02646	0.021201	0	0.000458	0.125664	0	0.006514
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	DSL	14783.07429	1924287.696	161484.2761	0.080721	5.224722	0	0	0	0	0	0.091895	5.947949	0	0	0	0	0	0.358494	67.07069	0	3.268397	63.52964	2.029512	1451.61	1250E-39	0	0.003749	0.242675	0	0.034956	0.02959	0	0.035688	0.061205	0.033443	0.02831	0	0.008932	0.026231	0.013714	0.118154	0	0.228173	1.965831	0
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	NG	401.6657583	16371.39779	1566.496457	0.112814	0.03289	0	0	0	0	0	3.470834	1.312237	0	0	0	0	0	10.92575	21.21198	0	1.096075	18.89692	0	3100.389	3887.564	0	3.328006	1.269313	0	0.004405	0.018405	0	0.036	0.06174	0.004214	0.017609	0	0.009	0.02646	0	0	0	0.633035	0.792505	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	GAS	655562.8607	23671849.59	3067758.174	0.01008	0	0.21397	0.123335	0.220802	0.418323	0.499166	0.036015	0	0.234269	0.123335	0.220802	0.418323	0.499166	0.752462	0	1.839431	0.036368	0	0.183054	284.8046	0	55.13765	0.002858	0	0.047459	0.003476	0	0.001908	0.008	0.03675	0.001357	0	0.001754	0.002	0.01575	0.002818	0	0.000546	0.00424	0	0.024984
Alameda (SF)	2022	LDA	Aggregated	Aggregated	DSL	7449.571634	272434.9585	34681.30267	0.017445	0	0	0	0	0	0	0.01986	0	0	0	0	0	0	0.241474	0	0	0.001363	0	0	211.3928	0	0	0.00081	0	0	0.009179	0	0	0.008	0.03675	0.008782	0	0	0.002	0.01575	0.001998	0	0	0.033228	0	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	ELEC	18845.44712	723655.3054	92270.33385	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	GAS	67404.57885	2377619.21	309278.2138	0.023982	0	0.310611	0.222874	0.651863	0.798221	1.055549	0.034977	0	0.340079	0.222874	0.651863	0.798221	1.055549	1.217934	0	1.94419	0.081004	0	0.240201	327.5214	0	64.35739	0.005591	0	0.062886	0.001925	0	0.002509	0.008	0.03675	0.00177	0	0.002307	0.002	0.01575	0.003241	0	0.000637	0.006744	0	0.027554
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	DSL	42.40174294	683.4550294	136.9950746	0.203341	0	0	0	0	0	0	0.23149	0	0	0	0	0	0	1.169046	0	0	1.080892	0	0	418.6313	0	0	0.009445	0	0	0.168169	0	0	0.008	0.03675	0.160884	0	0	0.002	0.01575	0.003958	0	0	0.065803	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	ELEC	441.5406461	18294.71878	2211.186985	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	GAS	214905.0349	7709519.547	998671.1525	0.016305	0	0.287248	0.14722	0.422211	0.608102	0.67906	0.023785	0	0.3145	0.14722	0.422211	0.608102	0.67906	0.968008	0	2.294514	0.066417	0	0.27379	352.9704	0	70.69252	0.004108	0	0.062113	0.001471	0	0.001846	0.008	0.03675	0.001353	0	0.001698	0.002	0.01575	0.003493	0	0.0007	0.005907	0	0.031341
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	DSL	1342.824199	56264.23154	6557.806453	0.015827	0	0	0	0	0	0	0.018018	0	0	0	0	0	0	0.137752	0	0	0.043628	0	0	282.9641	0	0	0.000735	0	0	0.005408	0	0	0.008	0.03675	0.005174	0	0	0.002	0.01575	0.002675	0	0	0.044478	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	ELEC	1945.894322	62876.37541	9794.744055	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	GAS	15745.14558	554242.3879	234579.2088	0.058494	0.445508	0.119578	0.137993	0.852218	0.054413	0.110199	0.085354	0.650084	0.130922	0.137993	0.852218	0.054413	0.110199	1.065838	3.750554	1.627469	0.214934	0.038895	0.503539	1011.492	121.5208	18.8225	0.011885	0.123416	0.023843	0.002314	0	0.000416	0.008	0.07644	0.002128	0	0.000383	0.002	0.03276	0.01001	0.001203	0.000186	0.013439	0.003249	0.040242
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	DSL	9813.012391	383467.2215	123435.3511	0.160616	0.10976	0	0	0	0	0	0.182851	0.124954	0	0	0	0	0	0.684557	0.909745	0	1.65728	2.067179	0	546.7123	133.6475	0	0.00746	0.005098	0	0.02355	0.02867	0	0.012	0.07644	0.022532	0.027044	0	0.003	0.03276	0.005168	0.001263	0	0.085936	0.021008	0
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	GAS	2407.030997	83770.07736	35861.17539	0.041251	0.445297	0.115933	0.131519	0.765006	0.049093	0.098626	0.060193	0.649776	0.126932	0.131519	0.765006	0.049093	0.098626	0.755365	3.756817	1.612921	0.215729	0.038851	0.500121	1158.665	140.0905	21.44906	0.009112	0.124064	0.023268	0.002117	0	0.00035	0.008	0.08918	0.001947	0	0.000322	0.002	0.03822	0.011466	0.001386	0.000212	0.014136	0.003197	0.039511
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	DSL	3673.426819	143342.1735	46207.08821	0.151499	0.10976	0	0	0	0	0	0.172471	0.124954	0	0	0	0	0	0.642763	0.909745	0	1.343036	2.040212	0	612.3745	213.5035	0	0.007037	0.005098	0	0.023116	0.02835	0	0.012	0.08918	0.022116	0.027123	0	0.003	0.03822	0.005789	0.002018	0	0.096257	0.03356	0
Alameda (SF)	2022	MCY	Aggregated	Aggregated	GAS	29570.34576	226866.958	59140.69152	2.255864	0	1.625984	0.986564	2.132507	2.898601	4.702243	2.781239	0	1.769232	0.986564	2.132507	2.898601	4.702243	19.42496	0	7.783407	1.02202	0	0.248652	213.4328	0	58.8936	0.333553	0	0.214656	0.002042	0	0.003352	0.004	0.01176	0.001911	0	0.003162	0.001	0.00504	0.002112	0	0.000583	0.061002	0	0.014614
Alameda (SF)	2022	MDV	Aggregated	Aggregated	GAS	131728.8101	4543407.132	606035.2203	0.021202	0	0.377522	0.170665	0.463802	0.728344	0.800581	0.030884	0	0.413334	0.170665	0.463802	0.728344	0.800581	1.095927	0	2.699247	0.084611	0	0.342693	421.4273	0	86.19648	0.005133	0	0.076228	0.001578	0	0.002131	0.008	0.03675	0.001451	0	0.00196	0.002	0.01575	0.00417	0	0.000853	0.007068	0	0.034383
Alameda (SF)	2022	MDV	Aggregated	Aggregated	DSL	2947.784216	121177.4276	14326.4089	0.011251	0	0	0	0	0	0	0.012809	0	0	0	0	0	0	0.19954	0	0	0.039848	0	0	367.6938	0	0	0.000523	0	0	0.004628	0	0	0.008	0.03675	0.004427	0	0	0.002	0.01575	0.003476	0	0	0.057796	0	0
Alameda (SF)	2022	MDV	Aggregated	Aggregated	ELEC	891.5758577	30124.05906	4551.41016	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0.004888	0	0.020951	0.050309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	MH	Aggregated	Aggregated	GAS	2284.865713	22127.24488	228.5779659	0.068462	0	0.127002	0.093448	2.027523	0.075007	0.22243	0.099899	0	0.139052	0.093448	2.027523	0.075007	0.22243	1.745341	0	2.738485	0.353314	0	0.308877	1751.836	0	25.4215	0.015441	0	0.029894	0.001765	0	0.000394	0.012	0.13034	0.001622	0	0.000362	0.003	0.05586	0.017336	0	0.000252	0.022755	0	0.033708
Alameda (SF)	2022	MH	Aggregated	Aggregated	DSL	740.5627427	7563.351715	74.0562742	0.104215	0	0	0	0	0	0	0.118642	0	0	0	0	0	0	0.36657	0	0	3.883956	0	0	1013.755	0	0	0.004841	0	0	0.086078	0	0	0.016	0.13034	0.082355	0	0	0.004	0.05586	0.009584	0	0	0.159348	0	0
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	GAS	1624.237082	87728.64481	32497.73554	0.075634	0.941425	0.203017	0.096366	0.476562	0.042141	0.082366	0.110365	1.373725	0.222278	0.096366	0.476562	0.042141	0.082366	1.738028	10.42986	4.414493	0.424323	0.092319	0.347775	1749.023	566.5405	38.59207	0.015486	0.247442	0.037816	0.001316	0	0.000457	0.012	0.13034	0.00121	0	0.00042	0.003	0.05586	0.017308	0.005606	0.000382	0.021697	0.008128	0.028057
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	DSL	14395.60419	933709.828	145556.5096	0.082532	0.094189	0	0	0	0	0	0.093956	0.107227	0	0	0	0	0	0.287961	2.42832	0	2.040368	6.841505	1.735852	1034.844	886.5718	0	0.003833	0.004375	0	0.035883	0.011711	0	0.012	0.13034	0.034331	0.011204	0	0.003	0.05586	0.009777	0.008376	0	0.162663	0.139357	0
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	GAS	583.6694591	28951.23134	11678.05854	0.082527	0.745312	0.150275	0.032776	0.340623	0.039623	0.094439	0.120423	1.087557	0.164533	0.032776	0.340623	0.039623	0.094439	1.83086	5.768861	3.133918	0.482732	0.064997	0.301512	1786.151	380.7547	26.32888	0.01703	0.199516	0.028946	0.001039	0	0.000259	0.012	0.13034	0.000955	0	0.000238	0.003	0.05586	0.017675	0.003768	0.000261	0.024325	0.005688	0.024669
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	DSL	401.2977337	30587.37114	3897.155945	0.101948	1.027876	0	0	0	0	0	0.11606	1.170158	0	0	0	0	0	0.353096	12.83314	0	2.595486	15.62338	1.871104	1241.741	2774.143	0	0.004735	0.047742	0	0.039928	0.025292	0	0.012	0.13034	0.0282	0.024197	0	0.003	0.05586	0.011731	0.026209	0	0.195184	0.436057	0
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	GAS	91.69735116	4619.754283	366.7894047	0.032166	10.64152	0.25438	0.031278	0.166254	0.013082	0.029637	0.046937	15.52808	0.278514	0.031278	0.166254	0.013082	0.029637	0.659143	82.24088	5.786505	0.212778	0.92653	0.467371	829.3563	2485.053	42.53313	0.006832	2.495831	0.045913	0.001392	0	0.000629	0.008	0.7448	0.00128	0	0.000578	0.002	0.3192	0.008207	0.024592	0.000421	0.015323	0.097404	0.048649
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	DSL	297.9675131	9556.096471	3438.503789	0.07681	0.274722	0	0	0	0	0	0.087442	0.312751	0	0	0	0	0	0.225461	6.858627	0	5.316219	38.33254	1.140114	1100.454	3677.203	0	0.003568	0.01276	0	0.033204	0.034431	0	0.012	0.7448	0.031768	0.032941	0	0.003	0.3192	0.010397	0.03474	0	0.172976	0.578005	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	GAS	8.853795357	523.2122241	35.41518143	0.018761	0	0.337815	0.067071	0.334818	0.022556	0.03914	0.027375	0	0.369865	0.067071	0.334818	0.022556	0.03914	0.352431	0	4.713274	0.249095	0	0.689859	1884.389	0	66.65326	0.005684	0	0.078027	0.001438	0	0.000432	0.010605	0.115982	0.001322	0	0.000397	0.002651	0.049706	0.018648	0	0.00066	0.02107	0	0.06174
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	DSL	576.8548075	68206.34297	2307.41923	0.001696	0	0	0	0	0	0	0.120663	0	0	0	0	0	0	0.194806	0	0	1.608919	0	0	1641.502	0	0	0.118223	0	0	0.006524	0	0	0.031858	0.073578	0.006242	0	0	0.007964	0.033134	0.015518	0	0	0.258021	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	NG	111.6048953	11743.0555	446.4195812	0.084882	0	0	0	0	0	0	0.061811	0	0	0	0	0	0	45.74457	0	0	0.46118	0	0	1917.863	0	0	5.939595	0	0	0.003153	0	0	0.030685	0.076927	0.003016	0	0	0.007671	0.032969	0	0	0	0.390969	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2022
Season: Winter
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLS	ROG_REST	ROG_DIUR	TOG_RUNETOG_IDLEXTOG_STRE	TOG_HOTS	TOG_RUNLS	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNE	NOx_IDLEX	NOx_STREX	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	PM10_RUNPM10_IDLEPM10_STRPM10_PMTIPM10_PMI	PM2_5_RU	PM2_5_ID	PM2_5_ST	PM2_5_PA	PM2_5_PBSOx_RUNE	SOx_IDLEX	SOx_STREX	N2O_RUNEN2O_IDLEN2O_STREX
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	GAS	8.941515273	987.2283999	178.9013376	0.388574686	0	0.001127221	0.096491955	0.590735	0.010009	0.014392	0.567008	0	0.001234	0.096492	0.590735	0.010009	0.014392	33.13035	0	4.629287	3.582798	0	0.229416	2138.719	0	47.37639	0.082692	0	0.000216	0.00071	0	0.000358	0.02	0.06174	0.000653	0	0.000329	0.005	0.02646	0.021164	0	0.000469	0.143927	0	0.007148
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	DSL	14783.07429	1924287.696	1614842.761	0.080721448	4.651351165	0	0	0	0	0	0.091895	5.295209	0	0	0	0	0.358494	70.36379	0	3.449049	68.77625	2.029512	1451.61	12650.31	0	0.003749	0.216043	0	0.034956	0.038815	0	0.035688	0.061205	0.033443	0.037136	0	0.008922	0.026231	0.013714	0.119514	0	0.228173	1.988453	0
Alameda (SF)	2022	HHDT	Aggregated	Aggregated	NG	401.6657583	16371.39779	1566.496457	0.112813558	0.033174737	0	0	0	0	0	1.470834	1.173746	0	0	0	0	10.92575	22.3851	0	1.160946	20.63003	0	3100.389	3962.53	0	5.328006	1.13109	0	0.094405	0.025757	0	0.036	0.06174	0.040214	0.024643	0	0.009	0.02646	0	0	0	0.632055	0.807788	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	GAS	655562.8607	23671840.59	3087758.174	0.009620915	0	0.296509295	0.116246653	0.276413	0.093916	0.082559	0.014033	0	0.324639	0.116247	0.276413	0.093916	0.082559	0.629308	0	2.819516	0.045075	0	0.227308	261.505	0	56.96821	0.002436	0	0.063854	0.001476	0	0.001908	0.008	0.03675	0.001357	0	0.001754	0.002	0.01575	0.002588	0	0.000564	0.004916	0	0.029077
Alameda (SF)	2022	LDA	Aggregated	Aggregated	DSL	7449.571634	272434.9585	34681.30267	0.017444795	0	0	0	0	0	0	0.01986	0	0	0	0	0	0.241474	0	0	0.096611	0	0	211.3928	0	0	0.00081	0	0	0.009179	0	0	0.008	0.03675	0.008782	0	0	0.002	0.01575	0.001998	0	0	0.033238	0	0
Alameda (SF)	2022	LDA	Aggregated	Aggregated	ELEC	18845.44712	723655.3054	92270.33385	0	0	0	0.004888026	0	0.000178	0.001263	0	0	0	0.004888	0	0.000178	0.001263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	GAS	67404.57885	2377619.21	309278.2138	0.021251334	0	0.435196294	0.020843745	0.872554	0.17453	0.160013	0.030991	0	0.476483	0.208344	0.872554	0.17453	0.160013	1.036951	0	2.997205	0.101279	0	0.298063	304.2854	0	66.44467	0.004836	0	0.085678	0.001925	0	0.002509	0.008	0.03675	0.00177	0	0.002307	0.002	0.01575	0.003011	0	0.000658	0.007859	0	0.032038
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	DSL	42.40174294	683.4550294	136.9950746	0.203340803	0	0	0	0	0	0	0.23149	0	0	0	0	0	1.169046	0	0	1.142876	0	0	418.6313	0	0	0.009445	0	0	0.168169	0	0	0.008	0.03675	0.160894	0	0	0.002	0.01575	0.003958	0	0	0.065803	0	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	ELEC	441.5406461	18294.71878	2211.186985	0	0	0	0.004888026	0	0.000178	0.001263	0	0	0	0.004888	0	0.000178	0.001263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	GAS	214905.0349	7709519.547	998671.1525	0.014310275	0	0.398717811	0.13866718	0.555807	0.140209	0.119711	0.020903	0	0.436545	0.138667	0.555807	0.140209	0.119711	0.815463	0	3.525296	0.082595	0	0.339907	329.9524	0	73.01755	0.003517	0	0.083765	0.001471	0	0.001846	0.008	0.03675	0.001353	0	0.001698	0.002	0.01575	0.003265	0	0.000723	0.006865	0	0.036459
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	DSL	1342.824199	56264.23154	6557.806453	0.015827047	0	0	0	0	0	0	0.018018	0	0	0	0	0	0.137752	0	0	0.04614	0	0	2823.9641	0	0	0.000735	0	0	0.005408	0	0	0.008	0.03675	0.005174	0	0	0.002	0.01575	0.002675	0	0	0.044478	0	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	ELEC	1945.894322	62876.37541	9794.744055	0	0	0	0.004888026	0	0.000178	0.001263	0	0	0	0.004888	0	0.000178	0.001263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	GAS	15745.14558	554242.3879	234579.2088	0.053862926	0.445508058	0.134549101	0.13765898	0.974483	0.011956	0.017887	0.078597	0.650084	0.147314	0.137659	0.974483	0.011956	0.017887	0.993883	3.750554	1.895298	0.258337	0.038895	0.577527	1011.358	121.5208	19.29728	0.011029	0.122712	0.026636	0.002314	0	0.000416	0.008	0.07644	0.002128	0	0.000383	0.002	0.01376	0.010008	0.001203	0.000191	0.015298	0.003106	0.04412
Alameda (SF)	2022	LHDT1	Aggregated	Aggregated	DSL	9813.012391	383467.2215	123435.3511	0.160616128	0.109759705	0	0	0	0	0	0.182851	0.124954	0	0	0	0	0.684557	0.909745	0	1.745138	2.067179	0	546.7123	133.6475	0	0.00746	0.005098	0	0.02355	0.028267	0	0.012	0.07644	0.022532	0.027044	0	0.003	0.01376	0.005168	0.001263	0	0.085936	0.021008	0
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	GAS	2407.030997	83770.07736	35861.17539	0.03856995	0.445296896	0.130428459	0.126778754	0.886651	0.011079	0.016456	0.056281	0.649776	0.142803	0.126779	0.886651	0.011079	0.016456	0.709617	3.756817	1.875826	0.259684	0.038851	0.573612	1158.581	140.0905	21.91444	0.008535	0.123353	0.025992	0.002117	0	0.00035	0.008	0.08918	0.001947	0	0.000322	0.002	0.01822	0.011465	0.001386	0.000217	0.016193	0.00305	0.043237
Alameda (SF)	2022	LHDT2	Aggregated	Aggregated	DSL	3671.426819	143142.1735	46207.08821	0.151498592	0.109759705	0	0	0	0	0	0.172471	0.124954	0	0	0	0	0.642763	0.909745	0	1.414006	2.040212	0	612.3745	213.5035	0	0.007037	0.005098	0	0.023116	0.028155	0	0.012	0.08918	0.022116	0.027123	0	0.003	0.01822	0.005789	0.002018	0	0.096257	0.03356	0
Alameda (SF)	2022	MCY	Aggregated	Aggregated	GAS	295.70.34576	226866.958	59140.69152	2.469217896	0	2.346113661	0.887613054	2.697623	0.353942	0.429764	3.036908	0	2.5525	0.887613	2.697623	0.353942	0.429764	22.28645	0	10.39214	1.257251	0	0.292228	218.7289	0	65.42092	0.357633	0	0.302376	0.002042	0	0.003352	0.004	0.01176	0.001911	0	0.003162	0.001	0.00504	0.002164	0	0.000647	0.070532	0	0.016127
Alameda (SF)	2022	MDV	Aggregated	Aggregated	GAS	131728.8101	4543407.132	606035.2203	0.018808488	0	0.525812919	0.161287919	0.604824	0.165935	0.141431	0.027387	0	0.57569	0.161288	0.604824	0.165935	0.141431	0.929498	0	4.178266	0.105371	0	0.42545	397.5603	0	89.03856	0.004416	0	0.103052	0.001578	0	0.002131	0.008	0.03675	0.001451	0	0.00196	0.002	0.01575	0.003934	0	0.000881	0.008221	0	0.039995
Alameda (SF)	2022	MDV	Aggregated	Aggregated	DSL	2947.784216	121177.4276	14326.4089	0.011251414	0	0	0	0	0	0	0.013809	0	0	0	0	0	0.19954	0	0	0.042142	0	0	367.6938	0	0	0.000523	0	0	0.004628	0	0	0.008	0.03675	0.004427	0	0	0.002	0.01575	0.003476	0	0	0.057796	0	0
Alameda (SF)	2022	MDV	Aggregated	Aggregated	ELEC	891.5758577	30124.05906	4551.41016	0	0	0	0.004888026	0	0.000178	0.001263	0	0	0	0.004888	0	0.000178	0.001263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0	0.002	0.01575	0	0	0	0	0	0
Alameda (SF)	2022	MH	Aggregated	Aggregated	GAS	2284.865713	22127.24488	228.5779659	0.062785662	0	0.143884043	0.100139535	2.238486	0.016714	0.034296	0.091617	0	0.157535	0.10014	2.238486	0.016714	0.034296	1.615431	0	3.271229	0.430735	0	0.354926	1751.605	0	26.32261	0.014382	0	0.034098	0.001765	0	0.000394	0.012	0.13034	0.001622	0	0.000362	0.003	0.05586	0.017334	0	0.00026	0.026089	0	0.036562
Alameda (SF)	2022	MH	Aggregated	Aggregated	DSL	740.562742	7563.353715	74.0562742	0.104215185	0	0	0	0	0	0	0.118642	0	0	0	0	0	0.36657	0	0	4.105844	0	0	1013.755	0	0	0.004841	0	0	0.086078	0	0	0.016	0.13034	0.082355	0	0	0.004	0.05586	0.009584	0	0	0.159348	0	0
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	GAS	1624.237082	87728.64481	32497.73554	0.070731849	1.08563354	0.229688111	0.090388515	0.561034	0.008751	0.013046	0.163118	0.090389	0.561034	0.008751	0.013046	1.63118	19.82119	5.220446	0.514538	0.084761	0.399118	1748.833	511.4058	39.9591	0.014461	0.282269	0.042429	0.001316	0	0.000457	0.012	0.13034	0.00121	0	0.00042	0.003	0.05586	0.017306	0.005061	0.000395	0.024926	0.007101	0.030624
Alameda (SF)	2022	MHDT	Aggregated	Aggregated	DSL	14395.60419	933709.828	145556.5096	0.0825326	0.092483741	0	0	0	0	0	0.093956	0.105286	0	0	0	0	0.287961	2.763881	0	2.156983	6.872783	1.735852	1034.844	873.9618	0	0.003833	0.004296	0	0.035883	0.016794	0	0.012	0.13034	0.034311	0.016068	0	0.003	0.05586	0.009777	0.008257	0	0.162663	0.137375	0
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	GAS	583.6694591	28951.23134	11678.05854	0.07691812	0.745311871	0.170074605	0.031775891	0.382837	0.009365	0.017978	0.112239	1.087557	0.18621	0.031776	0.382837	0.009365	0.017978	1.715128	5.768861	3.735944	0.585853	0.064997	0.346462	1785.943	380.7547	27.34959	0.015921	0.198282	0.032609	0.001039	0	0.000259	0.012	0.13034	0.000955	0	0.000238	0.003	0.05586	0.017673	0.003768	0.000271	0.027935	0.005407	0.026942
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	DSL	401.2977337	30587.37114	3897.155945	0.101947739	0.954227648	0	0	0	0	0	0.111606	1.086316	0	0	0	0	0.353096	14.01529	0	2.741449	16.40445	1.871104	1241.741	2783.529	0	0.004735	0.044321	0	0.039928	0.035986	0	0.012	0.13034	0.0382	0.034429	0	0.003	0.05586	0.011731	0.026297	0	0.195184	0.437532	0
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	GAS	91.69735116	4619.754283	366.7894047	0.030182576	10.64151815	0.349138803	0.030370944	0.255211	0.002794	0.005324	0.044042	15.52808	0.382263	0.030371	0.255211	0.002794	0.005324	0.619569	82.24088	10.09784	0.257988	0.92653	0.543817	829.285	2485.053	49.68499	0.006435	2.489719	0.062882	0.001392	0	0.000629	0.008	0.7448	0.00128	0	0.000578	0.002	0.3192	0.008206	0.024592	0.000492	0.017645	0.002766	0.051607
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	DSL	297.9675131	9556.096471	3438.503789	0.076810092	0.27161511	0	0	0	0	0	0.087442	0.309213	0	0	0	0	0.225461	7.849724	0	5.630693	36.85065	1.140114	1100.454	3490.898	0	0.003568	0.012616	0	0.033204	0.049384	0	0.012	0.7448	0.031768	0.047247	0	0.003	0.3192	0.010397	0.03298	0	0.172976	0.548721	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	GAS	8.853795357	523.2122241	35.41518143	0.017648448	0	0.423905267	0.06254178	0.469367	0.005702	0.008077	0.025753	0	0.464123	0.062542	0.469367	0.005702	0.008077	0.332097	0	6.858316	0.299633	0	0.789769	1884.352	0	70.34228	0.005289	0	0.096626	0.001438	0	0.000432	0.010605	0.115982	0.001322	0	0.000397	0.002651	0.049706	0.018647	0	0.000696	0.024021	0	0.067058
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	DSL	576.8548075	68206.34297	2307.41923	0.001696402	0	0	0	0	0	0	0.120663	0	0	0	0	0	0.194806	0	0	1.608919	0	0	1641.502	0	0	0.118223	0	0	0.006524	0	0	0.031858	0.073578	0.026242	0	0	0.007964	0.031534	0.015518	0	0	0.258021	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03599	0.061768	0	0	0	0.008898	0.026472	0	0	0	0	0	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	NG	111.6048953	11741.0555	446.4195812	0.084882065	0	0	0	0	0	0	0.061811	0	0	0	0	0	45.74457	0	0	0.46118	0	0	1917.863	0	0	5.939595	0	0	0.003153	0	0	0.030685	0.076927	0.003016	0	0	0.007671	0.032969	0	0	0	0.390969	0	0

CalEEMod

Construction Model

Promenade High School Development Construction - Alameda County, Annual

Future High School Development Construction

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	323.95	1000sqft	6.36	323,954.00	0
Enclosed Parking Structure	56.67	1000sqft	1.30	56,669.00	0
Other Asphalt Surfaces	11.25	1000sqft	0.26	11,250.00	0
Other Non-Asphalt Surfaces	487.55	1000sqft	11.19	487,545.00	0
Parking Lot	189.50	1000sqft	4.35	189,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - accounts for academy 1 building with 3 floors

Construction Phase - construction schedule provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming one excavator for landscaping

Off-road Equipment - assuming one excavator for landscaping

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no additional equipment required for grading soil haul

Off-road Equipment - assuming 1 excavator for trenching

Trips and VMT - 4 vt/water truck/day, assuming 25 cy truck for hauling

Grading -

Architectural Coating - only accounting for parking area

Construction Off-road Equipment Mitigation - BAAQMD BMPs

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	44,698.00	14,770.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	370.00	406.00
tblConstructionPhase	NumDays	35.00	55.00
tblConstructionPhase	NumDays	35.00	10.00
tblConstructionPhase	NumDays	35.00	29.00
tblConstructionPhase	NumDays	20.00	108.00
tblConstructionPhase	NumDays	20.00	18.00
tblGrading	MaterialExported	0.00	12,650.00
tblGrading	MaterialImported	0.00	45,000.00
tblLandUse	LandUseSquareFeet	323,950.00	323,954.00
tblLandUse	LandUseSquareFeet	56,670.00	56,669.00
tblLandUse	LandUseSquareFeet	487,550.00	487,545.00
tblLandUse	LotAcreage	7.44	6.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	7,206.00	4,612.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2815	3.4730	2.1391	6.0200e-003	0.4527	0.1220	0.5747	0.1748	0.1125	0.2873	0.0000	548.3189	548.3189	0.1077	0.0000	551.0115
2021	0.5616	5.3595	4.7028	0.0152	0.6181	0.1596	0.7777	0.1679	0.1495	0.3174	0.0000	1,386.0658	1,386.0658	0.1425	0.0000	1,389.6281
2022	1.9947	2.3609	2.1436	7.3100e-003	0.3163	0.0630	0.3793	0.0859	0.0592	0.1451	0.0000	669.1585	669.1585	0.0630	0.0000	670.7322
Maximum	**1.9947**	**5.3595**	**4.7028**	**0.0152**	**0.6181**	**0.1596**	**0.7777**	**0.1748**	**0.1495**	**0.3174**	**0.0000**	**1,386.0658**	**1,386.0658**	**0.1425**	**0.0000**	**1,389.6281**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2815	3.4730	2.1391	6.0200e-003	0.2362	0.1220	0.3583	0.0865	0.1125	0.1991	0.0000	548.3185	548.3185	0.1077	0.0000	551.0111
2021	0.5616	5.3595	4.7028	0.0152	0.5722	0.1596	0.7318	0.1567	0.1495	0.3062	0.0000	1,386.0654	1,386.0654	0.1425	0.0000	1,389.6277
2022	1.9947	2.3609	2.1436	7.3100e-003	0.2928	0.0630	0.3558	0.0801	0.0592	0.1393	0.0000	669.1583	669.1583	0.0630	0.0000	670.7320
Maximum	**1.9947**	**5.3595**	**4.7028**	**0.0152**	**0.5722**	**0.1596**	**0.7318**	**0.1567**	**0.1495**	**0.3062**	**0.0000**	**1,386.0654**	**1,386.0654**	**0.1425**	**0.0000**	**1,389.6277**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	20.61	0.00	16.51	24.57	0.00	14.04	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-15-2020	9-14-2020	6.0407	6.0407
2	9-15-2020	12-14-2020	1.1441	1.1441
3	12-15-2020	3-14-2021	1.8219	1.8219
4	3-15-2021	6-14-2021	1.4954	1.4954
5	6-15-2021	9-14-2021	1.3805	1.3805
6	9-15-2021	12-14-2021	1.3386	1.3386
7	12-15-2021	3-14-2022	1.2425	1.2425
8	3-15-2022	6-14-2022	2.2909	2.2909
9	6-15-2022	9-14-2022	1.0331	1.0331
		Highest	6.0407	6.0407

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	6/15/2020	8/30/2020	5	55	
2	Rough Grading Soil Haul	Grading	8/15/2020	8/30/2020	5	10	
3	Utilities Relocation	Trenching	9/1/2020	10/30/2020	5	44	
4	Fine Grading	Grading	11/1/2020	12/10/2020	5	29	
5	Offsite Paving	Paving	11/1/2020	3/31/2021	5	108	
6	Building Construction	Building Construction	12/11/2020	7/1/2022	5	406	
7	Offsite Landscaping	Trenching	4/1/2021	7/30/2021	5	87	
8	Paving	Paving	5/1/2022	5/25/2022	5	18	
9	Architectural Coating	Architectural Coating	5/26/2022	7/1/2022	5	27	
10	Finishing and Landscaping	Trenching	6/19/2022	7/1/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 17.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 485,931; Non-Residential Outdoor: 161,977; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Rough Grading Soil Haul	Excavators	0	8.00	158	0.38
Rough Grading Soil Haul	Graders	0	8.00	187	0.41
Rough Grading Soil Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading Soil Haul	Scrapers	0	8.00	367	0.48
Rough Grading Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utilities Relocation	Excavators	1	8.00	158	0.38
Offsite Paving	Pavers	2	8.00	130	0.42
Offsite Paving	Paving Equipment	2	8.00	132	0.36
Offsite Paving	Rollers	2	8.00	80	0.38
Offsite Landscaping	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74

Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing and Landscaping	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Rough Grading	8	20.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Soil Haul	0	0.00	0.00	4,612.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities Relocation	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Offsite Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Offsite Landscaping	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	449.00	175.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	90.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing and Landscaping	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Rough Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2385	0.0000	0.2385	0.0989	0.0000	0.0989	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1224	1.3804	0.8789	1.7100e-003		0.0598	0.0598		0.0550	0.0550	0.0000	149.8318	149.8318	0.0485	0.0000	151.0433
Total	**0.1224**	**1.3804**	**0.8789**	**1.7100e-003**	**0.2385**	**0.0598**	**0.2983**	**0.0989**	**0.0550**	**0.1539**	**0.0000**	**149.8318**	**149.8318**	**0.0485**	**0.0000**	**151.0433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0129	2.7900e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.7000e-004	0.0000	2.9096	2.9096	1.7000e-004	0.0000	2.9138
Worker	1.9000e-003	1.4000e-003	0.0144	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.8657	3.8657	1.0000e-004	0.0000	3.8682
Total	**2.3100e-003**	**0.0143**	**0.0172**	**7.0000e-005**	**5.0700e-003**	**9.0000e-005**	**5.1600e-003**	**1.3700e-003**	**9.0000e-005**	**1.4500e-003**	**0.0000**	**6.7753**	**6.7753**	**2.7000e-004**	**0.0000**	**6.7820**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1020	0.0000	0.1020	0.0423	0.0000	0.0423	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1224	1.3804	0.8789	1.7100e-003		0.0598	0.0598		0.0550	0.0550	0.0000	149.8316	149.8316	0.0485	0.0000	151.0431

Total	**0.1224**	**1.3804**	**0.8789**	**1.7100e-003**	**0.1020**	**0.0598**	**0.1618**	**0.0423**	**0.0550**	**0.0973**	**0.0000**	**149.8316**	**149.8316**	**0.0485**	**0.0000**	**151.0431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0129	2.7900e-003	3.0000e-005	6.8000e-004	6.0000e-005	7.4000e-004	2.0000e-004	6.0000e-005	2.6000e-004	0.0000	2.9096	2.9096	1.7000e-004	0.0000	2.9138
Worker	1.9000e-003	1.4000e-003	0.0144	4.0000e-005	4.0100e-003	3.0000e-005	4.0400e-003	1.0700e-003	3.0000e-005	1.1000e-003	0.0000	3.8657	3.8657	1.0000e-004	0.0000	3.8682
Total	**2.3100e-003**	**0.0143**	**0.0172**	**7.0000e-005**	**4.6900e-003**	**9.0000e-005**	**4.7800e-003**	**1.2700e-003**	**9.0000e-005**	**1.3600e-003**	**0.0000**	**6.7753**	**6.7753**	**2.7000e-004**	**0.0000**	**6.7820**

3.3 Rough Grading Soil Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2600e-003	0.0000	3.2600e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.2600e-003**	**0.0000**	**3.2600e-003**	**4.9000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0196	0.6725	0.1183	1.8300e-003	0.0391	2.1500e-003	0.0412	0.0108	2.0500e-003	0.0128	0.0000	176.5539	176.5539	8.8900e-003	0.0000	176.7762
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0196**	**0.6725**	**0.1183**	**1.8300e-003**	**0.0391**	**2.1500e-003**	**0.0412**	**0.0108**	**2.0500e-003**	**0.0128**	**0.0000**	**176.5539**	**176.5539**	**8.8900e-003**	**0.0000**	**176.7762**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3900e-003	0.0000	1.3900e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**0.0000**	**1.3900e-003**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0196	0.6725	0.1183	1.8300e-003	0.0364	2.1500e-003	0.0386	0.0101	2.0500e-003	0.0122	0.0000	176.5539	176.5539	8.8900e-003	0.0000	176.7762
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0196**	**0.6725**	**0.1183**	**1.8300e-003**	**0.0364**	**2.1500e-003**	**0.0386**	**0.0101**	**2.0500e-003**	**0.0122**	**0.0000**	**176.5539**	**176.5539**	**8.8900e-003**	**0.0000**	**176.7762**

3.4 Utilities Relocation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3900e-003	0.0531	0.0719	1.1000e-004		2.5700e-003	2.5700e-003		2.3700e-003	2.3700e-003	0.0000	9.9814	9.9814	3.2300e-003	0.0000	10.0621
Total	**5.3900e-003**	**0.0531**	**0.0719**	**1.1000e-004**		**2.5700e-003**	**2.5700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**9.9814**	**9.9814**	**3.2300e-003**	**0.0000**	**10.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7300e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4639	0.4639	1.0000e-005	0.0000	0.4642
Total	**2.3000e-004**	**1.7000e-004**	**1.7300e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4639**	**0.4639**	**1.0000e-005**	**0.0000**	**0.4642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3900e-003	0.0531	0.0719	1.1000e-004		2.5700e-003	2.5700e-003		2.3700e-003	2.3700e-003	0.0000	9.9814	9.9814	3.2300e-003	0.0000	10.0621
Total	**5.3900e-003**	**0.0531**	**0.0719**	**1.1000e-004**		**2.5700e-003**	**2.5700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**9.9814**	**9.9814**	**3.2300e-003**	**0.0000**	**10.0621**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7300e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4639	0.4639	1.0000e-005	0.0000	0.4642

Total	**2.3000e-004**	**1.7000e-004**	**1.7300e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4639**	**0.4639**	**1.0000e-005**	**0.0000**	**0.4642**

3.5 Fine Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1258	0.0000	0.1258	0.0522	0.0000	0.0522	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0645	0.7279	0.4634	9.0000e-004		0.0315	0.0315		0.0290	0.0290	0.0000	79.0022	79.0022	0.0256	0.0000	79.6410
Total	**0.0645**	**0.7279**	**0.4634**	**9.0000e-004**	**0.1258**	**0.0315**	**0.1573**	**0.0522**	**0.0290**	**0.0812**	**0.0000**	**79.0022**	**79.0022**	**0.0256**	**0.0000**	**79.6410**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	6.8200e-003	1.4700e-003	2.0000e-005	3.8000e-004	3.0000e-005	4.1000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.5342	1.5342	9.0000e-005	0.0000	1.5364
Worker	1.0000e-003	7.4000e-004	7.5900e-003	2.0000e-005	2.2900e-003	2.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	2.0383	2.0383	5.0000e-005	0.0000	2.0396
Total	**1.2200e-003**	**7.5600e-003**	**9.0600e-003**	**4.0000e-005**	**2.6700e-003**	**5.0000e-005**	**2.7200e-003**	**7.2000e-004**	**4.0000e-005**	**7.6000e-004**	**0.0000**	**3.5724**	**3.5724**	**1.4000e-004**	**0.0000**	**3.5760**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0538	0.0000	0.0538	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0645	0.7279	0.4634	9.0000e-004		0.0315	0.0315		0.0290	0.0290	0.0000	79.0021	79.0021	0.0256	0.0000	79.6409
Total	**0.0645**	**0.7279**	**0.4634**	**9.0000e-004**	**0.0538**	**0.0315**	**0.0853**	**0.0223**	**0.0290**	**0.0513**	**0.0000**	**79.0021**	**79.0021**	**0.0256**	**0.0000**	**79.6409**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	6.8200e-003	1.4700e-003	2.0000e-005	3.6000e-004	3.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	1.5342	1.5342	9.0000e-005	0.0000	1.5364
Worker	1.0000e-003	7.4000e-004	7.5900e-003	2.0000e-005	2.1100e-003	2.0000e-005	2.1300e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	2.0383	2.0383	5.0000e-005	0.0000	2.0396
Total	**1.2200e-003**	**7.5600e-003**	**9.0600e-003**	**4.0000e-005**	**2.4700e-003**	**5.0000e-005**	**2.5200e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.5724**	**3.5724**	**1.4000e-004**	**0.0000**	**3.5760**

3.6 Offsite Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0298	0.3094	0.3224	5.0000e-004		0.0166	0.0166		0.0152	0.0152	0.0000	44.0621	44.0621	0.0143	0.0000	44.4184
Paving	2.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0323**	**0.3094**	**0.3224**	**5.0000e-004**		**0.0166**	**0.0166**		**0.0152**	**0.0152**	**0.0000**	**44.0621**	**44.0621**	**0.0143**	**0.0000**	**44.4184**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	1.1400e-003	8.4000e-004	8.6300e-003	3.0000e-005	2.6100e-003	2.0000e-005	2.6300e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3194	2.3194	6.0000e-005	0.0000	2.3209
Total	**1.1400e-003**	**8.4000e-004**	**8.6300e-003**	**3.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6300e-003**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**0.0000**	**2.3194**	**2.3194**	**6.0000e-005**	**0.0000**	**2.3209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0298	0.3094	0.3224	5.0000e-004		0.0166	0.0166		0.0152	0.0152	0.0000	44.0620	44.0620	0.0143	0.0000	44.4183
Paving	2.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0323**	**0.3094**	**0.3224**	**5.0000e-004**		**0.0166**	**0.0166**		**0.0152**	**0.0152**	**0.0000**	**44.0620**	**44.0620**	**0.0143**	**0.0000**	**44.4183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	8.4000e-004	8.6300e-003	3.0000e-005	2.4100e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.3194	2.3194	6.0000e-005	0.0000	2.3209
Total	**1.1400e-003**	**8.4000e-004**	**8.6300e-003**	**3.0000e-005**	**2.4100e-003**	**2.0000e-005**	**2.4200e-003**	**6.4000e-004**	**2.0000e-005**	**6.6000e-004**	**0.0000**	**2.3194**	**2.3194**	**6.0000e-005**	**0.0000**	**2.3209**

3.6 Offsite Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0402	0.4134	0.4689	7.3000e-004		0.0217	0.0217		0.0200	0.0200	0.0000	64.0751	64.0751	0.0207	0.0000	64.5932
Paving	3.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0438**	**0.4134**	**0.4689**	**7.3000e-004**		**0.0217**	**0.0217**		**0.0200**	**0.0200**	**0.0000**	**64.0751**	**64.0751**	**0.0207**	**0.0000**	**64.5932**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	1.0900e-003	0.0114	4.0000e-005	3.8000e-003	3.0000e-005	3.8200e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	3.2567	3.2567	8.0000e-005	0.0000	3.2586
Total	**1.5300e-003**	**1.0900e-003**	**0.0114**	**4.0000e-005**	**3.8000e-003**	**3.0000e-005**	**3.8200e-003**	**1.0100e-003**	**2.0000e-005**	**1.0300e-003**	**0.0000**	**3.2567**	**3.2567**	**8.0000e-005**	**0.0000**	**3.2586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0402	0.4134	0.4689	7.3000e-004		0.0217	0.0217		0.0200	0.0200	0.0000	64.0751	64.0751	0.0207	0.0000	64.5931
Paving	3.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0438**	**0.4134**	**0.4689**	**7.3000e-004**		**0.0217**	**0.0217**		**0.0200**	**0.0200**	**0.0000**	**64.0751**	**64.0751**	**0.0207**	**0.0000**	**64.5931**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	1.0900e-003	0.0114	4.0000e-005	3.5000e-003	3.0000e-005	3.5300e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.2567	3.2567	8.0000e-005	0.0000	3.2586
Total	**1.5300e-003**	**1.0900e-003**	**0.0114**	**4.0000e-005**	**3.5000e-003**	**3.0000e-005**	**3.5300e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.2567**	**3.2567**	**8.0000e-005**	**0.0000**	**3.2586**

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0159	0.1439	0.1264	2.0000e-004		8.3800e-003	8.3800e-003		7.8800e-003	7.8800e-003	0.0000	17.3708	17.3708	4.2400e-003	0.0000	17.4767
Total	**0.0159**	**0.1439**	**0.1264**	**2.0000e-004**		**8.3800e-003**	**8.3800e-003**		**7.8800e-003**	**7.8800e-003**	**0.0000**	**17.3708**	**17.3708**	**4.2400e-003**	**0.0000**	**17.4767**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9300e-003	0.1543	0.0333	3.6000e-004	8.6200e-003	7.2000e-004	9.3400e-003	2.4900e-003	6.8000e-004	3.1800e-003	0.0000	34.7170	34.7170	2.0000e-003	0.0000	34.7669
Worker	0.0117	8.5900e-003	0.0881	2.6000e-004	0.0266	1.8000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	23.6687	23.6687	6.1000e-004	0.0000	23.6839
Total	**0.0166**	**0.1629**	**0.1214**	**6.2000e-004**	**0.0353**	**9.0000e-004**	**0.0362**	**9.5700e-003**	**8.5000e-004**	**0.0104**	**0.0000**	**58.3856**	**58.3856**	**2.6100e-003**	**0.0000**	**58.4508**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0159	0.1439	0.1264	2.0000e-004		8.3800e-003	8.3800e-003		7.8800e-003	7.8800e-003	0.0000	17.3707	17.3707	4.2400e-003	0.0000	17.4767
Total	**0.0159**	**0.1439**	**0.1264**	**2.0000e-004**		**8.3800e-003**	**8.3800e-003**		**7.8800e-003**	**7.8800e-003**	**0.0000**	**17.3707**	**17.3707**	**4.2400e-003**	**0.0000**	**17.4767**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9300e-003	0.1543	0.0333	3.6000e-004	8.0700e-003	7.2000e-004	8.7900e-003	2.3600e-003	6.8000e-004	3.0400e-003	0.0000	34.7170	34.7170	2.0000e-003	0.0000	34.7669
Worker	0.0117	8.5900e-003	0.0881	2.6000e-004	0.0246	1.8000e-004	0.0247	6.5700e-003	1.7000e-004	6.7400e-003	0.0000	23.6687	23.6687	6.1000e-004	0.0000	23.6839
Total	**0.0166**	**0.1629**	**0.1214**	**6.2000e-004**	**0.0326**	**9.0000e-004**	**0.0335**	**8.9300e-003**	**8.5000e-004**	**9.7800e-003**	**0.0000**	**58.3856**	**58.3856**	**2.6100e-003**	**0.0000**	**58.4508**

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0707	2.4428	0.5174	6.2500e-003	0.1500	5.0900e-003	0.1551	0.0434	4.8700e-003	0.0483	0.0000	598.2754	598.2754	0.0329	0.0000	599.0969
Worker	0.1871	0.1334	1.3966	4.4000e-003	0.4633	3.1100e-003	0.4664	0.1232	2.8700e-003	0.1261	0.0000	397.5477	397.5477	9.5000e-003	0.0000	397.7852
Total	**0.2578**	**2.5761**	**1.9140**	**0.0107**	**0.6133**	**8.2000e-003**	**0.6215**	**0.1666**	**7.7400e-003**	**0.1744**	**0.0000**	**995.8231**	**995.8231**	**0.0424**	**0.0000**	**996.8821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0707	2.4428	0.5174	6.2500e-003	0.1405	5.0900e-003	0.1456	0.0411	4.8700e-003	0.0459	0.0000	598.2754	598.2754	0.0329	0.0000	599.0969
Worker	0.1871	0.1334	1.3966	4.4000e-003	0.4273	3.1100e-003	0.4304	0.1144	2.8700e-003	0.1173	0.0000	397.5477	397.5477	9.5000e-003	0.0000	397.7852
Total	**0.2578**	**2.5761**	**1.9140**	**0.0107**	**0.5678**	**8.2000e-003**	**0.5760**	**0.1555**	**7.7400e-003**	**0.1632**	**0.0000**	**995.8231**	**995.8231**	**0.0424**	**0.0000**	**996.8821**

3.7 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.1109	1.0150	1.0636	1.7500e-003		0.0526	0.0526		0.0495	0.0495	0.0000	150.6214	150.6214	0.0361	0.0000	151.5235
Total	**0.1109**	**1.0150**	**1.0636**	**1.7500e-003**		**0.0526**	**0.0526**		**0.0495**	**0.0495**	**0.0000**	**150.6214**	**150.6214**	**0.0361**	**0.0000**	**151.5235**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.1556	0.2414	3.0800e-003	0.0747	2.1900e-003	0.0769	0.0216	2.1000e-003	0.0237	0.0000	295.0777	295.0777	0.0156	0.0000	295.4688
Worker	0.0865	0.0595	0.6368	2.1100e-003	0.2308	1.5100e-003	0.2323	0.0614	1.3900e-003	0.0628	0.0000	190.7960	190.7960	4.2400e-003	0.0000	190.9019
Total	**0.1195**	**1.2151**	**0.8782**	**5.1900e-003**	**0.3055**	**3.7000e-003**	**0.3092**	**0.0830**	**3.4900e-003**	**0.0865**	**0.0000**	**485.8737**	**485.8737**	**0.0199**	**0.0000**	**486.3706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1109	1.0150	1.0636	1.7500e-003		0.0526	0.0526		0.0495	0.0495	0.0000	150.6212	150.6212	0.0361	0.0000	151.5233
Total	**0.1109**	**1.0150**	**1.0636**	**1.7500e-003**		**0.0526**	**0.0526**		**0.0495**	**0.0495**	**0.0000**	**150.6212**	**150.6212**	**0.0361**	**0.0000**	**151.5233**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.1556	0.2414	3.0800e-003	0.0700	2.1900e-003	0.0722	0.0205	2.1000e-003	0.0226	0.0000	295.0777	295.0777	0.0156	0.0000	295.4688
Worker	0.0865	0.0595	0.6368	2.1100e-003	0.2128	1.5100e-003	0.2143	0.0570	1.3900e-003	0.0584	0.0000	190.7960	190.7960	4.2400e-003	0.0000	190.9019
Total	**0.1195**	**1.2151**	**0.8782**	**5.1900e-003**	**0.2828**	**3.7000e-003**	**0.2865**	**0.0774**	**3.4900e-003**	**0.0809**	**0.0000**	**485.8737**	**485.8737**	**0.0199**	**0.0000**	**486.3706**

3.8 Offsite Landscaping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9700e-003	0.0937	0.1423	2.2000e-004		4.5400e-003	4.5400e-003		4.1800e-003	4.1800e-003	0.0000	19.7388	19.7388	6.3800e-003	0.0000	19.8984
Total	**9.9700e-003**	**0.0937**	**0.1423**	**2.2000e-004**		**4.5400e-003**	**4.5400e-003**		**4.1800e-003**	**4.1800e-003**	**0.0000**	**19.7388**	**19.7388**	**6.3800e-003**	**0.0000**	**19.8984**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1100e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8854	0.8854	2.0000e-005	0.0000	0.8859
Total	**4.2000e-004**	**3.0000e-004**	**3.1100e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8854**	**0.8854**	**2.0000e-005**	**0.0000**	**0.8859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9700e-003	0.0937	0.1423	2.2000e-004		4.5400e-003	4.5400e-003		4.1800e-003	4.1800e-003	0.0000	19.7388	19.7388	6.3800e-003	0.0000	19.8984
Total	**9.9700e-003**	**0.0937**	**0.1423**	**2.2000e-004**		**4.5400e-003**	**4.5400e-003**		**4.1800e-003**	**4.1800e-003**	**0.0000**	**19.7388**	**19.7388**	**6.3800e-003**	**0.0000**	**19.8984**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1100e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8854	0.8854	2.0000e-005	0.0000	0.8859
Total	**4.2000e-004**	**3.0000e-004**	**3.1100e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8854**	**0.8854**	**2.0000e-005**	**0.0000**	**0.8859**

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1001	0.1312	2.1000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	6.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0160**	**0.1001**	**0.1312**	**2.1000e-004**		**5.1100e-003**	**5.1100e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	2.9500e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0700e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8826	0.8826	2.0000e-005	0.0000	0.8831
Total	**4.0000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0700e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8826**	**0.8826**	**2.0000e-005**	**0.0000**	**0.8831**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1001	0.1312	2.1000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	6.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0160**	**0.1001**	**0.1312**	**2.1000e-004**		**5.1100e-003**	**5.1100e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	2.9500e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8826	0.8826	2.0000e-005	0.0000	0.8831
Total	**4.0000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**9.8000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8826**	**0.8826**	**2.0000e-005**	**0.0000**	**0.8831**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7600e-003	0.0190	0.0245	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4469	3.4469	2.2000e-004	0.0000	3.4525
Total	**1.7433**	**0.0190**	**0.0245**	**4.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.4469**	**3.4469**	**2.2000e-004**	**0.0000**	**3.4525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-003	2.4800e-003	0.0265	9.0000e-005	9.6100e-003	6.0000e-005	9.6700e-003	2.5600e-003	6.0000e-005	2.6100e-003	0.0000	7.9430	7.9430	1.8000e-004	0.0000	7.9474
Total	**3.6000e-003**	**2.4800e-003**	**0.0265**	**9.0000e-005**	**9.6100e-003**	**6.0000e-005**	**9.6700e-003**	**2.5600e-003**	**6.0000e-005**	**2.6100e-003**	**0.0000**	**7.9430**	**7.9430**	**1.8000e-004**	**0.0000**	**7.9474**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7600e-003	0.0190	0.0245	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4469	3.4469	2.2000e-004	0.0000	3.4525
Total	**1.7433**	**0.0190**	**0.0245**	**4.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.4469**	**3.4469**	**2.2000e-004**	**0.0000**	**3.4525**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-003	2.4800e-003	0.0265	9.0000e-005	8.8600e-003	6.0000e-005	8.9200e-003	2.3700e-003	6.0000e-005	2.4300e-003	0.0000	7.9430	7.9430	1.8000e-004	0.0000	7.9474
Total	**3.6000e-003**	**2.4800e-003**	**0.0265**	**9.0000e-005**	**8.8600e-003**	**6.0000e-005**	**8.9200e-003**	**2.3700e-003**	**6.0000e-005**	**2.4300e-003**	**0.0000**	**7.9430**	**7.9430**	**1.8000e-004**	**0.0000**	**7.9474**

3.11 Finishing and Landscaping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0100e-003	8.8800e-003	0.0163	3.0000e-005		4.3000e-004	4.3000e-004		4.0000e-004	4.0000e-004	0.0000	2.2680	2.2680	7.3000e-004	0.0000	2.2864
Total	**1.0100e-003**	**8.8800e-003**	**0.0163**	**3.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**2.2680**	**2.2680**	**7.3000e-004**	**0.0000**	**2.2864**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0981	0.0981	0.0000	0.0000	0.0981
Total	**4.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**0.0000**	**0.0981**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0100e-003	8.8800e-003	0.0163	3.0000e-005		4.3000e-004	4.3000e-004		4.0000e-004	4.0000e-004	0.0000	2.2680	2.2680	7.3000e-004	0.0000	2.2864
Total	**1.0100e-003**	**8.8800e-003**	**0.0163**	**3.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**2.2680**	**2.2680**	**7.3000e-004**	**0.0000**	**2.2864**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0981	0.0981	0.0000	0.0000	0.0981
Total	**4.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**0.0000**	**0.0981**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod

Mitigated Construction Model

Future High School Development Mitigated Construction - Alameda County, Annual

Future High School Development Mitigated Construction

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	323.95	1000sqft	6.36	323,954.00	0
Enclosed Parking Structure	56.67	1000sqft	1.30	56,669.00	0
Other Asphalt Surfaces	11.25	1000sqft	0.26	11,250.00	0
Other Non-Asphalt Surfaces	487.55	1000sqft	11.19	487,545.00	0
Parking Lot	189.50	1000sqft	4.35	189,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - accounts for academy 1 building with 3 floors

Construction Phase - construction schedule provided by applicant

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - assuming one excavator for landscaping

Off-road Equipment - assuming one excavator for landscaping

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no additional equipment required for grading soil haul

Off-road Equipment - assuming 1 excavator for trenching

Trips and VMT - 4 vt/water truck/day, assuming 25 cy truck for hauling

Grading -

Architectural Coating - only accounting for parking area

Construction Off-road Equipment Mitigation - BAAQMD BMPs, MM: Tier 4 Final for equipment >50 HP

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	44,698.00	14,770.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	370.00	406.00
tblConstructionPhase	NumDays	35.00	55.00
tblConstructionPhase	NumDays	35.00	10.00
tblConstructionPhase	NumDays	35.00	29.00
tblConstructionPhase	NumDays	20.00	108.00
tblConstructionPhase	NumDays	20.00	18.00
tblGrading	MaterialExported	0.00	12,650.00
tblGrading	MaterialImported	0.00	45,000.00
tblLandUse	LandUseSquareFeet	323,950.00	323,954.00
tblLandUse	LandUseSquareFeet	56,670.00	56,669.00
tblLandUse	LandUseSquareFeet	487,550.00	487,545.00
tblLandUse	LotAcreage	7.44	6.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	7,206.00	4,612.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2815	3.4730	2.1391	6.0200e-003	0.4527	0.1220	0.5747	0.1748	0.1125	0.2873	0.0000	548.3189	548.3189	0.1077	0.0000	551.0115
2021	0.5616	5.3595	4.7028	0.0152	0.6181	0.1596	0.7777	0.1679	0.1495	0.3174	0.0000	1,386.0658	1,386.0658	0.1425	0.0000	1,389.6281
2022	1.9947	2.3609	2.1436	7.3100e-003	0.3163	0.0630	0.3793	0.0859	0.0592	0.1451	0.0000	669.1585	669.1585	0.0630	0.0000	670.7322
Maximum	**1.9947**	**5.3595**	**4.7028**	**0.0152**	**0.6181**	**0.1596**	**0.7777**	**0.1748**	**0.1495**	**0.3174**	**0.0000**	**1,386.0658**	**1,386.0658**	**0.1425**	**0.0000**	**1,389.6281**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0877	1.0507	2.2619	6.0200e-003	0.2362	9.4200e-003	0.2456	0.0865	9.2700e-003	0.0958	0.0000	548.3185	548.3185	0.1077	0.0000	551.0111
2021	0.3516	2.9859	4.9599	0.0152	0.5722	0.0244	0.5966	0.1567	0.0240	0.1806	0.0000	1,386.0654	1,386.0654	0.1425	0.0000	1,389.6277
2022	1.9098	1.4070	2.2558	7.3100e-003	0.2928	0.0108	0.3036	0.0801	0.0106	0.0907	0.0000	669.1583	669.1583	0.0630	0.0000	670.7320
Maximum	**1.9098**	**2.9859**	**4.9599**	**0.0152**	**0.5722**	**0.0244**	**0.5966**	**0.1567**	**0.0240**	**0.1806**	**0.0000**	**1,386.0654**	**1,386.0654**	**0.1425**	**0.0000**	**1,389.6277**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**17.22**	**51.37**	**-5.48**	**0.00**	**20.61**	**87.04**	**33.83**	**24.57**	**86.36**	**51.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-15-2020**	**9-14-2020**	6.0407	4.6380
2	**9-15-2020**	**12-14-2020**	1.1441	0.1390
3	**12-15-2020**	**3-14-2021**	1.8219	0.8809
4	**3-15-2021**	**6-14-2021**	1.4954	0.8377
5	**6-15-2021**	**9-14-2021**	1.3805	0.8210
6	**9-15-2021**	**12-14-2021**	1.3386	0.8184
7	**12-15-2021**	**3-14-2022**	1.2425	0.7786

8	**3-15-2022**	**6-14-2022**	2.2909	1.7225
9	**6-15-2022**	**9-14-2022**	1.0331	0.9313
		Highest	6.0407	4.6380

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Grading	6/15/2020	8/30/2020	5	55	
2	Rough Grading Soil Haul	Grading	8/15/2020	8/30/2020	5	10	
3	Utilities Relocation	Trenching	9/1/2020	10/30/2020	5	44	
4	Fine Grading	Grading	11/1/2020	12/10/2020	5	29	
5	Offsite Paving	Paving	11/1/2020	3/31/2021	5	108	
6	Building Construction	Building Construction	12/11/2020	7/1/2022	5	406	
7	Offsite Landscaping	Trenching	4/1/2021	7/30/2021	5	87	
8	Paving	Paving	5/1/2022	5/25/2022	5	18	
9	Architectural Coating	Architectural Coating	5/26/2022	7/1/2022	5	27	
10	Finishing and Landscaping	Trenching	6/19/2022	7/1/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 17.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 485,931; Non-Residential Outdoor: 161,977; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Excavators	2	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Rough Grading Soil Haul	Excavators	0	8.00	158	0.38
Rough Grading Soil Haul	Graders	0	8.00	187	0.41
Rough Grading Soil Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading Soil Haul	Scrapers	0	8.00	367	0.48
Rough Grading Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utilities Relocation	Excavators	1	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Offsite Paving	Pavers	2	8.00	130	0.42
Offsite Paving	Paving Equipment	2	8.00	132	0.36
Offsite Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Offsite Landscaping	Excavators	1	8.00	158	0.38
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finishing and Landscaping	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Rough Grading	8	20.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Soil Haul	0	0.00	0.00	4,612.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Utilities Relocation	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Offsite Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	449.00	175.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Offsite Landscaping	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	90.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing and Landscaping	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Rough Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2385	0.0000	0.2385	0.0989	0.0000	0.0989	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1224	1.3804	0.8789	1.7100e-003		0.0598	0.0598		0.0550	0.0550	0.0000	149.8318	149.8318	0.0485	0.0000	151.0433
Total	**0.1224**	**1.3804**	**0.8789**	**1.7100e-003**	**0.2385**	**0.0598**	**0.2983**	**0.0989**	**0.0550**	**0.1539**	**0.0000**	**149.8318**	**149.8318**	**0.0485**	**0.0000**	**151.0433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	4.1000e-004	0.0129	2.7900e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.7000e-004	0.0000	2.9096	2.9096	1.7000e-004	0.0000	2.9138
Worker	1.9000e-003	1.4000e-003	0.0144	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.8657	3.8657	1.0000e-004	0.0000	3.8682
Total	**2.3100e-003**	**0.0143**	**0.0172**	**7.0000e-005**	**5.0700e-003**	**9.0000e-005**	**5.1600e-003**	**1.3700e-003**	**9.0000e-005**	**1.4500e-003**	**0.0000**	**6.7753**	**6.7753**	**2.7000e-004**	**0.0000**	**6.7820**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1020	0.0000	0.1020	0.0423	0.0000	0.0423	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.0908	0.9075	1.7100e-003		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	149.8316	149.8316	0.0485	0.0000	151.0431
Total	**0.0209**	**0.0908**	**0.9075**	**1.7100e-003**	**0.1020**	**2.7900e-003**	**0.1048**	**0.0423**	**2.7900e-003**	**0.0451**	**0.0000**	**149.8316**	**149.8316**	**0.0485**	**0.0000**	**151.0431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0129	2.7900e-003	3.0000e-005	6.8000e-004	6.0000e-005	7.4000e-004	2.0000e-004	6.0000e-005	2.6000e-004	0.0000	2.9096	2.9096	1.7000e-004	0.0000	2.9138
Worker	1.9000e-003	1.4000e-003	0.0144	4.0000e-005	4.0100e-003	3.0000e-005	4.0400e-003	1.0700e-003	3.0000e-005	1.1000e-003	0.0000	3.8657	3.8657	1.0000e-004	0.0000	3.8682
Total	**2.3100e-003**	**0.0143**	**0.0172**	**7.0000e-005**	**4.6900e-003**	**9.0000e-005**	**4.7800e-003**	**1.2700e-003**	**9.0000e-005**	**1.3600e-003**	**0.0000**	**6.7753**	**6.7753**	**2.7000e-004**	**0.0000**	**6.7820**

3.3 Rough Grading Soil Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					3.2600e-003	0.0000	3.2600e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.2600e-003**	**0.0000**	**3.2600e-003**	**4.9000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0196	0.6725	0.1183	1.8300e-003	0.0391	2.1500e-003	0.0412	0.0108	2.0500e-003	0.0128	0.0000	176.5539	176.5539	8.8900e-003	0.0000	176.7762
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0196**	**0.6725**	**0.1183**	**1.8300e-003**	**0.0391**	**2.1500e-003**	**0.0412**	**0.0108**	**2.0500e-003**	**0.0128**	**0.0000**	**176.5539**	**176.5539**	**8.8900e-003**	**0.0000**	**176.7762**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3900e-003	0.0000	1.3900e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.3900e-003**	**0.0000**	**1.3900e-003**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0196	0.6725	0.1183	1.8300e-003	0.0364	2.1500e-003	0.0386	0.0101	2.0500e-003	0.0122	0.0000	176.5539	176.5539	8.8900e-003	0.0000	176.7762
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0196**	**0.6725**	**0.1183**	**1.8300e-003**	**0.0364**	**2.1500e-003**	**0.0386**	**0.0101**	**2.0500e-003**	**0.0122**	**0.0000**	**176.5539**	**176.5539**	**8.8900e-003**	**0.0000**	**176.7762**

3.4 Utilities Relocation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3900e-003	0.0531	0.0719	1.1000e-004		2.5700e-003	2.5700e-003		2.3700e-003	2.3700e-003	0.0000	9.9814	9.9814	3.2300e-003	0.0000	10.0621
Total	**5.3900e-003**	**0.0531**	**0.0719**	**1.1000e-004**		**2.5700e-003**	**2.5700e-003**		**2.3700e-003**	**2.3700e-003**	**0.0000**	**9.9814**	**9.9814**	**3.2300e-003**	**0.0000**	**10.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7300e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4639	0.4639	1.0000e-005	0.0000	0.4642
Total	**2.3000e-004**	**1.7000e-004**	**1.7300e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4639**	**0.4639**	**1.0000e-005**	**0.0000**	**0.4642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	1.4000e-003	6.0600e-003	0.0862	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	9.9814	9.9814	3.2300e-003	0.0000	10.0621
Total	**1.4000e-003**	**6.0600e-003**	**0.0862**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**9.9814**	**9.9814**	**3.2300e-003**	**0.0000**	**10.0621**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7300e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4639	0.4639	1.0000e-005	0.0000	0.4642
Total	**2.3000e-004**	**1.7000e-004**	**1.7300e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4639**	**0.4639**	**1.0000e-005**	**0.0000**	**0.4642**

3.5 Fine Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1258	0.0000	0.1258	0.0522	0.0000	0.0522	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0645	0.7279	0.4634	9.0000e-004		0.0315	0.0315		0.0290	0.0290	0.0000	79.0022	79.0022	0.0256	0.0000	79.6410
Total	**0.0645**	**0.7279**	**0.4634**	**9.0000e-004**	**0.1258**	**0.0315**	**0.1573**	**0.0522**	**0.0290**	**0.0812**	**0.0000**	**79.0022**	**79.0022**	**0.0256**	**0.0000**	**79.6410**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	2.2000e-004	6.8200e-003	1.4700e-003	2.0000e-005	3.8000e-004	3.0000e-005	4.1000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.5342	1.5342	9.0000e-005	0.0000	1.5364
Worker	1.0000e-003	7.4000e-004	7.5900e-003	2.0000e-005	2.2900e-003	2.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	2.0383	2.0383	5.0000e-005	0.0000	2.0396
Total	**1.2200e-003**	**7.5600e-003**	**9.0600e-003**	**4.0000e-005**	**2.6700e-003**	**5.0000e-005**	**2.7200e-003**	**7.2000e-004**	**4.0000e-005**	**7.6000e-004**	**0.0000**	**3.5724**	**3.5724**	**1.4000e-004**	**0.0000**	**3.5760**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0538	0.0000	0.0538	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0110	0.0479	0.4785	9.0000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	79.0021	79.0021	0.0256	0.0000	79.6409
Total	**0.0110**	**0.0479**	**0.4785**	**9.0000e-004**	**0.0538**	**1.4700e-003**	**0.0552**	**0.0223**	**1.4700e-003**	**0.0238**	**0.0000**	**79.0021**	**79.0021**	**0.0256**	**0.0000**	**79.6409**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	6.8200e-003	1.4700e-003	2.0000e-005	3.6000e-004	3.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	1.5342	1.5342	9.0000e-005	0.0000	1.5364
Worker	1.0000e-003	7.4000e-004	7.5900e-003	2.0000e-005	2.1100e-003	2.0000e-005	2.1300e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	2.0383	2.0383	5.0000e-005	0.0000	2.0396
Total	**1.2200e-003**	**7.5600e-003**	**9.0600e-003**	**4.0000e-005**	**2.4700e-003**	**5.0000e-005**	**2.5200e-003**	**6.7000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**3.5724**	**3.5724**	**1.4000e-004**	**0.0000**	**3.5760**

3.6 Offsite Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0298	0.3094	0.3224	5.0000e-004		0.0166	0.0166		0.0152	0.0152	0.0000	44.0621	44.0621	0.0143	0.0000	44.4184
Paving	2.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0323**	**0.3094**	**0.3224**	**5.0000e-004**		**0.0166**	**0.0166**		**0.0152**	**0.0152**	**0.0000**	**44.0621**	**44.0621**	**0.0143**	**0.0000**	**44.4184**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	8.4000e-004	8.6300e-003	3.0000e-005	2.6100e-003	2.0000e-005	2.6300e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3194	2.3194	6.0000e-005	0.0000	2.3209
Total	**1.1400e-003**	**8.4000e-004**	**8.6300e-003**	**3.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6300e-003**	**6.9000e-004**	**2.0000e-005**	**7.1000e-004**	**0.0000**	**2.3194**	**2.3194**	**6.0000e-005**	**0.0000**	**2.3209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1700e-003	0.0267	0.3805	5.0000e-004		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	44.0620	44.0620	0.0143	0.0000	44.4183
Paving	2.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6300e-003**	**0.0267**	**0.3805**	**5.0000e-004**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**44.0620**	**44.0620**	**0.0143**	**0.0000**	**44.4183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	8.4000e-004	8.6300e-003	3.0000e-005	2.4100e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.3194	2.3194	6.0000e-005	0.0000	2.3209
Total	**1.1400e-003**	**8.4000e-004**	**8.6300e-003**	**3.0000e-005**	**2.4100e-003**	**2.0000e-005**	**2.4200e-003**	**6.4000e-004**	**2.0000e-005**	**6.6000e-004**	**0.0000**	**2.3194**	**2.3194**	**6.0000e-005**	**0.0000**	**2.3209**

3.6 Offsite Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0402	0.4134	0.4689	7.3000e-004		0.0217	0.0217		0.0200	0.0200	0.0000	64.0751	64.0751	0.0207	0.0000	64.5932
Paving	3.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0438**	**0.4134**	**0.4689**	**7.3000e-004**		**0.0217**	**0.0217**		**0.0200**	**0.0200**	**0.0000**	**64.0751**	**64.0751**	**0.0207**	**0.0000**	**64.5932**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	1.0900e-003	0.0114	4.0000e-005	3.8000e-003	3.0000e-005	3.8200e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	3.2567	3.2567	8.0000e-005	0.0000	3.2586
Total	**1.5300e-003**	**1.0900e-003**	**0.0114**	**4.0000e-005**	**3.8000e-003**	**3.0000e-005**	**3.8200e-003**	**1.0100e-003**	**2.0000e-005**	**1.0300e-003**	**0.0000**	**3.2567**	**3.2567**	**8.0000e-005**	**0.0000**	**3.2586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	8.9800e-003	0.0389	0.5535	7.3000e-004		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	64.0751	64.0751	0.0207	0.0000	64.5931
Paving	3.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.0389**	**0.5535**	**7.3000e-004**		**1.2000e-003**	**1.2000e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**64.0751**	**64.0751**	**0.0207**	**0.0000**	**64.5931**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5300e-003	1.0900e-003	0.0114	4.0000e-005	3.5000e-003	3.0000e-005	3.5300e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.2567	3.2567	8.0000e-005	0.0000	3.2586
Total	**1.5300e-003**	**1.0900e-003**	**0.0114**	**4.0000e-005**	**3.5000e-003**	**3.0000e-005**	**3.5300e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.2567**	**3.2567**	**8.0000e-005**	**0.0000**	**3.2586**

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0159	0.1439	0.1264	2.0000e-004		8.3800e-003	8.3800e-003		7.8800e-003	7.8800e-003	0.0000	17.3708	17.3708	4.2400e-003	0.0000	17.4767
Total	**0.0159**	**0.1439**	**0.1264**	**2.0000e-004**		**8.3800e-003**	**8.3800e-003**		**7.8800e-003**	**7.8800e-003**	**0.0000**	**17.3708**	**17.3708**	**4.2400e-003**	**0.0000**	**17.4767**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9300e-003	0.1543	0.0333	3.6000e-004	8.6200e-003	7.2000e-004	9.3400e-003	2.4900e-003	6.8000e-004	3.1800e-003	0.0000	34.7170	34.7170	2.0000e-003	0.0000	34.7669
Worker	0.0117	8.5900e-003	0.0881	2.6000e-004	0.0266	1.8000e-004	0.0268	7.0800e-003	1.7000e-004	7.2500e-003	0.0000	23.6687	23.6687	6.1000e-004	0.0000	23.6839
Total	**0.0166**	**0.1629**	**0.1214**	**6.2000e-004**	**0.0353**	**9.0000e-004**	**0.0362**	**9.5700e-003**	**8.5000e-004**	**0.0104**	**0.0000**	**58.3856**	**58.3856**	**2.6100e-003**	**0.0000**	**58.4508**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7000e-003	0.0210	0.1330	2.0000e-004		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	17.3707	17.3707	4.2400e-003	0.0000	17.4767
Total	**4.7000e-003**	**0.0210**	**0.1330**	**2.0000e-004**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**17.3707**	**17.3707**	**4.2400e-003**	**0.0000**	**17.4767**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.9300e-003	0.1543	0.0333	3.6000e-004	8.0700e-003	7.2000e-004	8.7900e-003	2.3600e-003	6.8000e-004	3.0400e-003	0.0000	34.7170	34.7170	2.0000e-003	0.0000	34.7669
Worker	0.0117	8.5900e-003	0.0881	2.6000e-004	0.0246	1.8000e-004	0.0247	6.5700e-003	1.7000e-004	6.7400e-003	0.0000	23.6687	23.6687	6.1000e-004	0.0000	23.6839
Total	**0.0166**	**0.1629**	**0.1214**	**6.2000e-004**	**0.0326**	**9.0000e-004**	**0.0335**	**8.9300e-003**	**8.5000e-004**	**9.7800e-003**	**0.0000**	**58.3856**	**58.3856**	**2.6100e-003**	**0.0000**	**58.4508**

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0707	2.4428	0.5174	6.2500e-003	0.1500	5.0900e-003	0.1551	0.0434	4.8700e-003	0.0483	0.0000	598.2754	598.2754	0.0329	0.0000	599.0969
Worker	0.1871	0.1334	1.3966	4.4000e-003	0.4633	3.1100e-003	0.4664	0.1232	2.8700e-003	0.1261	0.0000	397.5477	397.5477	9.5000e-003	0.0000	397.7852
Total	**0.2578**	**2.5761**	**1.9140**	**0.0107**	**0.6133**	**8.2000e-003**	**0.6215**	**0.1666**	**7.7400e-003**	**0.1744**	**0.0000**	**995.8231**	**995.8231**	**0.0424**	**0.0000**	**996.8821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0766	0.3575	2.3075	3.5100e-003		0.0146	0.0146		0.0146	0.0146	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.0766**	**0.3575**	**2.3075**	**3.5100e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0707	2.4428	0.5174	6.2500e-003	0.1405	5.0900e-003	0.1456	0.0411	4.8700e-003	0.0459	0.0000	598.2754	598.2754	0.0329	0.0000	599.0969
Worker	0.1871	0.1334	1.3966	4.4000e-003	0.4273	3.1100e-003	0.4304	0.1144	2.8700e-003	0.1173	0.0000	397.5477	397.5477	9.5000e-003	0.0000	397.7852

Total	**0.2578**	**2.5761**	**1.9140**	**0.0107**	**0.5678**	**8.2000e-003**	**0.5760**	**0.1555**	**7.7400e-003**	**0.1632**	**0.0000**	**995.8231**	**995.8231**	**0.0424**	**0.0000**	**996.8821**

3.7 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1109	1.0150	1.0636	1.7500e-003		0.0526	0.0526		0.0495	0.0495	0.0000	150.6214	150.6214	0.0361	0.0000	151.5235
Total	**0.1109**	**1.0150**	**1.0636**	**1.7500e-003**		**0.0526**	**0.0526**		**0.0495**	**0.0495**	**0.0000**	**150.6214**	**150.6214**	**0.0361**	**0.0000**	**151.5235**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.1556	0.2414	3.0800e-003	0.0747	2.1900e-003	0.0769	0.0216	2.1000e-003	0.0237	0.0000	295.0777	295.0777	0.0156	0.0000	295.4688
Worker	0.0865	0.0595	0.6368	2.1100e-003	0.2308	1.5100e-003	0.2323	0.0614	1.3900e-003	0.0628	0.0000	190.7960	190.7960	4.2400e-003	0.0000	190.9019
Total	**0.1195**	**1.2151**	**0.8782**	**5.1900e-003**	**0.3055**	**3.7000e-003**	**0.3092**	**0.0830**	**3.4900e-003**	**0.0865**	**0.0000**	**485.8737**	**485.8737**	**0.0199**	**0.0000**	**486.3706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0365	0.1751	1.1479	1.7500e-003		6.6100e-003	6.6100e-003		6.6100e-003	6.6100e-003	0.0000	150.6212	150.6212	0.0361	0.0000	151.5233
Total	**0.0365**	**0.1751**	**1.1479**	**1.7500e-003**		**6.6100e-003**	**6.6100e-003**		**6.6100e-003**	**6.6100e-003**	**0.0000**	**150.6212**	**150.6212**	**0.0361**	**0.0000**	**151.5233**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.1556	0.2414	3.0800e-003	0.0700	2.1900e-003	0.0722	0.0205	2.1000e-003	0.0226	0.0000	295.0777	295.0777	0.0156	0.0000	295.4688
Worker	0.0865	0.0595	0.6368	2.1100e-003	0.2128	1.5100e-003	0.2143	0.0570	1.3900e-003	0.0584	0.0000	190.7960	190.7960	4.2400e-003	0.0000	190.9019
Total	**0.1195**	**1.2151**	**0.8782**	**5.1900e-003**	**0.2828**	**3.7000e-003**	**0.2865**	**0.0774**	**3.4900e-003**	**0.0809**	**0.0000**	**485.8737**	**485.8737**	**0.0199**	**0.0000**	**486.3706**

3.8 Offsite Landscaping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9700e-003	0.0937	0.1423	2.2000e-004		4.5400e-003	4.5400e-003		4.1800e-003	4.1800e-003	0.0000	19.7388	19.7388	6.3800e-003	0.0000	19.8984
Total	**9.9700e-003**	**0.0937**	**0.1423**	**2.2000e-004**		**4.5400e-003**	**4.5400e-003**		**4.1800e-003**	**4.1800e-003**	**0.0000**	**19.7388**	**19.7388**	**6.3800e-003**	**0.0000**	**19.8984**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1100e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8854	0.8854	2.0000e-005	0.0000	0.8859
Total	**4.2000e-004**	**3.0000e-004**	**3.1100e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.8854**	**0.8854**	**2.0000e-005**	**0.0000**	**0.8859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7600e-003	0.0120	0.1704	2.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	19.7388	19.7388	6.3800e-003	0.0000	19.8984
Total	**2.7600e-003**	**0.0120**	**0.1704**	**2.2000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**19.7388**	**19.7388**	**6.3800e-003**	**0.0000**	**19.8984**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.0000e-004	3.1100e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8854	0.8854	2.0000e-005	0.0000	0.8859
Total	**4.2000e-004**	**3.0000e-004**	**3.1100e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8854**	**0.8854**	**2.0000e-005**	**0.0000**	**0.8859**

3.9 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1001	0.1312	2.1000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	6.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0160**	**0.1001**	**0.1312**	**2.1000e-004**		**5.1100e-003**	**5.1100e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	2.9500e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0700e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8826	0.8826	2.0000e-005	0.0000	0.8831
Total	**4.0000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0700e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8826**	**0.8826**	**2.0000e-005**	**0.0000**	**0.8831**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5200e-003	0.0109	0.1557	2.1000e-004		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	6.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.5600e-003**	**0.0109**	**0.1557**	**2.1000e-004**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	2.9500e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8826	0.8826	2.0000e-005	0.0000	0.8831
Total	**4.0000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**9.8000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8826**	**0.8826**	**2.0000e-005**	**0.0000**	**0.8831**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Archit. Coating	1.7406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7600e-003	0.0190	0.0245	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4469	3.4469	2.2000e-004	0.0000	3.4525
Total	**1.7433**	**0.0190**	**0.0245**	**4.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.4469**	**3.4469**	**2.2000e-004**	**0.0000**	**3.4525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-003	2.4800e-003	0.0265	9.0000e-005	9.6100e-003	6.0000e-005	9.6700e-003	2.5600e-003	6.0000e-005	2.6100e-003	0.0000	7.9430	7.9430	1.8000e-004	0.0000	7.9474
Total	**3.6000e-003**	**2.4800e-003**	**0.0265**	**9.0000e-005**	**9.6100e-003**	**6.0000e-005**	**9.6700e-003**	**2.5600e-003**	**6.0000e-005**	**2.6100e-003**	**0.0000**	**7.9430**	**7.9430**	**1.8000e-004**	**0.0000**	**7.9474**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	1.7400e-003	0.0247	4.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	3.4469	3.4469	2.2000e-004	0.0000	3.4525
Total	**1.7410**	**1.7400e-003**	**0.0247**	**4.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**3.4469**	**3.4469**	**2.2000e-004**	**0.0000**	**3.4525**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-003	2.4800e-003	0.0265	9.0000e-005	8.8600e-003	6.0000e-005	8.9200e-003	2.3700e-003	6.0000e-005	2.4300e-003	0.0000	7.9430	7.9430	1.8000e-004	0.0000	7.9474
Total	**3.6000e-003**	**2.4800e-003**	**0.0265**	**9.0000e-005**	**8.8600e-003**	**6.0000e-005**	**8.9200e-003**	**2.3700e-003**	**6.0000e-005**	**2.4300e-003**	**0.0000**	**7.9430**	**7.9430**	**1.8000e-004**	**0.0000**	**7.9474**

3.11 Finishing and Landscaping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0100e-003	8.8800e-003	0.0163	3.0000e-005		4.3000e-004	4.3000e-004		4.0000e-004	4.0000e-004	0.0000	2.2680	2.2680	7.3000e-004	0.0000	2.2864
Total	**1.0100e-003**	**8.8800e-003**	**0.0163**	**3.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**2.2680**	**2.2680**	**7.3000e-004**	**0.0000**	**2.2864**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0981	0.0981	0.0000	0.0000	0.0981
Total	**4.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**0.0000**	**0.0981**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	1.3800e-003	0.0196	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2680	2.2680	7.3000e-004	0.0000	2.2864
Total	**3.2000e-004**	**1.3800e-003**	**0.0196**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2680**	**2.2680**	**7.3000e-004**	**0.0000**	**2.2864**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0981	0.0981	0.0000	0.0000	0.0981
Total	**4.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**0.0000**	**0.0981**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod

Operations Model

Future High School Operations Run - Alameda County, Annual

Future High School Operations Run

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	2,500.00	Student	6.36	323,954.00	0
Enclosed Parking with Elevator	56.67	1000sqft	1.30	56,670.00	0
Other Asphalt Surfaces	11.25	1000sqft	0.26	11,250.00	0
Other Non-Asphalt Surfaces	487.54	1000sqft	11.19	487,540.00	0
Parking Lot	189.50	1000sqft	4.35	189,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	358.04	**CH4 Intensity (lb/MWhr)**	0.041	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - accounts for the high school building sqft and building footprint

Construction Phase -

Vehicle Trips - see assumptions file for trips calculation and notes

Area Coating - parking AC accounts only for parking area

Energy Use -

Water And Wastewater - increase in indoor water to account for stadium water use, assumes 100% aerobic treatment

Solid Waste - accounts for stadium solid waste generation

Energy Mitigation -

Water Mitigation - MM: assuming 100% reclaimed outdoor water

Fleet Mix - see assumptions file for adjustments to the fleet mix

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	44698	14770
tblFleetMix	HHD	0.05	0.00
tblFleetMix	HHD	0.05	4.7010e-003
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.68
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	1.6660e-003
tblFleetMix	LHD2	5.2020e-003	0.00
tblFleetMix	LHD2	5.2020e-003	5.4100e-004
tblFleetMix	MCY	5.5240e-003	0.00
tblFleetMix	MCY	5.5240e-003	6.7390e-003
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.02
tblFleetMix	MH	7.2100e-004	0.00
tblFleetMix	MH	7.2100e-004	7.5000e-005
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	2.4940e-003
tblFleetMix	OBUS	2.1840e-003	0.00
tblFleetMix	OBUS	2.1840e-003	0.00
tblFleetMix	SBUS	3.2600e-004	0.00
tblFleetMix	SBUS	3.2600e-004	3.4000e-005

tblFleetMix	UBUS	2.5610e-003	0.00
tblFleetMix	UBUS	2.5610e-003	0.00
tblLandUse	LandUseSquareFeet	331,652.44	323,954.00
tblLandUse	LotAcreage	7.61	6.36
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.041
tblProjectCharacteristics	CO2IntensityFactor	641.35	358.04
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblSolidWaste	SolidWasteGenerationRate	456.25	579.89
tblVehicleEF	HHD	0.86	0.02
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.09	0.00
tblVehicleEF	HHD	2.57	6.25
tblVehicleEF	HHD	0.87	0.46
tblVehicleEF	HHD	2.04	4.7170e-003
tblVehicleEF	HHD	4,967.46	1,147.77
tblVehicleEF	HHD	1,608.42	1,465.86
tblVehicleEF	HHD	6.35	0.05
tblVehicleEF	HHD	20.78	6.00
tblVehicleEF	HHD	3.57	3.38
tblVehicleEF	HHD	20.10	2.01
tblVehicleEF	HHD	0.02	3.0840e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	5.1000e-005	0.00
tblVehicleEF	HHD	0.01	2.9500e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8950e-003	8.9210e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	4.7000e-005	0.00
tblVehicleEF	HHD	4.8000e-005	2.0000e-006

tblVehicleEF	HHD	2.8850e-003	9.7000e-005
tblVehicleEF	HHD	0.66	0.45
tblVehicleEF	HHD	3.3000e-005	1.0000e-006
tblVehicleEF	HHD	0.13	0.08
tblVehicleEF	HHD	2.2900e-004	5.8900e-004
tblVehicleEF	HHD	0.05	1.0000e-006
tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	9.7000e-005	1.0000e-006
tblVehicleEF	HHD	4.8000e-005	2.0000e-006
tblVehicleEF	HHD	2.8850e-003	9.7000e-005
tblVehicleEF	HHD	0.76	0.52
tblVehicleEF	HHD	3.3000e-005	1.0000e-006
tblVehicleEF	HHD	0.19	0.12
tblVehicleEF	HHD	2.2900e-004	5.8900e-004
tblVehicleEF	HHD	0.06	1.0000e-006
tblVehicleEF	HHD	0.81	0.03
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	1.87	6.13
tblVehicleEF	HHD	0.88	0.47
tblVehicleEF	HHD	1.85	4.2910e-003
tblVehicleEF	HHD	5,262.36	1,142.22
tblVehicleEF	HHD	1,608.42	1,465.86
tblVehicleEF	HHD	6.35	0.05
tblVehicleEF	HHD	21.45	5.80
tblVehicleEF	HHD	3.44	3.25
tblVehicleEF	HHD	20.09	2.01
tblVehicleEF	HHD	0.01	2.7250e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04

tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	5.1000e-005	0.00
tblVehicleEF	HHD	0.01	2.6070e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8950e-003	8.9210e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	4.7000e-005	0.00
tblVehicleEF	HHD	1.1800e-004	5.0000e-006
tblVehicleEF	HHD	3.1090e-003	1.0600e-004
tblVehicleEF	HHD	0.62	0.47
tblVehicleEF	HHD	7.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.13	0.08
tblVehicleEF	HHD	2.2300e-004	5.8200e-004
tblVehicleEF	HHD	0.05	1.0000e-006
tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	9.4000e-005	1.0000e-006
tblVehicleEF	HHD	1.1800e-004	5.0000e-006
tblVehicleEF	HHD	3.1090e-003	1.0600e-004
tblVehicleEF	HHD	0.72	0.54
tblVehicleEF	HHD	7.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.19	0.12
tblVehicleEF	HHD	2.2300e-004	5.8200e-004
tblVehicleEF	HHD	0.06	1.0000e-006
tblVehicleEF	HHD	0.93	0.02
tblVehicleEF	HHD	0.04	3.7580e-003
tblVehicleEF	HHD	0.09	0.00
tblVehicleEF	HHD	3.54	6.37
tblVehicleEF	HHD	0.87	0.37
tblVehicleEF	HHD	2.19	5.0740e-003
tblVehicleEF	HHD	4,560.23	1,145.69

tblVehicleEF	HHD	1,608.42	1,439.72
tblVehicleEF	HHD	6.35	0.05
tblVehicleEF	HHD	19.86	6.23
tblVehicleEF	HHD	3.63	3.42
tblVehicleEF	HHD	20.11	2.01
tblVehicleEF	HHD	0.02	3.5150e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	5.1000e-005	0.00
tblVehicleEF	HHD	0.02	3.3630e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8950e-003	8.8450e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	4.7000e-005	0.00
tblVehicleEF	HHD	2.2000e-005	1.0000e-006
tblVehicleEF	HHD	2.9980e-003	1.0600e-004
tblVehicleEF	HHD	0.71	0.42
tblVehicleEF	HHD	1.6000e-005	1.0000e-006
tblVehicleEF	HHD	0.13	0.08
tblVehicleEF	HHD	2.5500e-004	6.4700e-004
tblVehicleEF	HHD	0.06	1.0000e-006
tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.0000e-004	1.0000e-006
tblVehicleEF	HHD	2.2000e-005	1.0000e-006
tblVehicleEF	HHD	2.9980e-003	1.0600e-004
tblVehicleEF	HHD	0.82	0.48
tblVehicleEF	HHD	1.6000e-005	1.0000e-006
tblVehicleEF	HHD	0.19	0.09
tblVehicleEF	HHD	2.5500e-004	6.4700e-004

tblVehicleEF	HHD	0.06	1.0000e-006
tblVehicleEF	LDA	4.3240e-003	2.4280e-003
tblVehicleEF	LDA	6.5290e-003	0.06
tblVehicleEF	LDA	0.57	0.61
tblVehicleEF	LDA	1.39	2.31
tblVehicleEF	LDA	255.47	255.31
tblVehicleEF	LDA	58.35	53.97
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.08	0.20
tblVehicleEF	LDA	1.7910e-003	1.5200e-003
tblVehicleEF	LDA	2.2700e-003	1.8350e-003
tblVehicleEF	LDA	1.6520e-003	1.4010e-003
tblVehicleEF	LDA	2.0870e-003	1.6880e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	9.6330e-003
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.09	0.25
tblVehicleEF	LDA	2.5580e-003	2.5250e-003
tblVehicleEF	LDA	6.0700e-004	5.3400e-004
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.10	0.28
tblVehicleEF	LDA	4.8240e-003	2.7510e-003
tblVehicleEF	LDA	5.3110e-003	0.05
tblVehicleEF	LDA	0.68	0.73
tblVehicleEF	LDA	1.07	1.77

tblVehicleEF	LDA	276.18	275.64
tblVehicleEF	LDA	58.35	52.95
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	1.7910e-003	1.5200e-003
tblVehicleEF	LDA	2.2700e-003	1.8350e-003
tblVehicleEF	LDA	1.6520e-003	1.4010e-003
tblVehicleEF	LDA	2.0870e-003	1.6880e-003
tblVehicleEF	LDA	0.08	0.10
tblVehicleEF	LDA	0.13	0.12
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	2.7670e-003	2.7270e-003
tblVehicleEF	LDA	6.0200e-004	5.2400e-004
tblVehicleEF	LDA	0.08	0.10
tblVehicleEF	LDA	0.13	0.12
tblVehicleEF	LDA	0.07	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.21
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDA	4.2340e-003	2.3470e-003
tblVehicleEF	LDA	7.3820e-003	0.06
tblVehicleEF	LDA	0.57	0.61
tblVehicleEF	LDA	1.63	2.71
tblVehicleEF	LDA	253.40	253.28
tblVehicleEF	LDA	58.35	54.70
tblVehicleEF	LDA	0.06	0.04
tblVehicleEF	LDA	0.09	0.22
tblVehicleEF	LDA	1.7910e-003	1.5200e-003

tblVehicleEF	LDA	2.2700e-003	1.8350e-003
tblVehicleEF	LDA	1.6520e-003	1.4010e-003
tblVehicleEF	LDA	2.0870e-003	1.6880e-003
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	9.4250e-003
tblVehicleEF	LDA	0.05	0.27
tblVehicleEF	LDA	0.10	0.28
tblVehicleEF	LDA	2.5370e-003	2.5050e-003
tblVehicleEF	LDA	6.1100e-004	5.4100e-004
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.12	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.05	0.27
tblVehicleEF	LDA	0.11	0.31
tblVehicleEF	LDT1	9.1870e-003	4.9480e-003
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	1.11	1.04
tblVehicleEF	LDT1	3.00	2.54
tblVehicleEF	LDT1	311.65	304.08
tblVehicleEF	LDT1	71.11	65.08
tblVehicleEF	LDT1	0.11	0.09
tblVehicleEF	LDT1	0.17	0.27
tblVehicleEF	LDT1	2.3980e-003	1.9610e-003
tblVehicleEF	LDT1	3.2210e-003	2.4940e-003
tblVehicleEF	LDT1	2.2090e-003	1.8050e-003
tblVehicleEF	LDT1	2.9620e-003	2.2940e-003
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.26	0.19

tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.16	0.70
tblVehicleEF	LDT1	0.20	0.38
tblVehicleEF	LDT1	3.1290e-003	3.0090e-003
tblVehicleEF	LDT1	7.6400e-004	6.4400e-004
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.26	0.19
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.16	0.70
tblVehicleEF	LDT1	0.22	0.42
tblVehicleEF	LDT1	0.01	5.5490e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.28	1.21
tblVehicleEF	LDT1	2.28	1.93
tblVehicleEF	LDT1	335.99	325.05
tblVehicleEF	LDT1	71.11	63.87
tblVehicleEF	LDT1	0.10	0.08
tblVehicleEF	LDT1	0.15	0.24
tblVehicleEF	LDT1	2.3980e-003	1.9610e-003
tblVehicleEF	LDT1	3.2210e-003	2.4940e-003
tblVehicleEF	LDT1	2.2090e-003	1.8050e-003
tblVehicleEF	LDT1	2.9620e-003	2.2940e-003
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.29	0.22
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.15	0.65
tblVehicleEF	LDT1	0.16	0.31
tblVehicleEF	LDT1	3.3750e-003	3.2170e-003

tblVehicleEF	LDT1	7.5100e-004	6.3200e-004
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.29	0.22
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.15	0.65
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	9.0600e-003	4.8010e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.10	1.03
tblVehicleEF	LDT1	3.53	2.98
tblVehicleEF	LDT1	309.22	302.00
tblVehicleEF	LDT1	71.11	65.94
tblVehicleEF	LDT1	0.13	0.10
tblVehicleEF	LDT1	0.18	0.30
tblVehicleEF	LDT1	2.3980e-003	1.9610e-003
tblVehicleEF	LDT1	3.2210e-003	2.4940e-003
tblVehicleEF	LDT1	2.2090e-003	1.8050e-003
tblVehicleEF	LDT1	2.9620e-003	2.2940e-003
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.19	0.87
tblVehicleEF	LDT1	0.23	0.43
tblVehicleEF	LDT1	3.1050e-003	2.9880e-003
tblVehicleEF	LDT1	7.7300e-004	6.5300e-004
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.28	0.21
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.03	0.03

tblVehicleEF	LDT1	0.19	0.87
tblVehicleEF	LDT1	0.25	0.47
tblVehicleEF	LDT2	5.5110e-003	3.5880e-003
tblVehicleEF	LDT2	7.7820e-003	0.07
tblVehicleEF	LDT2	0.70	0.81
tblVehicleEF	LDT2	1.67	2.96
tblVehicleEF	LDT2	352.34	329.02
tblVehicleEF	LDT2	80.36	70.88
tblVehicleEF	LDT2	0.08	0.07
tblVehicleEF	LDT2	0.13	0.31
tblVehicleEF	LDT2	1.7140e-003	1.4900e-003
tblVehicleEF	LDT2	2.2830e-003	1.8200e-003
tblVehicleEF	LDT2	1.5770e-003	1.3720e-003
tblVehicleEF	LDT2	2.0990e-003	1.6730e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.45
tblVehicleEF	LDT2	0.10	0.35
tblVehicleEF	LDT2	3.5280e-003	3.2550e-003
tblVehicleEF	LDT2	8.3200e-004	7.0100e-004
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.45
tblVehicleEF	LDT2	0.11	0.38
tblVehicleEF	LDT2	6.1420e-003	4.0510e-003
tblVehicleEF	LDT2	6.3360e-003	0.06
tblVehicleEF	LDT2	0.82	0.96

tblVehicleEF	LDT2	1.28	2.26
tblVehicleEF	LDT2	380.36	349.63
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tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.7140e-003	1.4900e-003
tblVehicleEF	LDT2	2.2830e-003	1.8200e-003
tblVehicleEF	LDT2	1.5770e-003	1.3720e-003
tblVehicleEF	LDT2	2.0990e-003	1.6730e-003
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.08	0.13
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.28
tblVehicleEF	LDT2	3.8100e-003	3.4590e-003
tblVehicleEF	LDT2	8.2500e-004	6.8800e-004
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.08	0.13
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	5.3910e-003	3.4690e-003
tblVehicleEF	LDT2	8.7930e-003	0.08
tblVehicleEF	LDT2	0.69	0.81
tblVehicleEF	LDT2	1.95	3.47
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tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.14	0.33

tblVehicleEF	LDT2	1.7140e-003	1.4900e-003
tblVehicleEF	LDT2	2.2830e-003	1.8200e-003
tblVehicleEF	LDT2	1.5770e-003	1.3720e-003
tblVehicleEF	LDT2	2.0990e-003	1.6730e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.12	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.55
tblVehicleEF	LDT2	0.12	0.39
tblVehicleEF	LDT2	3.5000e-003	3.2350e-003
tblVehicleEF	LDT2	8.3700e-004	7.1100e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.12	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.55
tblVehicleEF	LDT2	0.13	0.43
tblVehicleEF	LHD1	5.6730e-003	5.5500e-003
tblVehicleEF	LHD1	0.02	9.7790e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	1.16	0.88
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tblVehicleEF	LHD1	702.72	821.38
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tblVehicleEF	LHD1	0.07	0.06
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tblVehicleEF	LHD1	9.9820e-003	9.6360e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	9.8800e-004	2.7300e-004
tblVehicleEF	LHD1	8.3300e-004	7.4100e-004
tblVehicleEF	LHD1	2.4960e-003	2.4090e-003
tblVehicleEF	LHD1	0.02	0.01
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tblVehicleEF	LHD1	2.4100e-003	1.9500e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3680e-003	1.1020e-003
tblVehicleEF	LHD1	0.13	0.10
tblVehicleEF	LHD1	0.31	0.58
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	9.0000e-005	8.8000e-005
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tblVehicleEF	LHD1	2.4100e-003	1.9500e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
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tblVehicleEF	LHD1	0.16	0.12
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tblVehicleEF	LHD1	0.31	0.09
tblVehicleEF	LHD1	5.6730e-003	5.5670e-003
tblVehicleEF	LHD1	0.02	0.01
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tblVehicleEF	LHD1	0.15	0.19
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tblVehicleEF	LHD1	2.57	1.07
tblVehicleEF	LHD1	9.01	9.01

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tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.30	0.80
tblVehicleEF	LHD1	1.00	0.33
tblVehicleEF	LHD1	8.7100e-004	7.7500e-004
tblVehicleEF	LHD1	9.9820e-003	9.6360e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	9.8800e-004	2.7300e-004
tblVehicleEF	LHD1	8.3300e-004	7.4100e-004
tblVehicleEF	LHD1	2.4960e-003	2.4090e-003
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tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.9430e-003	2.3930e-003
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tblVehicleEF	LHD1	0.26	0.08
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tblVehicleEF	LHD1	5.9510e-003	4.8460e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.03
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tblVehicleEF	LHD1	0.30	0.56
tblVehicleEF	LHD1	0.29	0.09
tblVehicleEF	LHD1	5.6730e-003	5.5370e-003

tblVehicleEF	LHD1	0.02	9.5700e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	1.14	0.87
tblVehicleEF	LHD1	3.02	1.24
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tblVehicleEF	LHD1	702.72	821.35
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tblVehicleEF	LHD1	1.40	0.87
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tblVehicleEF	LHD1	9.9820e-003	9.6360e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	9.8800e-004	2.7300e-004
tblVehicleEF	LHD1	8.3300e-004	7.4100e-004
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tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	9.0800e-004	2.5100e-004
tblVehicleEF	LHD1	9.8700e-004	7.8700e-004
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.6200e-004	5.2600e-004
tblVehicleEF	LHD1	0.13	0.10
tblVehicleEF	LHD1	0.34	0.64
tblVehicleEF	LHD1	0.30	0.09
tblVehicleEF	LHD1	9.0000e-005	8.8000e-005
tblVehicleEF	LHD1	6.9060e-003	8.0290e-003
tblVehicleEF	LHD1	3.9100e-004	1.2500e-004
tblVehicleEF	LHD1	9.8700e-004	7.8700e-004
tblVehicleEF	LHD1	0.12	0.09

tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.6200e-004	5.2600e-004
tblVehicleEF	LHD1	0.16	0.12
tblVehicleEF	LHD1	0.34	0.64
tblVehicleEF	LHD1	0.33	0.10
tblVehicleEF	LHD2	3.8350e-003	3.8550e-003
tblVehicleEF	LHD2	8.8620e-003	7.6780e-003
tblVehicleEF	LHD2	8.5590e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.62	0.67
tblVehicleEF	LHD2	1.36	0.77
tblVehicleEF	LHD2	13.87	13.67
tblVehicleEF	LHD2	722.15	813.85
tblVehicleEF	LHD2	26.48	9.48
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.91	0.97
tblVehicleEF	LHD2	0.55	0.24
tblVehicleEF	LHD2	1.2220e-003	1.2690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.4200e-004	1.5300e-004
tblVehicleEF	LHD2	1.1690e-003	1.2140e-003
tblVehicleEF	LHD2	2.6660e-003	2.6310e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.0700e-004	1.4100e-004
tblVehicleEF	LHD2	8.8700e-004	1.1660e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	5.2600e-004	6.6400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.08	0.35

tblVehicleEF	LHD2	0.12	0.05
tblVehicleEF	LHD2	1.3600e-004	1.3100e-004
tblVehicleEF	LHD2	7.0320e-003	7.8830e-003
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tblVehicleEF	LHD2	8.8700e-004	1.1660e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2600e-004	6.6400e-004
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.08	0.35
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	LHD2	3.8350e-003	3.8670e-003
tblVehicleEF	LHD2	9.0380e-003	7.8020e-003
tblVehicleEF	LHD2	8.0300e-003	0.01
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tblVehicleEF	LHD2	1.26	0.70
tblVehicleEF	LHD2	13.87	13.67
tblVehicleEF	LHD2	722.15	813.87
tblVehicleEF	LHD2	26.48	9.37
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.87	0.93
tblVehicleEF	LHD2	0.51	0.22
tblVehicleEF	LHD2	1.2220e-003	1.2690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.4200e-004	1.5300e-004
tblVehicleEF	LHD2	1.1690e-003	1.2140e-003
tblVehicleEF	LHD2	2.6660e-003	2.6310e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.0700e-004	1.4100e-004

tblVehicleEF	LHD2	2.1770e-003	2.8930e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1290e-003	1.4400e-003
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.08	0.33
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3600e-004	1.3100e-004
tblVehicleEF	LHD2	7.0320e-003	7.8830e-003
tblVehicleEF	LHD2	2.8800e-004	9.3000e-005
tblVehicleEF	LHD2	2.1770e-003	2.8930e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.1290e-003	1.4400e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.08	0.33
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	3.8350e-003	3.8460e-003
tblVehicleEF	LHD2	8.7380e-003	7.5890e-003
tblVehicleEF	LHD2	8.9760e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.62	0.67
tblVehicleEF	LHD2	1.46	0.82
tblVehicleEF	LHD2	13.87	13.67
tblVehicleEF	LHD2	722.15	813.84
tblVehicleEF	LHD2	26.48	9.58
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.93	0.99
tblVehicleEF	LHD2	0.58	0.25
tblVehicleEF	LHD2	1.2220e-003	1.2690e-003
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.4200e-004	1.5300e-004
tblVehicleEF	LHD2	1.1690e-003	1.2140e-003
tblVehicleEF	LHD2	2.6660e-003	2.6310e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.0700e-004	1.4100e-004
tblVehicleEF	LHD2	3.7900e-004	4.8300e-004
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.5900e-004	3.2500e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	1.3600e-004	1.3100e-004
tblVehicleEF	LHD2	7.0320e-003	7.8830e-003
tblVehicleEF	LHD2	2.9100e-004	9.5000e-005
tblVehicleEF	LHD2	3.7900e-004	4.8300e-004
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	2.5900e-004	3.2500e-004
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.09	0.39
tblVehicleEF	LHD2	0.13	0.06
tblVehicleEF	MCY	0.46	0.35
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	20.42	20.54
tblVehicleEF	MCY	10.22	9.07
tblVehicleEF	MCY	174.21	215.58
tblVehicleEF	MCY	46.30	62.20
tblVehicleEF	MCY	1.17	1.17
tblVehicleEF	MCY	0.32	0.27

tblVehicleEF	MCY	2.1040e-003	2.0420e-003
tblVehicleEF	MCY	4.2280e-003	3.3520e-003
tblVehicleEF	MCY	1.9700e-003	1.9110e-003
tblVehicleEF	MCY	3.9930e-003	3.1620e-003
tblVehicleEF	MCY	0.81	0.81
tblVehicleEF	MCY	0.76	0.74
tblVehicleEF	MCY	0.51	0.50
tblVehicleEF	MCY	2.36	2.36
tblVehicleEF	MCY	0.62	2.28
tblVehicleEF	MCY	2.28	2.01
tblVehicleEF	MCY	2.1450e-003	2.1330e-003
tblVehicleEF	MCY	6.9700e-004	6.1600e-004
tblVehicleEF	MCY	0.81	0.81
tblVehicleEF	MCY	0.76	0.74
tblVehicleEF	MCY	0.51	0.50
tblVehicleEF	MCY	2.90	2.91
tblVehicleEF	MCY	0.62	2.28
tblVehicleEF	MCY	2.48	2.18
tblVehicleEF	MCY	0.44	0.33
tblVehicleEF	MCY	0.14	0.21
tblVehicleEF	MCY	19.32	19.42
tblVehicleEF	MCY	8.85	7.78
tblVehicleEF	MCY	174.21	213.43
tblVehicleEF	MCY	46.30	58.89
tblVehicleEF	MCY	1.02	1.02
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.1040e-003	2.0420e-003
tblVehicleEF	MCY	4.2280e-003	3.3520e-003
tblVehicleEF	MCY	1.9700e-003	1.9110e-003
tblVehicleEF	MCY	3.9930e-003	3.1620e-003
tblVehicleEF	MCY	2.37	2.35

tblVehicleEF	MCY	1.00	0.99
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.25	2.26
tblVehicleEF	MCY	0.58	2.13
tblVehicleEF	MCY	1.86	1.63
tblVehicleEF	MCY	2.1240e-003	2.1120e-003
tblVehicleEF	MCY	6.6200e-004	5.8300e-004
tblVehicleEF	MCY	2.37	2.35
tblVehicleEF	MCY	1.00	0.99
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.78	2.78
tblVehicleEF	MCY	0.58	2.13
tblVehicleEF	MCY	2.03	1.77
tblVehicleEF	MCY	0.48	0.36
tblVehicleEF	MCY	0.19	0.30
tblVehicleEF	MCY	22.15	22.29
tblVehicleEF	MCY	11.64	10.39
tblVehicleEF	MCY	174.21	218.73
tblVehicleEF	MCY	46.30	65.42
tblVehicleEF	MCY	1.26	1.26
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	2.1040e-003	2.0420e-003
tblVehicleEF	MCY	4.2280e-003	3.3520e-003
tblVehicleEF	MCY	1.9700e-003	1.9110e-003
tblVehicleEF	MCY	3.9930e-003	3.1620e-003
tblVehicleEF	MCY	0.21	0.21
tblVehicleEF	MCY	0.92	0.89
tblVehicleEF	MCY	0.17	0.18
tblVehicleEF	MCY	2.46	2.47
tblVehicleEF	MCY	0.73	2.70
tblVehicleEF	MCY	2.64	2.35

tblVehicleEF	MCY	2.1750e-003	2.1640e-003
tblVehicleEF	MCY	7.3200e-004	6.4700e-004
tblVehicleEF	MCY	0.21	0.21
tblVehicleEF	MCY	0.92	0.89
tblVehicleEF	MCY	0.17	0.18
tblVehicleEF	MCY	3.03	3.04
tblVehicleEF	MCY	0.73	2.70
tblVehicleEF	MCY	2.88	2.55
tblVehicleEF	MDV	0.01	4.4190e-003
tblVehicleEF	MDV	0.02	0.09
tblVehicleEF	MDV	1.14	0.91
tblVehicleEF	MDV	3.20	3.45
tblVehicleEF	MDV	472.54	396.32
tblVehicleEF	MDV	105.77	85.19
tblVehicleEF	MDV	0.15	0.09
tblVehicleEF	MDV	0.28	0.38
tblVehicleEF	MDV	1.9190e-003	1.6490e-003
tblVehicleEF	MDV	2.5710e-003	2.0710e-003
tblVehicleEF	MDV	1.7690e-003	1.5210e-003
tblVehicleEF	MDV	2.3650e-003	1.9040e-003
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.18	0.15
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.10	0.49
tblVehicleEF	MDV	0.25	0.45
tblVehicleEF	MDV	4.7320e-003	3.9180e-003
tblVehicleEF	MDV	1.1140e-003	8.4300e-004
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.18	0.15
tblVehicleEF	MDV	0.06	0.07

tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.10	0.49
tblVehicleEF	MDV	0.27	0.49
tblVehicleEF	MDV	0.01	4.9810e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.34	1.07
tblVehicleEF	MDV	2.46	2.62
tblVehicleEF	MDV	509.08	417.34
tblVehicleEF	MDV	105.77	83.59
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.25	0.33
tblVehicleEF	MDV	1.9190e-003	1.6490e-003
tblVehicleEF	MDV	2.5710e-003	2.0710e-003
tblVehicleEF	MDV	1.7690e-003	1.5210e-003
tblVehicleEF	MDV	2.3650e-003	1.9040e-003
tblVehicleEF	MDV	0.14	0.17
tblVehicleEF	MDV	0.20	0.17
tblVehicleEF	MDV	0.13	0.15
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.45
tblVehicleEF	MDV	0.20	0.37
tblVehicleEF	MDV	5.1000e-003	4.1260e-003
tblVehicleEF	MDV	1.1010e-003	8.2700e-004
tblVehicleEF	MDV	0.14	0.17
tblVehicleEF	MDV	0.20	0.17
tblVehicleEF	MDV	0.13	0.15
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.09	0.45
tblVehicleEF	MDV	0.22	0.40
tblVehicleEF	MDV	0.01	4.2870e-003
tblVehicleEF	MDV	0.02	0.10

tblVehicleEF	MDV	1.14	0.91
tblVehicleEF	MDV	3.75	4.06
tblVehicleEF	MDV	468.89	394.24
tblVehicleEF	MDV	105.77	86.35
tblVehicleEF	MDV	0.16	0.10
tblVehicleEF	MDV	0.31	0.41
tblVehicleEF	MDV	1.9190e-003	1.6490e-003
tblVehicleEF	MDV	2.5710e-003	2.0710e-003
tblVehicleEF	MDV	1.7690e-003	1.5210e-003
tblVehicleEF	MDV	2.3650e-003	1.9040e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.19	0.16
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.12	0.59
tblVehicleEF	MDV	0.28	0.51
tblVehicleEF	MDV	4.6950e-003	3.8970e-003
tblVehicleEF	MDV	1.1240e-003	8.5400e-004
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.19	0.16
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.12	0.59
tblVehicleEF	MDV	0.30	0.56
tblVehicleEF	MH	0.04	4.8410e-003
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	2.65	0.37
tblVehicleEF	MH	6.49	0.00
tblVehicleEF	MH	1,219.82	1,013.76
tblVehicleEF	MH	60.04	0.00
tblVehicleEF	MH	1.40	4.04

tblVehicleEF	MH	0.91	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.09
tblVehicleEF	MH	1.2500e-003	0.00
tblVehicleEF	MH	3.2100e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.08
tblVehicleEF	MH	1.1490e-003	0.00
tblVehicleEF	MH	0.83	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.32	0.00
tblVehicleEF	MH	0.11	0.10
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.37	0.00
tblVehicleEF	MH	0.01	9.5840e-003
tblVehicleEF	MH	7.1300e-004	0.00
tblVehicleEF	MH	0.83	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.32	0.00
tblVehicleEF	MH	0.16	0.12
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.40	0.00
tblVehicleEF	MH	0.04	4.8410e-003
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	2.79	0.37
tblVehicleEF	MH	5.83	0.00
tblVehicleEF	MH	1,219.82	1,013.76
tblVehicleEF	MH	60.04	0.00
tblVehicleEF	MH	1.30	3.88
tblVehicleEF	MH	0.84	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.09

tblVehicleEF	MH	1.2500e-003	0.00
tblVehicleEF	MH	3.2100e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.08
tblVehicleEF	MH	1.1490e-003	0.00
tblVehicleEF	MH	2.07	0.00
tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.69	0.00
tblVehicleEF	MH	0.12	0.10
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.01	9.5840e-003
tblVehicleEF	MH	7.0200e-004	0.00
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tblVehicleEF	MH	0.69	0.00
tblVehicleEF	MH	0.17	0.12
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.37	0.00
tblVehicleEF	MH	0.04	4.8410e-003
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	2.57	0.37
tblVehicleEF	MH	7.05	0.00
tblVehicleEF	MH	1,219.82	1,013.76
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tblVehicleEF	MH	1.44	4.11
tblVehicleEF	MH	0.96	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.09
tblVehicleEF	MH	1.2500e-003	0.00
tblVehicleEF	MH	3.2100e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.08

tblVehicleEF	MH	1.1490e-003	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.10	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.11	0.10
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.39	0.00
tblVehicleEF	MH	0.01	9.5840e-003
tblVehicleEF	MH	7.2300e-004	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.10	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.15	0.12
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MHD	0.02	2.7670e-003
tblVehicleEF	MHD	4.7870e-003	4.7820e-003
tblVehicleEF	MHD	0.05	7.3840e-003
tblVehicleEF	MHD	0.32	0.35
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tblVehicleEF	MHD	169.15	76.17
tblVehicleEF	MHD	1,195.75	1,096.17
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tblVehicleEF	MHD	0.67	0.56
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tblVehicleEF	MHD	12.89	1.49
tblVehicleEF	MHD	8.5400e-004	1.1190e-003
tblVehicleEF	MHD	6.2670e-003	0.03
tblVehicleEF	MHD	7.0400e-004	8.3000e-005
tblVehicleEF	MHD	8.1700e-004	1.0710e-003

tblVehicleEF	MHD	5.9920e-003	0.03
tblVehicleEF	MHD	6.4700e-004	7.7000e-005
tblVehicleEF	MHD	7.3800e-004	2.9600e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.2200e-004	1.7000e-004
tblVehicleEF	MHD	0.06	0.08
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.31	0.04
tblVehicleEF	MHD	1.6230e-003	7.2200e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.6100e-004	7.1000e-005
tblVehicleEF	MHD	7.3800e-004	2.9600e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.2200e-004	1.7000e-004
tblVehicleEF	MHD	0.07	0.10
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.34	0.04
tblVehicleEF	MHD	0.02	2.6110e-003
tblVehicleEF	MHD	4.8830e-003	4.8340e-003
tblVehicleEF	MHD	0.05	6.9020e-003
tblVehicleEF	MHD	0.22	0.29
tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	4.68	0.81
tblVehicleEF	MHD	179.30	76.85
tblVehicleEF	MHD	1,195.75	1,096.18
tblVehicleEF	MHD	47.05	7.04
tblVehicleEF	MHD	0.69	0.55
tblVehicleEF	MHD	1.46	1.90
tblVehicleEF	MHD	12.84	1.48

tblVehicleEF	MHD	7.2000e-004	9.4700e-004
tblVehicleEF	MHD	6.2670e-003	0.03
tblVehicleEF	MHD	7.0400e-004	8.3000e-005
tblVehicleEF	MHD	6.8900e-004	9.0600e-004
tblVehicleEF	MHD	5.9920e-003	0.03
tblVehicleEF	MHD	6.4700e-004	7.7000e-005
tblVehicleEF	MHD	1.8800e-003	7.5100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	9.5800e-004	3.8400e-004
tblVehicleEF	MHD	0.06	0.08
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.29	0.04
tblVehicleEF	MHD	1.7190e-003	7.2800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.5300e-004	7.0000e-005
tblVehicleEF	MHD	1.8800e-003	7.5100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	9.5800e-004	3.8400e-004
tblVehicleEF	MHD	0.07	0.10
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.31	0.04
tblVehicleEF	MHD	0.02	2.9220e-003
tblVehicleEF	MHD	4.7220e-003	4.7460e-003
tblVehicleEF	MHD	0.06	7.7440e-003
tblVehicleEF	MHD	0.42	0.40
tblVehicleEF	MHD	0.36	0.40
tblVehicleEF	MHD	5.55	0.95
tblVehicleEF	MHD	155.41	75.32
tblVehicleEF	MHD	1,195.75	1,096.17

tblVehicleEF	MHD	47.05	7.29
tblVehicleEF	MHD	0.64	0.56
tblVehicleEF	MHD	1.55	2.02
tblVehicleEF	MHD	12.94	1.49
tblVehicleEF	MHD	1.0400e-003	1.3580e-003
tblVehicleEF	MHD	6.2670e-003	0.03
tblVehicleEF	MHD	7.0400e-004	8.3000e-005
tblVehicleEF	MHD	9.9500e-004	1.2990e-003
tblVehicleEF	MHD	5.9920e-003	0.03
tblVehicleEF	MHD	6.4700e-004	7.7000e-005
tblVehicleEF	MHD	2.9300e-004	1.1900e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.9600e-004	8.0000e-005
tblVehicleEF	MHD	0.06	0.08
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.32	0.04
tblVehicleEF	MHD	1.4930e-003	7.1400e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.6700e-004	7.2000e-005
tblVehicleEF	MHD	2.9300e-004	1.1900e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.9600e-004	8.0000e-005
tblVehicleEF	MHD	0.07	0.09
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.35	0.05
tblVehicleEF	OBUS	0.01	8.6420e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.28	0.56

tblVehicleEF	OBUS	0.67	1.04
tblVehicleEF	OBUS	6.12	2.60
tblVehicleEF	OBUS	118.83	85.85
tblVehicleEF	OBUS	1,308.17	1,506.41
tblVehicleEF	OBUS	66.40	20.17
tblVehicleEF	OBUS	0.55	0.41
tblVehicleEF	OBUS	1.75	1.65
tblVehicleEF	OBUS	3.17	0.71
tblVehicleEF	OBUS	1.2300e-004	7.6700e-004
tblVehicleEF	OBUS	7.5980e-003	0.02
tblVehicleEF	OBUS	8.4400e-004	1.9400e-004
tblVehicleEF	OBUS	1.1700e-004	7.3400e-004
tblVehicleEF	OBUS	7.2500e-003	0.02
tblVehicleEF	OBUS	7.7600e-004	1.7900e-004
tblVehicleEF	OBUS	1.2440e-003	1.4680e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	5.7600e-004	6.8600e-004
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.37	0.12
tblVehicleEF	OBUS	1.1450e-003	8.1700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7100e-004	2.0000e-004
tblVehicleEF	OBUS	1.2440e-003	1.4680e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	5.7600e-004	6.8600e-004
tblVehicleEF	OBUS	0.09	0.12
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.41	0.13

tblVehicleEF	OBUS	0.01	8.7070e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.26	0.55
tblVehicleEF	OBUS	0.69	1.07
tblVehicleEF	OBUS	5.52	2.35
tblVehicleEF	OBUS	124.92	85.74
tblVehicleEF	OBUS	1,308.17	1,506.47
tblVehicleEF	OBUS	66.40	19.74
tblVehicleEF	OBUS	0.57	0.40
tblVehicleEF	OBUS	1.67	1.57
tblVehicleEF	OBUS	3.09	0.69
tblVehicleEF	OBUS	1.0300e-004	6.5200e-004
tblVehicleEF	OBUS	7.5980e-003	0.02
tblVehicleEF	OBUS	8.4400e-004	1.9400e-004
tblVehicleEF	OBUS	9.9000e-005	6.2300e-004
tblVehicleEF	OBUS	7.2500e-003	0.02
tblVehicleEF	OBUS	7.7600e-004	1.7900e-004
tblVehicleEF	OBUS	3.0270e-003	3.5390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.2700e-003	1.4850e-003
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.35	0.11
tblVehicleEF	OBUS	1.2040e-003	8.1600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.6100e-004	1.9500e-004
tblVehicleEF	OBUS	3.0270e-003	3.5390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07

tblVehicleEF	OBUS	1.2700e-003	1.4850e-003
tblVehicleEF	OBUS	0.09	0.12
tblVehicleEF	OBUS	0.04	0.26
tblVehicleEF	OBUS	0.38	0.12
tblVehicleEF	OBUS	0.01	8.5720e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.30	0.58
tblVehicleEF	OBUS	0.66	1.02
tblVehicleEF	OBUS	6.59	2.80
tblVehicleEF	OBUS	110.42	85.99
tblVehicleEF	OBUS	1,308.17	1,506.36
tblVehicleEF	OBUS	66.40	20.51
tblVehicleEF	OBUS	0.53	0.43
tblVehicleEF	OBUS	1.78	1.69
tblVehicleEF	OBUS	3.23	0.73
tblVehicleEF	OBUS	1.4900e-004	9.2700e-004
tblVehicleEF	OBUS	7.5980e-003	0.02
tblVehicleEF	OBUS	8.4400e-004	1.9400e-004
tblVehicleEF	OBUS	1.4300e-004	8.8700e-004
tblVehicleEF	OBUS	7.2500e-003	0.02
tblVehicleEF	OBUS	7.7600e-004	1.7900e-004
tblVehicleEF	OBUS	5.6500e-004	6.7400e-004
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	2.9300e-004	3.5100e-004
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.39	0.13
tblVehicleEF	OBUS	1.0650e-003	8.1900e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	7.7900e-004	2.0300e-004
tblVehicleEF	OBUS	5.6500e-004	6.7400e-004
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	2.9300e-004	3.5100e-004
tblVehicleEF	OBUS	0.09	0.11
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.43	0.14
tblVehicleEF	SBUS	0.85	0.06
tblVehicleEF	SBUS	0.02	4.5520e-003
tblVehicleEF	SBUS	0.07	5.3550e-003
tblVehicleEF	SBUS	10.51	2.55
tblVehicleEF	SBUS	1.14	0.36
tblVehicleEF	SBUS	11.65	0.78
tblVehicleEF	SBUS	991.70	341.69
tblVehicleEF	SBUS	945.94	1,012.09
tblVehicleEF	SBUS	71.34	4.47
tblVehicleEF	SBUS	6.91	2.98
tblVehicleEF	SBUS	3.04	3.81
tblVehicleEF	SBUS	9.53	1.08
tblVehicleEF	SBUS	6.9470e-003	3.1880e-003
tblVehicleEF	SBUS	9.8480e-003	0.01
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.2510e-003	6.1000e-005
tblVehicleEF	SBUS	6.6460e-003	3.0500e-003
tblVehicleEF	SBUS	2.4620e-003	2.6740e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.1500e-003	5.6000e-005
tblVehicleEF	SBUS	2.9420e-003	2.8700e-004
tblVehicleEF	SBUS	0.03	2.8600e-003
tblVehicleEF	SBUS	1.26	0.28

tblVehicleEF	SBUS	1.3640e-003	1.3600e-004
tblVehicleEF	SBUS	0.10	0.06
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.57	0.03
tblVehicleEF	SBUS	9.8290e-003	3.2550e-003
tblVehicleEF	SBUS	9.1960e-003	9.6830e-003
tblVehicleEF	SBUS	9.1400e-004	4.4000e-005
tblVehicleEF	SBUS	2.9420e-003	2.8700e-004
tblVehicleEF	SBUS	0.03	2.8600e-003
tblVehicleEF	SBUS	1.83	0.40
tblVehicleEF	SBUS	1.3640e-003	1.3600e-004
tblVehicleEF	SBUS	0.13	0.07
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.62	0.03
tblVehicleEF	SBUS	0.85	0.06
tblVehicleEF	SBUS	0.02	4.6320e-003
tblVehicleEF	SBUS	0.06	4.4260e-003
tblVehicleEF	SBUS	10.42	2.52
tblVehicleEF	SBUS	1.17	0.37
tblVehicleEF	SBUS	8.31	0.56
tblVehicleEF	SBUS	1,029.71	347.82
tblVehicleEF	SBUS	945.94	1,012.11
tblVehicleEF	SBUS	71.34	4.10
tblVehicleEF	SBUS	7.13	3.02
tblVehicleEF	SBUS	2.89	3.65
tblVehicleEF	SBUS	9.46	1.08
tblVehicleEF	SBUS	5.8560e-003	2.6960e-003
tblVehicleEF	SBUS	9.8480e-003	0.01
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.2510e-003	6.1000e-005
tblVehicleEF	SBUS	5.6030e-003	2.5790e-003

tblVehicleEF	SBUS	2.4620e-003	2.6740e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.1500e-003	5.6000e-005
tblVehicleEF	SBUS	7.1600e-003	7.1400e-004
tblVehicleEF	SBUS	0.04	3.0150e-003
tblVehicleEF	SBUS	1.26	0.28
tblVehicleEF	SBUS	3.0280e-003	3.1500e-004
tblVehicleEF	SBUS	0.10	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.47	0.02
tblVehicleEF	SBUS	0.01	3.3130e-003
tblVehicleEF	SBUS	9.1970e-003	9.6830e-003
tblVehicleEF	SBUS	8.5800e-004	4.1000e-005
tblVehicleEF	SBUS	7.1600e-003	7.1400e-004
tblVehicleEF	SBUS	0.04	3.0150e-003
tblVehicleEF	SBUS	1.83	0.40
tblVehicleEF	SBUS	3.0280e-003	3.1500e-004
tblVehicleEF	SBUS	0.13	0.07
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.51	0.03
tblVehicleEF	SBUS	0.85	0.06
tblVehicleEF	SBUS	0.02	4.4950e-003
tblVehicleEF	SBUS	0.08	6.0610e-003
tblVehicleEF	SBUS	10.63	2.60
tblVehicleEF	SBUS	1.11	0.35
tblVehicleEF	SBUS	14.51	0.97
tblVehicleEF	SBUS	939.20	333.23
tblVehicleEF	SBUS	945.94	1,012.08
tblVehicleEF	SBUS	71.34	4.79
tblVehicleEF	SBUS	6.61	2.91
tblVehicleEF	SBUS	3.10	3.88

tblVehicleEF	SBUS	9.58	1.08
tblVehicleEF	SBUS	8.4530e-003	3.8670e-003
tblVehicleEF	SBUS	9.8480e-003	0.01
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.2510e-003	6.1000e-005
tblVehicleEF	SBUS	8.0870e-003	3.7000e-003
tblVehicleEF	SBUS	2.4620e-003	2.6740e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	1.1500e-003	5.6000e-005
tblVehicleEF	SBUS	1.3530e-003	1.2800e-004
tblVehicleEF	SBUS	0.04	2.9270e-003
tblVehicleEF	SBUS	1.26	0.28
tblVehicleEF	SBUS	7.0300e-004	6.7000e-005
tblVehicleEF	SBUS	0.10	0.06
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.64	0.03
tblVehicleEF	SBUS	9.3280e-003	3.1750e-003
tblVehicleEF	SBUS	9.1960e-003	9.6830e-003
tblVehicleEF	SBUS	9.6100e-004	4.7000e-005
tblVehicleEF	SBUS	1.3530e-003	1.2800e-004
tblVehicleEF	SBUS	0.04	2.9270e-003
tblVehicleEF	SBUS	1.83	0.40
tblVehicleEF	SBUS	7.0300e-004	6.7000e-005
tblVehicleEF	SBUS	0.12	0.07
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.70	0.04
tblVehicleEF	UBUS	0.27	0.95
tblVehicleEF	UBUS	0.04	1.1070e-003
tblVehicleEF	UBUS	6.68	6.75
tblVehicleEF	UBUS	7.29	0.07
tblVehicleEF	UBUS	2,230.21	1,661.08

tblVehicleEF	UBUS	70.66	0.86
tblVehicleEF	UBUS	16.16	1.41
tblVehicleEF	UBUS	16.95	9.3260e-003
tblVehicleEF	UBUS	0.68	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.34	5.9190e-003
tblVehicleEF	UBUS	8.2300e-004	5.0000e-006
tblVehicleEF	UBUS	0.29	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9020e-003
tblVehicleEF	UBUS	0.32	5.6630e-003
tblVehicleEF	UBUS	7.5700e-004	5.0000e-006
tblVehicleEF	UBUS	2.2400e-003	1.3800e-004
tblVehicleEF	UBUS	0.05	7.5400e-004
tblVehicleEF	UBUS	1.0900e-003	3.3000e-005
tblVehicleEF	UBUS	0.83	0.01
tblVehicleEF	UBUS	0.01	4.6540e-003
tblVehicleEF	UBUS	0.54	4.8270e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	8.3800e-004	8.0000e-006
tblVehicleEF	UBUS	2.2400e-003	1.3800e-004
tblVehicleEF	UBUS	0.05	7.5400e-004
tblVehicleEF	UBUS	1.0900e-003	3.3000e-005
tblVehicleEF	UBUS	1.17	0.97
tblVehicleEF	UBUS	0.01	4.6540e-003
tblVehicleEF	UBUS	0.59	5.2850e-003
tblVehicleEF	UBUS	0.27	0.95
tblVehicleEF	UBUS	0.03	9.7400e-004
tblVehicleEF	UBUS	6.74	6.75
tblVehicleEF	UBUS	5.70	0.06
tblVehicleEF	UBUS	2,230.21	1,661.08
tblVehicleEF	UBUS	70.66	0.83

tblVehicleEF	UBUS	15.50	1.41
tblVehicleEF	UBUS	16.88	8.6110e-003
tblVehicleEF	UBUS	0.68	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.34	5.9190e-003
tblVehicleEF	UBUS	8.2300e-004	5.0000e-006
tblVehicleEF	UBUS	0.29	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9020e-003
tblVehicleEF	UBUS	0.32	5.6630e-003
tblVehicleEF	UBUS	7.5700e-004	5.0000e-006
tblVehicleEF	UBUS	5.7140e-003	3.3200e-004
tblVehicleEF	UBUS	0.06	8.3700e-004
tblVehicleEF	UBUS	2.4130e-003	7.0000e-005
tblVehicleEF	UBUS	0.84	0.01
tblVehicleEF	UBUS	0.01	4.1790e-003
tblVehicleEF	UBUS	0.47	4.2170e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	8.1000e-004	8.0000e-006
tblVehicleEF	UBUS	5.7140e-003	3.3200e-004
tblVehicleEF	UBUS	0.06	8.3700e-004
tblVehicleEF	UBUS	2.4130e-003	7.0000e-005
tblVehicleEF	UBUS	1.18	0.97
tblVehicleEF	UBUS	0.01	4.1790e-003
tblVehicleEF	UBUS	0.51	4.6170e-003
tblVehicleEF	UBUS	0.27	0.95
tblVehicleEF	UBUS	0.04	1.2060e-003
tblVehicleEF	UBUS	6.64	6.75
tblVehicleEF	UBUS	8.65	0.09
tblVehicleEF	UBUS	2,230.21	1,661.08
tblVehicleEF	UBUS	70.66	0.88
tblVehicleEF	UBUS	16.43	1.41

tblVehicleEF	UBUS	17.01	9.8580e-003
tblVehicleEF	UBUS	0.68	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.34	5.9190e-003
tblVehicleEF	UBUS	8.2300e-004	5.0000e-006
tblVehicleEF	UBUS	0.29	0.03
tblVehicleEF	UBUS	3.0000e-003	7.9020e-003
tblVehicleEF	UBUS	0.32	5.6630e-003
tblVehicleEF	UBUS	7.5700e-004	5.0000e-006
tblVehicleEF	UBUS	8.5800e-004	6.8000e-005
tblVehicleEF	UBUS	0.06	7.8100e-004
tblVehicleEF	UBUS	5.1200e-004	1.8000e-005
tblVehicleEF	UBUS	0.82	0.01
tblVehicleEF	UBUS	0.01	5.8590e-003
tblVehicleEF	UBUS	0.60	5.2910e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	8.6100e-004	9.0000e-006
tblVehicleEF	UBUS	8.5800e-004	6.8000e-005
tblVehicleEF	UBUS	0.06	7.8100e-004
tblVehicleEF	UBUS	5.1200e-004	1.8000e-005
tblVehicleEF	UBUS	1.16	0.97
tblVehicleEF	UBUS	0.01	5.8590e-003
tblVehicleEF	UBUS	0.66	5.7930e-003
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	17.20	28.12
tblVehicleTrips	CNW_TTP	5.00	4.69
tblVehicleTrips	CW_TL	9.50	1.70
tblVehicleTrips	CW_TTP	77.80	67.19
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	75.00	100.00

tblVehicleTrips	ST_TR	0.61	1.55
tblVehicleTrips	SU_TR	0.25	1.55
tblVehicleTrips	WD_TR	1.71	1.55
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	11,012,400.00	11,561,910.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4902	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618
Energy	0.0322	0.2928	0.2460	1.7600e-003		0.0223	0.0223		0.0223	0.0223	0.0000	667.0596	667.0596	0.0460	0.0107	671.4004
Mobile	1.4867	0.9569	9.2476	0.0192	2.1435	0.0146	2.1581	0.5702	0.0135	0.5836	0.0000	1,765.6490	1,765.6490	0.1186	0.0000	1,768.6142
Waste						0.0000	0.0000		0.0000	0.0000	117.7124	0.0000	117.7124	6.9566	0.0000	291.6276
Water						0.0000	0.0000		0.0000	0.0000	4.0906	26.2564	30.3470	0.0171	9.2600e-003	33.5344
Total	**3.0091**	**1.2500**	**9.5234**	**0.0210**	**2.1435**	**0.0369**	**2.1804**	**0.5702**	**0.0358**	**0.6060**	**121.8031**	**2,459.0230**	**2,580.8261**	**7.1385**	**0.0200**	**2,765.2384**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4902	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618
Energy	0.0230	0.2094	0.1759	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	540.8034	540.8034	0.0402	8.5500e-003	544.3555

Mobile	1.4867	0.9569	9.2476	0.0192	2.1435	0.0146	2.1581	0.5702	0.0135	0.5836	0.0000	1,765.6490	1,765.6490	0.1186	0.0000	1,768.6142
Waste						0.0000	0.0000		0.0000	0.0000	117.7124	0.0000	117.7124	6.9566	0.0000	291.6276
Water						0.0000	0.0000		0.0000	0.0000	3.2725	23.2425	26.5150	0.0139	7.4400e-003	29.0806
Total	**2.9999**	**1.1666**	**9.4534**	**0.0205**	**2.1435**	**0.0306**	**2.1741**	**0.5702**	**0.0295**	**0.5997**	**120.9849**	**2,329.7528**	**2,450.7378**	**7.1295**	**0.0160**	**2,633.7397**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.30**	**6.67**	**0.74**	**2.38**	**0.00**	**17.17**	**0.29**	**0.00**	**17.69**	**1.05**	**0.67**	**5.26**	**5.04**	**0.13**	**19.93**	**4.76**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4867	0.9569	9.2476	0.0192	2.1435	0.0146	2.1581	0.5702	0.0135	0.5836	0.0000	1,765.6490	1,765.6490	0.1186	0.0000	1,768.6142
Unmitigated	1.4867	0.9569	9.2476	0.0192	2.1435	0.0146	2.1581	0.5702	0.0135	0.5836	0.0000	1,765.6490	1,765.6490	0.1186	0.0000	1,768.6142

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
High School	3,870.53	3,870.53	3870.53	5,855,581	5,855,581
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,870.53	3,870.53	3,870.53	5,855,581	5,855,581

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High School	1.70	9.50	7.30	67.19	28.12	4.69	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
High School	0.683581	0.047923	0.232237	0.020010	0.001666	0.000541	0.002494	0.004701	0.000000	0.000000	0.006739	0.000034	0.000075
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Non-Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Parking Lot	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	312.8342	312.8342	0.0358	4.3700e-003	315.0316
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	348.2796	348.2796	0.0399	4.8600e-003	350.7261
NaturalGas Mitigated	0.0230	0.2094	0.1759	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	227.9692	227.9692	4.3700e-003	4.1800e-003	229.3239
NaturalGas Unmitigated	0.0322	0.2928	0.2460	1.7600e-003		0.0223	0.0223		0.0223	0.0223	0.0000	318.7800	318.7800	6.1100e-003	5.8400e-003	320.6744

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High School	5.97371e+006	0.0322	0.2928	0.2460	1.7600e-003		0.0223	0.0223		0.0223	0.0223	0.0000	318.7800	318.7800	6.1100e-003	5.8400e-003	320.6744
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0322**	**0.2928**	**0.2460**	**1.7600e-003**		**0.0223**	**0.0223**		**0.0223**	**0.0223**	**0.0000**	**318.7800**	**318.7800**	**6.1100e-003**	**5.8400e-003**	**320.6744**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High School	4.27198e+006	0.0230	0.2094	0.1759	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	227.9692	227.9692	4.3700e-003	4.1800e-003	229.3239
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0230**	**0.2094**	**0.1759**	**1.2600e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**227.9692**	**227.9692**	**4.3700e-003**	**4.1800e-003**	**229.3239**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Enclosed Parking with Elevator	332086	53.9322	6.1800e-003	7.5000e-004	54.3110
High School	1.74611e+006	283.5760	0.0325	3.9600e-003	285.5679
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	66325	10.7715	1.2300e-003	1.5000e-004	10.8471
Total		**348.2796**	**0.0399**	**4.8600e-003**	**350.7261**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	265442	43.1089	4.9400e-003	6.0000e-004	43.4118
High School	1.5945e+006	258.9538	0.0297	3.6200e-003	260.7728
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	66325	10.7715	1.2300e-003	1.5000e-004	10.8471
Total		**312.8342**	**0.0358**	**4.3700e-003**	**315.0316**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4902	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618

Unmitigated	1.4902	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1741					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3134					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7800e-003	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618
Total	**1.4902**	**2.7000e-004**	**0.0299**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0580**	**0.0580**	**1.5000e-004**	**0.0000**	**0.0618**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1741					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3134					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7800e-003	2.7000e-004	0.0299	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0580	0.0580	1.5000e-004	0.0000	0.0618
Total	**1.4902**	**2.7000e-004**	**0.0299**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0580**	**0.0580**	**1.5000e-004**	**0.0000**	**0.0618**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.5150	0.0139	7.4400e-003	29.0806
Unmitigated	30.3470	0.0171	9.2600e-003	33.5344

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High School	11.5619 / 28.3176	30.3470	0.0171	9.2600e-003	33.5344
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.3470**	**0.0171**	**9.2600e-003**	**33.5344**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High School	9.24953 / 26.5902	26.5150	0.0139	7.4400e-003	29.0806

Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**26.5150**	**0.0139**	**7.4400e-003**	**29.0806**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	117.7124	6.9566	0.0000	291.6276
Unmitigated	117.7124	6.9566	0.0000	291.6276

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High School	579.89	117.7124	6.9566	0.0000	291.6276
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**117.7124**	**6.9566**	**0.0000**	**291.6276**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High School	579.89	117.7124	6.9566	0.0000	291.6276
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**117.7124**	**6.9566**	**0.0000**	**291.6276**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Appendix C:
Health Risk Assessment

1. Health Risk Assessment

1.1 CONSTRUCTION HEALTH RISK ASSESSMENT

The Dublin Unified School District (DUSD) proposes to redevelop a comprehensive high school (project) in the City of Dublin. The proposed school site is a 23.46-acre vacant property located at the southeast corner of Central Parkway and Chancery Lane in the City of Dublin, Alameda County, California. The proposed project would involve grading, site preparation, and the construction of classroom and administrative buildings, gymnasium, library, and related educational purposes, as well as an all-weather track and field, hardcourts and playfields. The following provides the background methodology used for the construction health risk assessment for the proposed project.

The latest version of the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines requires projects to evaluate the impacts of construction activities on sensitive receptors (BAAQMD, 2017). Project construction is anticipated to take place starting at the beginning of June 2020 and be completed by July 2022 (approximately 535 work days). The nearest sensitive receptors to the project site include the adjacent multi-story residences to the east and to the west. The BAAQMD has developed *Screening Tables for Air Toxics Evaluation During Construction* (2017) that evaluate construction-related health risks associated with residential, commercial, and industrial projects. According to the screening tables, the residences are closer than the distance of 100 meters (328 feet) that would screen out potential health risks and, therefore, could be potentially impacted from the proposed construction activities. As a result, a site-specific construction health risk assessment (HRA) has been prepared for the proposed project. This HRA considers the health impact to off-site sensitive receptors (children at the nearby residences) from construction emissions at the project site, including diesel equipment exhaust (diesel particulate matter or DPM) and particulate matter less than 2.5 microns ($PM_{2.5}$).

It should be noted that these health impacts are based on conservative (i.e., health protective) assumptions. The United States Environmental Protection Agency (USEPA, 2005) and the Office of Environmental Health Hazard Assessment (OEHHA, 2015) note that conservative assumptions used in a risk assessment are intended to ensure that the estimated risks do not underestimate the actual risks. Therefore, the estimated risks may not necessarily represent actual risks experienced by populations at or near a site. The use of conservative assumptions tends to produce upper-bound estimates of exposure and thus risk.

For residential-based receptors, the following conservative assumptions were used:

- It was assumed that maximum-exposed off-site residential receptors (both children and adults) stood outdoors and are subject to DPM at their residence for 8 hours per day, and approximately 260 construction days per year. In reality, California residents typically will spend on average 2 hours per day outdoors at their residences (USEPA, 2011). This would result in lower exposures to construction related DPM emissions and lower estimated risk values.

- The calculated risk for infants from third trimester to age 2 is multiplied by a factor of 10 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA, 2015).

A survey of additional sensitive receptor types was conducted in addition to the nearby residential receptors. The closest school to the project site is Kolb Elementary School located over 1,200 feet northeast of the site. The closest day care facility is Dublin Kidz Daycare and Preschool at 4458 Tarcento Lane, approximately 900 feet northeast of the site. In general, school and day care-based sensitive receptors would be present on-site fewer days per year (i.e., typically 180 school days per year) as compared to residential receptors (i.e., 350 days per year). Additionally, health risk calculations for elementary school students would use a different age range (i.e., ages 2 to 16, age sensitivity factor of 3) than child residents (i.e., third trimester pregnancy to age 2, age sensitivity factor of 10). Thus, the determined health risks for child residents would be multiplied by the larger factor of 10 to account for early life exposure as compared to students or day care children. Given the distance to the day care facility and the school site, shorter exposure frequency of school and day care occupants compared to residents, and smaller age sensitivity factor for elementary students, the health risk determination was conservatively based on the nearby residential receptors. The school and day care receptors were omitted from the evaluation.

1.2 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

For this HRA, the BAAQMD significance thresholds were deemed to be appropriate and the thresholds that were used for this project are shown below:

- Excess cancer risk of more than 10 in a million
- Non-cancer hazard index (chronic or acute) greater than 1.0
- Incremental increase in average annual $PM_{2.5}$ concentration of greater than 0.3 $\mu g/m^3$

The methodology used in this HRA is consistent with the following BAAQMD and the OEHHA guidance documents:

- BAAQMD, 2017. *California Environmental Quality Act (CEQA) Air Quality Guidelines*. May 2017.
- BAAQMD, 2016. *Planning Healthy Places*. May 2016.
- BAAQMD, 2010. *Screening Tables for Air Toxics Evaluation During Construction.* May 2010.
- BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. Version 3.0. May 2012.
- OEHHA. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* February, 2015.

Potential exposures to DPM and $PM_{2.5}$ from proposed project construction were evaluated for off-site sensitive receptors in close proximity to the site. Pollutant concentrations were estimated using an air dispersion model, and excess lifetime cancer risks and chronic non-cancer hazard indexes were calculated. These risks were then compared to the significance thresholds adopted for this HRA.

1.3 CONSTRUCTION EMISSIONS

Construction emissions were calculated as average daily emissions in pounds per day, using the proposed construction schedule and the latest version of California Emissions Estimation Model, known as CalEEMod Version 2016.3.2 (CAPCOA, 2016). DPM emissions were based on the CalEEMod construction runs, using annual exhaust PM_{10} construction emissions presented in pounds (lbs) per day. The $PM_{2.5}$ emissions were taken from the CalEEMod output for exhaust $PM_{2.5}$ also presented in lbs per day.

The project was assumed to take place over 2 years (535 work days) from beginning of June 2020 to July 2022. The average daily emission rates from construction equipment used during the proposed project were determined by dividing the annual average emissions for each construction year by the number of construction days per year for each calendar year of construction (i.e., 2020, 2021, and 2022). The off-site hauling emission rates were adjusted to evaluate localized emissions from the 0.35-mile haul route within 1,000 feet of the project site. The CalEEMod construction emissions output and emission rate calculations are provided in Appendix A of the HRA.

1.4 DISPERSION MODELING

Air quality modeling was performed using the AERMOD atmospheric dispersion model to assess the impact of emitted compounds on sensitive receptors near the project. The model is a steady state Gaussian plume model and is an approved model by BAAQMD for estimating ground level impacts from point and fugitive sources in simple and complex terrain. The on-site construction emissions for the project were modeled as poly-area sources. The off-site mobile sources were modeled as adjacent line volume sources. The model requires additional input parameters, including chemical emission data and local meteorology. Inputs for the construction emission rates are those described in Section 1.3. Meteorological data obtained from the BAAQMD for the nearest representative meteorological station (Livermore Municipal Airport) with the five latest available years (2009 to 2013) of record were used to represent local weather conditions and prevailing winds.

The modeling analysis also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. To accommodate the model's Cartesian grid format, direction-dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each source location. In addition, digital elevation model (DEM) data for the area were obtained and included in the model runs to account for complex terrain. An emission release height of 4.15 meters was used as representative of the stack exhaust height for off-road construction equipment and diesel truck traffic, and an initial vertical dispersion parameter of 1.93 m was used, per California Air Resources Board (CARB) guidance (2000).

To determine contaminant impacts during construction hours, the model's Season-Hour-Day (HRDOW) scalar option was invoked to predict flagpole-level concentrations (1.5 m for ground-floor receptors, 6.1 m for 2nd-floor, 9.14 m for 3rd floor) for construction emissions generated between the hours of 7:00 AM and 4:00 PM with a 1-hour lunch break. In addition, a scalar factor was applied to the risk calculations to account for the number of days residents are exposed to construction emissions per year.

A unit emission rate of 1 gram per second was used for all modeling runs. The unit emission rates were proportioned over the poly-area sources for on-site construction emissions and divided between the volume sources for off-site hauling emissions. The maximum modeled concentrations from the output files were then multiplied by the emission rates calculated in Appendix A to obtain the maximum flagpole-level concentrations at the off-site maximum exposed receptors (MER). The off-site MER is a multi-family residence immediately east of the site along Fitzwilliam Street. The MER location is the receptor location associated with the maximum predicted AERMOD concentrations from the on-site emission source. The calculated on-site emission rates are approximately 2-3 orders of magnitude higher than the calculated off-site emission rates (see Appendix A). Therefore, the maximum concentrations associated with the on-site emission sources produce the highest overall ground-level MER concentrations and, consequently, highest calculated health risks.

The air dispersion model output for the emission sources is presented in Appendix B. The model output DPM and $PM_{2.5}$ concentrations from the construction emission sources are provided in Appendix C.

1.5 RISK CHARACTERIZATION

1.5.1 Carcinogenic Chemical Risk

A threshold of ten in a million ($10x10^{-6}$) has been established as a level posing no significant risk for exposures to carcinogens. Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its cancer potency factor (CPF), a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It is an upper-limit estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a lifetime of 70 years.

Recent guidance from OEHHA recommends a refinement to the standard point estimate approach with the use of age-specific breathing rates and age sensitivity factors (ASFs) to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to accommodate the unique exposures associated with the residential receptors, the following dose algorithm was used.

$$\text{Dose}_{\text{AIR,per age group}} = \left(C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF\right)$$

Where:

$Dose_{AIR}$	=	dose by inhalation (mg/kg-day), per age group
C_{air}	=	concentration of contaminant in air ($\mu g/m^3$)
EF	=	exposure frequency (number of days/365 days)
BR/BW	=	daily breathing rate normalized to body weight (L/kg-day)

A	=	inhalation absorption factor (default = 1)
CF	=	conversion factor ($1x10^{-6}$, µg to mg, L to m^3)

The inhalation absorption factor (A) is a unitless factor that is only used if the cancer potency factor included a correction for absorption across the lung. The default value of 1 was used for this assessment. For residential receptors, the exposure frequency (EF) of 0.96 is used to represent 350 days per year to allow for a two week period away from home each year (OEHHA, 2015). The 95th percentile daily breathing rates (BR/BW), exposure duration (ED), age sensitivity factors (ASFs), and fraction of time at home (FAH) for the various age groups are provided herein:

Age Groups	BR/BW (L/kg-day)	ED	ASF	FAH
Third trimester	361	0.25	10	0.85
0-2 age group	1,090	2	10	0.85
2-9 age group	861	7	3	0.72
2-16 age group	745	14	3	0.72
16-30 age group	335	14	1	0.73
16-70 age group	290	54	1	0.73

For construction analysis, the exposure duration spans the length of construction (e.g. 535 work days). As the length of construction is equal to 2.05-year, only the third trimester and 0-2 age bins apply to the construction analysis for the off-site residential receptors.

To calculate the overall cancer risk, the risk for each appropriate age group is calculated per the following equation:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{AT}$$

Where:

Dose_{AIR}	=	dose by inhalation (mg/kg-day), per age group
CPF	=	cancer potency factor, chemical-specific $(\text{mg/kg-day})^{-1}$
ASF	=	age sensitivity factor, per age group
FAH	=	fraction of time at home, per age group (for residential receptors only)
ED	=	exposure duration (years)
AT	=	averaging time period over which exposure duration is averaged (70 years)

The CPFs used in the assessment were obtained from OEHHA guidance. The excess lifetime cancer risks during the construction period to the maximally exposed resident were calculated based on the factors provided above. The cancer risks for each age group are summed to estimate the total cancer risk for each toxic chemical species. For purposes of this assessment, and as stated, the calculated residential cancer risks associated with construction activities are based on the 3rd trimester and 0-2 year old age groups. The final step converts the cancer risk in scientific notation to a whole number that expresses the cancer risk in "chances per million" by multiplying the cancer risk by a factor of $1x10^6$ (i.e. 1 million).

The calculated results are provided in Appendix C.

1.5.2 Non-Carcinogenic Hazards

An evaluation was also conducted of the potential non-cancer effects of chronic chemical exposures. Adverse health effects are evaluated by comparing the annual receptor level (flagpole) concentration of each chemical compound with the appropriate reference exposure limit (REL). Available RELs promulgated by OEHHA were considered in the assessment.

The hazard index approach was used to quantify non-carcinogenic impacts. The hazard index assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). Target organs presented in regulatory guidance were used for each discrete chemical exposure. To calculate the hazard index, each chemical concentration or dose is divided by the appropriate toxicity value. This ratio is summed for compounds affecting the same toxicological endpoint. A health hazard is presumed to exist where the total equals or exceeds one.

The chronic hazard analysis for DPM is provided in Appendix C. The calculations contain the relevant exposure concentrations and corresponding reference dose values used in the evaluation of non-carcinogenic exposures.

1.5.3 Criteria Pollutants

The BAAQMD has recently incorporated $PM_{2.5}$ into the District's CEQA significance thresholds due to recent studies that show adverse health impacts from exposure to this pollutant. An incremental increase of greater than 0.3 $\mu g/m^3$ for the annual average $PM_{2.5}$ concentration is considered to be a significant impact.

1.6 CONSTRUCTION HRA RESULTS

The calculated results are provided in Appendix C and the results are summarized in Table 1.

TABLE 1. CONSTRUCTION RISK SUMMARY - UNMITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards	$PM_{2.5}$ ($\mu g/m^3$)
Maximum Exposed Receptor – Off-site Residences	36.2	0.090	0.18
BAAQMD Threshold	10	1.0	0.30
Exceeds Threshold?	**Yes**	**No**	**No**

Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

Cancer risk for the maximum exposed receptor (MER) from project-related construction emissions was calculated to be 36.2 in a million, which exceeds the 10 in a million significance threshold. In accordance with the latest 2015 OEHHA guidance, the calculated total cancer risk conservatively assumes that the risk for the MER consists of a pregnant woman in the third trimester that subsequently gives birth to an infant during the approximately 2-year construction period; therefore, all calculated risk values were multiplied by a factor of 10. In addition, it was conservatively assumed that the residents were outdoors 8 hours a day, 260-262 construction days per year and exposed to all of the daily construction emissions.

For non-carcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for all the off-site sensitive receptors. Therefore, chronic non-carcinogenic hazards are within acceptable limits. Additionally, the highest annual $PM_{2.5}$ concentration of 0.18 $\mu g/m^3$ would not exceed the BAAQMD significance threshold of 0.3 micrograms per cubic meter ($\mu g/m^3$).

Because cancer risk for the MER would exceed BAAQMD's significance thresholds due to construction activities associated with the proposed project, the following mitigation measure is proposed:

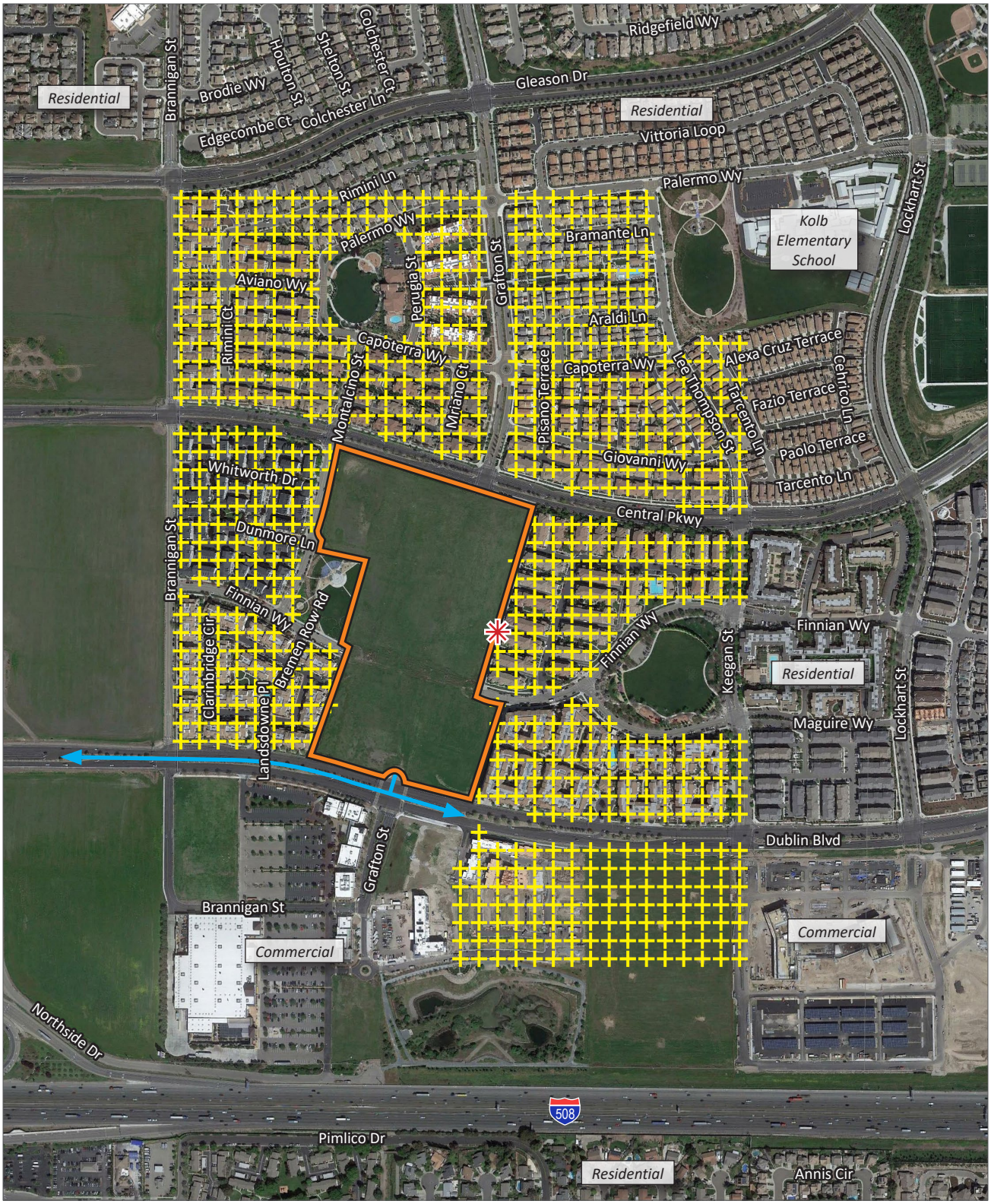
> **Mitigation Measure AQ-3:** Prior to issuance of any construction permit, the applicant/general contractor for the project shall demonstrate to the local jurisdiction that all off-road equipment greater than 50 hp that will be operating for more than 20 hours over the entire duration of the construction activities at the site, including equipment from subcontractors meets the following requirement:
>
> - Have engines that meet either US EPA or California Air Resources Board (CARB) Tier 4 Final emission standards. Ensure that all construction plans submitted to the School District clearly show the selected emission reduction strategy for construction equipment over 50 horsepower.
> - Maintain a list of all operating equipment in use on the project site for verification by the School District official or his/her designee. The construction equipment list shall state the makes, models, and number of construction equipment on-site. Ensure that all equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations.
> - Communicate with all sub-contractors in contracts and construction documents that all non-essential idling of construction equipment is restricted to 5 minutes or less in compliance with California Air Resources Board Rule 2449 and is responsible for ensuring that this requirement is met

Mitigation Measure AQ-3 would reduce the project's localized construction emissions, as shown in the following table. The results indicate that, with mitigation, cancer risk would be less than the BAAQMD's significance thresholds for residential-based receptors. Therefore, the project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions during construction and impacts would be *less than significant* with mitigation.

TABLE 2 CONSTRUCTION RISK SUMMARY – MITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards	$PM_{2.5}$ ($\mu g/m^3$)[a]
Maximum Exposed Receptor – Offsite Residences	3.4	0.008	0.02
BAAQMD Threshold	10	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**

Risks incorporate Mitigation Measure AQ-3, which includes using construction equipment which meets USEPA Tier 4 Final engine requirements for equipment over 50 horsepower.
Note: Cancer risk calculated using 2015 OEHHA HRA guidance.



Source: Google Earth Professional, 2020; PlaceWorks, 2020.

0 700
Scale (Feet)

Project Site
Truck Route
Maximum Exposed Receptor - Residential
Receptors - Residential

Figure 1
Site and Off-Site Receptor Locations

2. References

Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines.*

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California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.*

———. 2015. *Meteorological Files.* https://www.arb.ca.gov/toxics/harp/metfiles2.htm

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* Dated February 2015.

United States Environmental Protection Agency (USEPA). 2011. *Exposure Factors Handbook 2011 Edition (Final).* EPA/600/R-09/052F, 2011.

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Appendix A. Emission Rate Calculations

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Construction Emissions - DPM and PM2.5
Input to Risk Tables

Average Daily Emissions and Emission Rates: Unmitigated Scenario

Onsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
2020	1.65	2.06E-01	2.60E-02
2021	1.16	1.45E-01	1.83E-02
2022	0.91	1.14E-01	1.44E-02

Onsite Construction PM2.5 Exhaust Emissions[2]

Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
2020	1.52	1.90E-01	2.39E-02
2021	1.09	1.36E-01	1.71E-02
2022	0.86	1.07E-01	1.35E-02

Offsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2020	4.46E-02	7.72E-04	9.64E-05	1.22E-05
2021	6.31E-02	1.09E-03	1.37E-04	1.72E-05
2022	5.80E-02	1.00E-03	1.25E-04	1.58E-05

Offsite Construction PM2.5 Exhaust Emissions[2]

Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2020	4.24E-02	7.33E-04	9.16E-05	1.15E-05
2021	5.95E-02	1.03E-03	1.29E-04	1.62E-05
2022	5.48E-02	9.48E-04	1.18E-04	1.49E-05

Note: Emissions evenly distributed over 16 modeled volume sources.

Hauling Length (miles)	20	miles
Haul Length within 1,000 ft of Site (mile) [3]	0.35	miles
Hours per work day (7:00 AM to 4:00 PM, 1-hour of breaks) [4]	8	hours

Year	Workdays	Risk Scalar [5]
2020	144	0.55
2021	261	1.00
2022	130	0.50

[1] DPM emissions taken as PM_{10} exhaust emissions from CalEEMod average daily emissions.

[2] $PM_{2.5}$ emissions taken as $PM_{2.5}$ exhaust emissions from CalEEMod average daily emissions.

[3] Emissions from CalEEMod offsite average daily emissions, which is based on proportioned haul truck trip distances , are adjusted to evaluate emissions from the 0.35-mile route within 1,000 of the project site.

[4] Work hours applied in By Hour/Day (HRDOW) variable emissions module in air dispersion model (see App B - Air Dispersion Model Output).

[5] Risk scalars determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App C - Risk Calculations).

Construction Emissions - DPM and PM2.5
Input to Risk Tables
With Mitigation - Tier 4 Final Engines for Eq. > 50 hp

Average Daily Emissions and Emission Rates: Mitigated Scenario

Onsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
2020	0.09	1.08E-02	1.36E-03
2021	0.12	1.55E-02	1.95E-03
2022	0.11	1.35E-02	1.71E-03

Onsite Construction PM2.5 Exhaust Emissions[2]

Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
2020	0.09	1.08E-02	1.36E-03
2021	0.12	1.55E-02	1.95E-03
2022	0.11	1.35E-02	1.71E-03

Offsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2020	4.46E-02	7.72E-04	9.64E-05	1.22E-05
2021	6.31E-02	1.09E-03	1.37E-04	1.72E-05
2022	5.80E-02	1.00E-03	1.25E-04	1.58E-05

Offsite Construction PM2.5 Exhaust Emissions[2]

Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2020	4.24E-02	7.33E-04	9.16E-05	1.15E-05
2021	5.95E-02	1.03E-03	1.29E-04	1.62E-05
2022	5.48E-02	9.48E-04	1.18E-04	1.49E-05

Note: Emissions evenly distributed over 16 modeled volume sources.

Hauling Length (miles)	20	miles
Haul Length within 1,000 ft of Site (mile) [3]	0.35	miles
Hours per work day (7:00 AM to 4:00 PM, 1-hour of breaks) [4]	8	hours

Year	Workdays	Risk Scalar [5]
2020	144	0.55
2021	261	1.00
2022	130	0.50

[1] DPM emissions taken as PM_{10} exhaust emissions from CalEEMod average daily emissions.

[2] $PM_{2.5}$ emissions taken as $PM_{2.5}$ exhaust emissions from CalEEMod average daily emissions.

[3] Emissions from CalEEMod offsite average daily emissions, which is based on proportioned haul truck trip distances , are adjusted to evaluate emissions from the 0.35-mile route within 1,000 of the project site.

[4] Work hours applied in By Hour/Day (HRDOW) variable emissions module in air dispersion model (see App B - Air Dispersion Model Output).

[5] Risk scalars determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App C - Risk Calculations).

Appendix B. Air Dispersion Model Output

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Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                  ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                     ***        11:54:32
                                                                                                               PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses URBAN Dispersion Algorithm for the SBL for    17 Source(s),
  for Total of    1 Urban Area(s):
  Urban Population =   1663000.0 ;  Urban Roughness Length =  1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Accepts FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  OTHER

**Model Calculates PERIOD Averages Only

**This Run Includes:     17 Source(s);       2 Source Group(s); and    4506 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     16 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


**Model Set To Continue RUNning After the Setup Testing.
```

Model Output
Unit Emission Rates (1 g/s)

```
**The AERMET Input Meteorological Data Version Date:  14134

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   119.80 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                              ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      4.1 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   dublin.err
**File for Summary of Results:   dublin.sum
```

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.62500E-01	600112.9	4173690.9	107.2	4.15	16.45	1.93	YES	HRDOW
L0000002	0	0.62500E-01	600078.6	4173699.2	107.0	4.15	16.45	1.93	YES	HRDOW
L0000003	0	0.62500E-01	600044.4	4173708.3	107.0	4.15	16.45	1.93	YES	HRDOW
L0000004	0	0.62500E-01	600010.4	4173717.8	106.8	4.15	16.45	1.93	YES	HRDOW
L0000005	0	0.62500E-01	599976.3	4173727.4	106.9	4.15	16.45	1.93	YES	HRDOW
L0000006	0	0.62500E-01	599942.2	4173736.8	107.4	4.15	16.45	1.93	YES	HRDOW
L0000007	0	0.62500E-01	599907.9	4173745.1	107.4	4.15	16.45	1.93	YES	HRDOW
L0000008	0	0.62500E-01	599873.0	4173750.4	107.4	4.15	16.45	1.93	YES	HRDOW
L0000009	0	0.62500E-01	599837.8	4173754.4	107.5	4.15	16.45	1.93	YES	HRDOW
L0000010	0	0.62500E-01	599802.5	4173755.6	107.6	4.15	16.45	1.93	YES	HRDOW
L0000011	0	0.62500E-01	599767.2	4173756.3	107.4	4.15	16.45	1.93	YES	HRDOW
L0000012	0	0.62500E-01	599731.8	4173757.0	107.3	4.15	16.45	1.93	YES	HRDOW
L0000013	0	0.62500E-01	599696.5	4173757.3	107.4	4.15	16.45	1.93	YES	HRDOW
L0000014	0	0.62500E-01	599661.1	4173757.4	107.6	4.15	16.45	1.93	YES	HRDOW
L0000015	0	0.62500E-01	599625.7	4173757.6	107.8	4.15	16.45	1.93	YES	HRDOW
L0000016	0	0.62500E-01	599590.4	4173757.7	108.0	4.15	16.45	1.93	YES	HRDOW

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
1	0	0.10874E-04	599949.7	4174178.1	110.0	4.15	16	1.93	YES	HRDOW

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ONSITE	1 ,
OFFSITE	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
	L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	1663000.	1 , L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 ,
		L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 ,
		L0000016 ,

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = ALL SOURCES ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.0000E+00	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	600010.6,	4173500.1,	107.2,	107.2,	1.5);	(	600030.6,	4173500.1,	106.4,	106.4,	1.5);
(	600050.6,	4173500.1,	105.3,	105.3,	1.5);	(	600070.6,	4173500.1,	104.7,	104.7,	1.5);
(	600090.6,	4173500.1,	104.7,	104.7,	1.5);	(	600110.6,	4173500.1,	104.7,	104.7,	1.5);
(	600130.6,	4173500.1,	104.7,	104.7,	1.5);	(	600150.6,	4173500.1,	104.7,	104.7,	1.5);
(	600170.6,	4173500.1,	104.7,	104.7,	1.5);	(	600190.6,	4173500.1,	104.8,	104.8,	1.5);
(	600210.6,	4173500.1,	104.8,	104.8,	1.5);	(	600230.6,	4173500.1,	104.8,	104.8,	1.5);
(	600250.6,	4173500.1,	104.9,	104.9,	1.5);	(	600270.6,	4173500.1,	106.0,	106.0,	1.5);
(	600290.6,	4173500.1,	107.4,	107.4,	1.5);	(	600310.6,	4173500.1,	107.6,	107.6,	1.5);
(	600330.6,	4173500.1,	107.5,	107.5,	1.5);	(	600350.6,	4173500.1,	107.5,	107.5,	1.5);
(	600370.6,	4173500.1,	107.5,	107.5,	1.5);	(	600390.6,	4173500.1,	107.5,	107.5,	1.5);
(	600410.6,	4173500.1,	107.5,	107.5,	1.5);	(	600430.6,	4173500.1,	107.5,	107.5,	1.5);
(	600450.6,	4173500.1,	107.4,	107.4,	1.5);	(	600470.6,	4173500.1,	107.5,	107.5,	1.5);
(	600490.6,	4173500.1,	107.5,	107.5,	1.5);	(	600010.6,	4173520.1,	107.3,	107.3,	1.5);
(	600030.6,	4173520.1,	106.4,	106.4,	1.5);	(	600050.6,	4173520.1,	105.3,	105.3,	1.5);
(	600070.6,	4173520.1,	104.6,	104.6,	1.5);	(	600090.6,	4173520.1,	104.6,	104.6,	1.5);
(	600110.6,	4173520.1,	104.6,	104.6,	1.5);	(	600130.6,	4173520.1,	104.7,	104.7,	1.5);
(	600150.6,	4173520.1,	104.7,	104.7,	1.5);	(	600170.6,	4173520.1,	104.7,	104.7,	1.5);
(	600190.6,	4173520.1,	104.8,	104.8,	1.5);	(	600210.6,	4173520.1,	104.8,	104.8,	1.5);
(	600230.6,	4173520.1,	104.8,	104.8,	1.5);	(	600250.6,	4173520.1,	104.8,	104.8,	1.5);
(	600270.6,	4173520.1,	106.0,	107.4,	1.5);	(	600290.6,	4173520.1,	107.5,	107.5,	1.5);
(	600310.6,	4173520.1,	107.6,	107.6,	1.5);	(	600330.6,	4173520.1,	107.6,	107.6,	1.5);
(	600350.6,	4173520.1,	107.6,	107.6,	1.5);	(	600370.6,	4173520.1,	107.6,	107.6,	1.5);
(	600390.6,	4173520.1,	107.6,	107.6,	1.5);	(	600410.6,	4173520.1,	107.6,	107.6,	1.5);
(	600430.6,	4173520.1,	107.6,	107.6,	1.5);	(	600450.6,	4173520.1,	107.6,	107.6,	1.5);
(	600470.6,	4173520.1,	107.6,	107.6,	1.5);	(	600490.6,	4173520.1,	107.5,	107.5,	1.5);
(	600010.6,	4173540.1,	107.3,	107.3,	1.5);	(	600030.6,	4173540.1,	106.4,	106.4,	1.5);
(	600050.6,	4173540.1,	105.3,	105.3,	1.5);	(	600070.6,	4173540.1,	104.6,	104.6,	1.5);
(	600090.6,	4173540.1,	104.6,	104.6,	1.5);	(	600110.6,	4173540.1,	104.6,	104.6,	1.5);
(	600130.6,	4173540.1,	104.7,	104.7,	1.5);	(	600150.6,	4173540.1,	104.7,	104.7,	1.5);
(	600170.6,	4173540.1,	104.7,	104.7,	1.5);	(	600190.6,	4173540.1,	104.8,	104.8,	1.5);
(	600210.6,	4173540.1,	104.8,	104.8,	1.5);	(	600230.6,	4173540.1,	104.9,	104.9,	1.5);
(	600250.6,	4173540.1,	104.9,	104.9,	1.5);	(	600270.6,	4173540.1,	106.1,	106.1,	1.5);
(	600290.6,	4173540.1,	107.5,	107.5,	1.5);	(	600310.6,	4173540.1,	107.7,	107.7,	1.5);
(	600330.6,	4173540.1,	107.7,	107.7,	1.5);	(	600350.6,	4173540.1,	107.7,	107.7,	1.5);
(	600370.6,	4173540.1,	107.6,	107.6,	1.5);	(	600390.6,	4173540.1,	107.6,	107.6,	1.5);
(	600410.6,	4173540.1,	107.6,	107.6,	1.5);	(	600430.6,	4173540.1,	107.6,	107.6,	1.5);
(	600450.6,	4173540.1,	107.6,	107.6,	1.5);	(	600470.6,	4173540.1,	107.6,	107.6,	1.5);
(	600490.6,	4173540.1,	107.6,	107.6,	1.5);	(	600010.6,	4173560.1,	107.3,	107.3,	1.5);
(	600030.6,	4173560.1,	106.4,	106.4,	1.5);	(	600050.6,	4173560.1,	105.5,	105.5,	1.5);
(	600070.6,	4173560.1,	105.0,	105.0,	1.5);	(	600090.6,	4173560.1,	105.1,	105.1,	1.5);
(	600110.6,	4173560.1,	105.0,	105.0,	1.5);	(	600130.6,	4173560.1,	105.2,	105.2,	1.5);
(	600150.6,	4173560.1,	105.1,	105.1,	1.5);	(	600170.6,	4173560.1,	105.1,	105.1,	1.5);

(600190.6, 4173560.1, 105.2, 105.2, 1.5); (600210.6, 4173560.1, 105.3, 105.3, 1.5);
(600230.6, 4173560.1, 105.4, 105.4, 1.5); (600250.6, 4173560.1, 105.5, 105.5, 1.5);
(600270.6, 4173560.1, 106.5, 106.5, 1.5); (600290.6, 4173560.1, 107.6, 107.6, 1.5);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(600310.6,	4173560.1,	107.7,	107.7,	1.5);	(600330.6,	4173560.1,	107.8,	107.8, 1.5);
(600350.6,	4173560.1,	107.8,	107.8,	1.5);	(600370.6,	4173560.1,	107.7,	107.7, 1.5);
(600390.6,	4173560.1,	107.7,	107.7,	1.5);	(600410.6,	4173560.1,	107.7,	107.7, 1.5);
(600430.6,	4173560.1,	107.7,	107.7,	1.5);	(600450.6,	4173560.1,	107.7,	107.7, 1.5);
(600470.6,	4173560.1,	107.7,	107.7,	1.5);	(600490.6,	4173560.1,	107.7,	107.7, 1.5);
(600030.6,	4173580.1,	106.5,	106.5,	1.5);	(600050.6,	4173580.1,	106.0,	106.0, 1.5);
(600070.6,	4173580.1,	106.0,	106.0,	1.5);	(600090.6,	4173580.1,	106.4,	106.4, 1.5);
(600110.6,	4173580.1,	106.4,	106.4,	1.5);	(600130.6,	4173580.1,	106.3,	106.3, 1.5);
(600150.6,	4173580.1,	106.4,	106.4,	1.5);	(600170.6,	4173580.1,	106.5,	106.5, 1.5);
(600190.6,	4173580.1,	106.6,	106.6,	1.5);	(600210.6,	4173580.1,	106.8,	106.8, 1.5);
(600230.6,	4173580.1,	106.8,	106.8,	1.5);	(600250.6,	4173580.1,	107.0,	107.0, 1.5);
(600270.6,	4173580.1,	107.3,	107.3,	1.5);	(600290.6,	4173580.1,	107.7,	107.7, 1.5);
(600310.6,	4173580.1,	107.8,	107.8,	1.5);	(600330.6,	4173580.1,	108.0,	108.0, 1.5);
(600350.6,	4173580.1,	108.0,	108.0,	1.5);	(600370.6,	4173580.1,	107.9,	107.9, 1.5);
(600390.6,	4173580.1,	107.9,	107.9,	1.5);	(600410.6,	4173580.1,	107.9,	107.9, 1.5);
(600430.6,	4173580.1,	107.8,	107.8,	1.5);	(600450.6,	4173580.1,	107.8,	107.8, 1.5);
(600470.6,	4173580.1,	107.8,	107.8,	1.5);	(600490.6,	4173580.1,	107.8,	107.8, 1.5);
(600030.6,	4173600.1,	106.4,	106.4,	1.5);	(600050.6,	4173600.1,	106.1,	106.1, 1.5);
(600070.6,	4173600.1,	106.3,	106.3,	1.5);	(600090.6,	4173600.1,	106.7,	106.7, 1.5);
(600110.6,	4173600.1,	106.8,	106.8,	1.5);	(600130.6,	4173600.1,	106.7,	106.7, 1.5);
(600150.6,	4173600.1,	106.8,	106.8,	1.5);	(600170.6,	4173600.1,	106.9,	106.9, 1.5);
(600190.6,	4173600.1,	106.9,	106.9,	1.5);	(600210.6,	4173600.1,	107.1,	107.1, 1.5);
(600230.6,	4173600.1,	107.3,	107.3,	1.5);	(600250.6,	4173600.1,	107.5,	107.5, 1.5);
(600270.6,	4173600.1,	107.6,	107.6,	1.5);	(600290.6,	4173600.1,	107.8,	107.8, 1.5);
(600310.6,	4173600.1,	107.8,	107.8,	1.5);	(600330.6,	4173600.1,	107.9,	107.9, 1.5);
(600350.6,	4173600.1,	108.0,	108.0,	1.5);	(600370.6,	4173600.1,	108.0,	108.0, 1.5);
(600390.6,	4173600.1,	108.0,	108.0,	1.5);	(600410.6,	4173600.1,	107.9,	107.9, 1.5);
(600430.6,	4173600.1,	107.8,	107.8,	1.5);	(600450.6,	4173600.1,	107.8,	107.8, 1.5);
(600470.6,	4173600.1,	107.8,	107.8,	1.5);	(600490.6,	4173600.1,	107.8,	107.8, 1.5);
(600030.6,	4173620.1,	106.3,	106.3,	1.5);	(600050.6,	4173620.1,	106.2,	106.2, 1.5);
(600070.6,	4173620.1,	106.5,	106.5,	1.5);	(600090.6,	4173620.1,	106.7,	106.7, 1.5);
(600110.6,	4173620.1,	106.9,	106.9,	1.5);	(600130.6,	4173620.1,	106.9,	106.9, 1.5);
(600150.6,	4173620.1,	107.0,	107.0,	1.5);	(600170.6,	4173620.1,	107.0,	107.0, 1.5);
(600190.6,	4173620.1,	107.0,	107.0,	1.5);	(600210.6,	4173620.1,	107.1,	107.1, 1.5);
(600230.6,	4173620.1,	107.4,	107.4,	1.5);	(600250.6,	4173620.1,	107.6,	107.6, 1.5);
(600270.6,	4173620.1,	107.7,	107.7,	1.5);	(600290.6,	4173620.1,	107.8,	107.8, 1.5);
(600310.6,	4173620.1,	107.7,	107.7,	1.5);	(600330.6,	4173620.1,	107.8,	107.8, 1.5);
(600350.6,	4173620.1,	107.9,	107.9,	1.5);	(600370.6,	4173620.1,	107.9,	107.9, 1.5);
(600390.6,	4173620.1,	107.9,	107.9,	1.5);	(600410.6,	4173620.1,	107.8,	107.8, 1.5);

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600430.6, 4173620.1,     107.8,     107.8,       1.5);         ( 600450.6, 4173620.1,     107.7,     107.7,       1.5);
    ( 600470.6, 4173620.1,     107.7,     107.7,       1.5);         ( 600490.6, 4173620.1,     107.7,     107.7,       1.5);
    ( 600030.6, 4173640.1,     106.3,     106.3,       1.5);         ( 600050.6, 4173640.1,     106.2,     106.2,       1.5);
    ( 600070.6, 4173640.1,     106.5,     106.5,       1.5);         ( 600090.6, 4173640.1,     106.7,     106.7,       1.5);
    ( 600110.6, 4173640.1,     107.0,     107.0,       1.5);         ( 600130.6, 4173640.1,     107.1,     107.1,       1.5);
    ( 600150.6, 4173640.1,     107.2,     107.2,       1.5);         ( 600170.6, 4173640.1,     107.3,     107.3,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  25
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600190.6, 4173640.1,     107.3,     107.3,       1.5);         ( 600210.6, 4173640.1,     107.4,     107.4,       1.5);
    ( 600230.6, 4173640.1,     107.5,     107.5,       1.5);         ( 600250.6, 4173640.1,     107.6,     107.6,       1.5);
    ( 600270.6, 4173640.1,     107.7,     107.7,       1.5);         ( 600290.6, 4173640.1,     107.8,     107.8,       1.5);
    ( 600310.6, 4173640.1,     107.7,     107.7,       1.5);         ( 600330.6, 4173640.1,     107.7,     107.7,       1.5);
    ( 600350.6, 4173640.1,     107.7,     107.7,       1.5);         ( 600370.6, 4173640.1,     107.7,     107.7,       1.5);
    ( 600390.6, 4173640.1,     107.6,     107.6,       1.5);         ( 600410.6, 4173640.1,     107.5,     107.5,       1.5);
    ( 600430.6, 4173640.1,     107.4,     107.4,       1.5);         ( 600450.6, 4173640.1,     107.3,     107.3,       1.5);
    ( 600470.6, 4173640.1,     107.2,     107.2,       1.5);         ( 600490.6, 4173640.1,     107.2,     107.2,       1.5);
    ( 600030.6, 4173660.1,     106.6,     106.6,       1.5);         ( 600050.6, 4173660.1,     106.5,     106.5,       1.5);
    ( 600070.6, 4173660.1,     106.6,     106.6,       1.5);         ( 600090.6, 4173660.1,     106.8,     106.8,       1.5);
    ( 600110.6, 4173660.1,     107.1,     107.1,       1.5);         ( 600130.6, 4173660.1,     107.3,     107.3,       1.5);
    ( 600150.6, 4173660.1,     107.5,     107.5,       1.5);         ( 600170.6, 4173660.1,     107.6,     107.6,       1.5);
    ( 600190.6, 4173660.1,     107.6,     107.6,       1.5);         ( 600210.6, 4173660.1,     107.7,     107.7,       1.5);
    ( 600230.6, 4173660.1,     107.7,     107.7,       1.5);         ( 600250.6, 4173660.1,     107.8,     107.8,       1.5);
    ( 600270.6, 4173660.1,     107.8,     107.8,       1.5);         ( 600290.6, 4173660.1,     107.8,     107.8,       1.5);
    ( 600310.6, 4173660.1,     107.7,     107.7,       1.5);         ( 600330.6, 4173660.1,     107.7,     107.7,       1.5);
    ( 600350.6, 4173660.1,     107.7,     107.7,       1.5);         ( 600370.6, 4173660.1,     107.6,     107.6,       1.5);
    ( 600390.6, 4173660.1,     107.5,     107.5,       1.5);         ( 600410.6, 4173660.1,     107.4,     107.4,       1.5);
    ( 600430.6, 4173660.1,     107.4,     107.4,       1.5);         ( 600450.6, 4173660.1,     107.6,     107.6,       1.5);
    ( 600470.6, 4173660.1,     107.3,     107.3,       1.5);         ( 600490.6, 4173660.1,     107.1,     107.1,       1.5);
    ( 600030.6, 4173680.1,     107.0,     107.0,       1.5);         ( 600050.6, 4173680.1,     106.8,     106.8,       1.5);
    ( 600070.6, 4173680.1,     106.8,     106.8,       1.5);         ( 600150.6, 4173680.1,     107.7,     107.7,       1.5);
    ( 600170.6, 4173680.1,     107.9,     107.9,       1.5);         ( 600190.6, 4173680.1,     108.0,     108.0,       1.5);
    ( 600210.6, 4173680.1,     108.1,     108.1,       1.5);         ( 600230.6, 4173680.1,     108.1,     108.1,       1.5);
    ( 600250.6, 4173680.1,     108.1,     108.1,       1.5);         ( 600270.6, 4173680.1,     108.0,     108.0,       1.5);
    ( 600290.6, 4173680.1,     107.9,     107.9,       1.5);         ( 600310.6, 4173680.1,     107.7,     107.7,       1.5);
    ( 600330.6, 4173680.1,     107.7,     107.7,       1.5);         ( 600350.6, 4173680.1,     107.8,     107.8,       1.5);
    ( 600370.6, 4173680.1,     107.8,     107.8,       1.5);         ( 600390.6, 4173680.1,     107.7,     107.7,       1.5);
    ( 600410.6, 4173680.1,     107.5,     107.5,       1.5);         ( 600430.6, 4173680.1,     107.7,     107.7,       1.5);
    ( 600450.6, 4173680.1,     108.6,     108.6,       1.5);         ( 600470.6, 4173680.1,     107.9,     107.9,       1.5);
    ( 600490.6, 4173680.1,     107.3,     107.3,       1.5);         ( 600150.6, 4173700.1,     107.6,     107.6,       1.5);
    ( 600170.6, 4173700.1,     108.0,     108.0,       1.5);         ( 600190.6, 4173700.1,     108.4,     108.4,       1.5);
    ( 600210.6, 4173700.1,     108.8,     108.8,       1.5);         ( 600230.6, 4173700.1,     109.4,     109.4,       1.5);
    ( 600250.6, 4173700.1,     109.2,     109.2,       1.5);         ( 600270.6, 4173700.1,     109.2,     109.2,       1.5);
    ( 600290.6, 4173700.1,     108.8,     108.8,       1.5);         ( 600310.6, 4173700.1,     107.8,     107.8,       1.5);
    ( 600330.6, 4173700.1,     107.7,     107.7,       1.5);         ( 600350.6, 4173700.1,     108.5,     108.5,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600370.6, 4173700.1,     109.0,     109.0,       1.5);         ( 600390.6, 4173700.1,     109.2,     109.2,       1.5);
    ( 600410.6, 4173700.1,     109.2,     109.2,       1.5);         ( 600430.6, 4173700.1,     109.1,     109.1,       1.5);
    ( 600450.6, 4173700.1,     109.4,     109.4,       1.5);         ( 600470.6, 4173700.1,     108.6,     108.6,       1.5);
    ( 600490.6, 4173700.1,     107.7,     107.7,       1.5);         ( 600150.6, 4173720.1,     107.7,     107.7,       1.5);
    ( 600170.6, 4173720.1,     108.2,     108.2,       1.5);         ( 600190.6, 4173720.1,     109.0,     109.0,       1.5);
    ( 600210.6, 4173720.1,     109.3,     109.3,       1.5);         ( 600230.6, 4173720.1,     109.9,     109.9,       1.5);
    ( 600250.6, 4173720.1,     109.8,     109.8,       1.5);         ( 600270.6, 4173720.1,     109.8,     109.8,       1.5);
    ( 600290.6, 4173720.1,     109.4,     109.4,       1.5);         ( 600310.6, 4173720.1,     108.5,     108.5,       1.5);
    ( 600330.6, 4173720.1,     107.8,     107.8,       1.5);         ( 600350.6, 4173720.1,     109.1,     109.1,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  26

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600370.6, 4173720.1,     109.7,     109.7,       1.5);         ( 600390.6, 4173720.1,     110.0,     110.0,       1.5);
    ( 600410.6, 4173720.1,     110.1,     110.1,       1.5);         ( 600430.6, 4173720.1,     109.9,     109.9,       1.5);
    ( 600450.6, 4173720.1,     110.0,     110.0,       1.5);         ( 600470.6, 4173720.1,     109.3,     109.3,       1.5);
    ( 600490.6, 4173720.1,     108.1,     108.1,       1.5);         ( 600170.6, 4173740.1,     108.7,     108.7,       1.5);
    ( 600190.6, 4173740.1,     109.6,     109.6,       1.5);         ( 600210.6, 4173740.1,     109.9,     109.9,       1.5);
    ( 600230.6, 4173740.1,     110.0,     110.0,       1.5);         ( 600250.6, 4173740.1,     110.0,     110.0,       1.5);
    ( 600270.6, 4173740.1,     110.0,     110.0,       1.5);         ( 600290.6, 4173740.1,     109.9,     109.9,       1.5);
    ( 600310.6, 4173740.1,     109.5,     109.5,       1.5);         ( 600330.6, 4173740.1,     108.0,     108.0,       1.5);
    ( 600350.6, 4173740.1,     109.6,     109.6,       1.5);         ( 600370.6, 4173740.1,     110.0,     110.0,       1.5);
    ( 600390.6, 4173740.1,     110.0,     110.0,       1.5);         ( 600410.6, 4173740.1,     110.0,     110.0,       1.5);
    ( 600430.6, 4173740.1,     110.0,     110.0,       1.5);         ( 600450.6, 4173740.1,     110.1,     110.1,       1.5);
    ( 600470.6, 4173740.1,     110.0,     110.0,       1.5);         ( 600490.6, 4173740.1,     108.5,     110.0,       1.5);
    ( 599870.6, 4173760.1,     107.4,     107.4,       1.5);         ( 599890.6, 4173760.1,     107.4,     107.4,       1.5);
    ( 599910.6, 4173760.1,     107.4,     107.4,       1.5);         ( 600170.6, 4173760.1,     108.4,     108.4,       1.5);
    ( 600190.6, 4173760.1,     109.6,     109.6,       1.5);         ( 600210.6, 4173760.1,     109.9,     109.9,       1.5);
    ( 600230.6, 4173760.1,     109.9,     109.9,       1.5);         ( 600250.6, 4173760.1,     110.0,     110.0,       1.5);
    ( 600270.6, 4173760.1,     110.0,     110.0,       1.5);         ( 600290.6, 4173760.1,     109.8,     109.8,       1.5);
    ( 600310.6, 4173760.1,     109.2,     109.2,       1.5);         ( 600330.6, 4173760.1,     108.0,     108.0,       1.5);
    ( 600350.6, 4173760.1,     109.4,     109.4,       1.5);         ( 600370.6, 4173760.1,     109.6,     109.6,       1.5);
    ( 600390.6, 4173760.1,     109.7,     109.7,       1.5);         ( 600410.6, 4173760.1,     109.8,     109.8,       1.5);
    ( 600430.6, 4173760.1,     109.8,     109.8,       1.5);         ( 600450.6, 4173760.1,     109.8,     109.8,       1.5);
    ( 600470.6, 4173760.1,     109.5,     109.5,       1.5);         ( 600490.6, 4173760.1,     108.3,     108.3,       1.5);
    ( 599730.6, 4173780.1,     107.2,     107.2,       1.5);         ( 599750.6, 4173780.1,     107.5,     107.5,       1.5);
    ( 599770.6, 4173780.1,     107.6,     107.6,       1.5);         ( 599790.6, 4173780.1,     107.7,     107.7,       1.5);
    ( 599810.6, 4173780.1,     107.7,     107.7,       1.5);         ( 599830.6, 4173780.1,     107.6,     107.6,       1.5);
    ( 599850.6, 4173780.1,     107.5,     107.5,       1.5);         ( 599870.6, 4173780.1,     107.5,     107.5,       1.5);
    ( 599890.6, 4173780.1,     107.7,     107.7,       1.5);         ( 599910.6, 4173780.1,     107.7,     107.7,       1.5);
    ( 600170.6, 4173780.1,     108.1,     108.1,       1.5);         ( 600190.6, 4173780.1,     109.3,     109.3,       1.5);
    ( 600210.6, 4173780.1,     109.9,     109.9,       1.5);         ( 600230.6, 4173780.1,     109.9,     109.9,       1.5);
    ( 600250.6, 4173780.1,     110.0,     110.0,       1.5);         ( 600270.6, 4173780.1,     110.0,     110.0,       1.5);
    ( 600290.6, 4173780.1,     109.7,     109.7,       1.5);         ( 600310.6, 4173780.1,     109.1,     109.1,       1.5);
    ( 600330.6, 4173780.1,     108.1,     108.1,       1.5);         ( 600350.6, 4173780.1,     109.1,     109.1,       1.5);
    ( 600370.6, 4173780.1,     109.2,     109.2,       1.5);         ( 600390.6, 4173780.1,     109.2,     109.2,       1.5);
```

```
    ( 600410.6, 4173780.1,     109.3,     109.3,       1.5);         ( 600430.6, 4173780.1,     109.2,     109.2,       1.5);
    ( 600450.6, 4173780.1,     109.1,     109.1,       1.5);         ( 600470.6, 4173780.1,     108.8,     108.8,       1.5);
    ( 600490.6, 4173780.1,     108.0,     108.0,       1.5);         ( 599730.6, 4173800.1,     107.1,     107.1,       1.5);
    ( 599750.6, 4173800.1,     107.6,     107.6,       1.5);         ( 599770.6, 4173800.1,     107.8,     107.8,       1.5);
    ( 599790.6, 4173800.1,     107.8,     107.8,       1.5);         ( 599810.6, 4173800.1,     107.8,     107.8,       1.5);
    ( 599830.6, 4173800.1,     107.5,     107.5,       1.5);         ( 599850.6, 4173800.1,     107.4,     107.4,       1.5);
    ( 599870.6, 4173800.1,     107.6,     107.6,       1.5);         ( 599890.6, 4173800.1,     108.1,     108.1,       1.5);
    ( 599910.6, 4173800.1,     108.1,     108.1,       1.5);         ( 599923.0, 4173805.1,     108.1,     108.1,       1.5);
    ( 600170.6, 4173800.1,     107.8,     107.8,       1.5);         ( 600190.6, 4173800.1,     108.8,     108.8,       1.5);
    ( 600210.6, 4173800.1,     110.0,     110.0,       1.5);         ( 600230.6, 4173800.1,     110.1,     110.1,       1.5);
    ( 600250.6, 4173800.1,     109.9,     109.9,       1.5);         ( 600270.6, 4173800.1,     110.0,     110.0,       1.5);
    ( 600290.6, 4173800.1,     109.8,     109.8,       1.5);         ( 600310.6, 4173800.1,     109.3,     109.3,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  27

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 600330.6, 4173800.1,     108.4,     108.4,       1.5);         ( 600350.6, 4173800.1,     108.6,     108.6,       1.5);
    ( 600370.6, 4173800.1,     108.6,     108.6,       1.5);         ( 600390.6, 4173800.1,     108.4,     108.4,       1.5);
    ( 600410.6, 4173800.1,     108.2,     108.2,       1.5);         ( 600430.6, 4173800.1,     108.1,     108.1,       1.5);
    ( 600450.6, 4173800.1,     107.9,     107.9,       1.5);         ( 600470.6, 4173800.1,     107.8,     107.8,       1.5);
    ( 600490.6, 4173800.1,     107.7,     107.7,       1.5);         ( 599730.6, 4173820.1,     107.3,     107.3,       1.5);
    ( 599750.6, 4173820.1,     107.8,     107.8,       1.5);         ( 599770.6, 4173820.1,     108.1,     108.1,       1.5);
    ( 599790.6, 4173820.1,     107.9,     107.9,       1.5);         ( 599810.6, 4173820.1,     108.0,     108.0,       1.5);
    ( 599830.6, 4173820.1,     107.7,     107.7,       1.5);         ( 599850.6, 4173820.1,     107.5,     107.5,       1.5);
    ( 599870.6, 4173820.1,     107.5,     107.5,       1.5);         ( 599890.6, 4173820.1,     108.0,     108.0,       1.5);
    ( 599910.6, 4173820.1,     108.2,     108.2,       1.5);         ( 599930.6, 4173820.1,     108.2,     108.2,       1.5);
    ( 600190.6, 4173820.1,     108.4,     108.4,       1.5);         ( 600210.6, 4173820.1,     108.8,     108.8,       1.5);
    ( 600230.6, 4173820.1,     108.8,     108.8,       1.5);         ( 600250.6, 4173820.1,     108.8,     108.8,       1.5);
    ( 600270.6, 4173820.1,     108.9,     108.9,       1.5);         ( 600290.6, 4173820.1,     108.9,     108.9,       1.5);
    ( 600310.6, 4173820.1,     108.8,     108.8,       1.5);         ( 600330.6, 4173820.1,     108.6,     108.6,       1.5);
    ( 600350.6, 4173820.1,     108.8,     108.8,       1.5);         ( 600370.6, 4173820.1,     108.7,     108.7,       1.5);
    ( 600390.6, 4173820.1,     108.6,     108.6,       1.5);         ( 600410.6, 4173820.1,     108.4,     108.4,       1.5);
    ( 600430.6, 4173820.1,     108.1,     108.1,       1.5);         ( 600450.6, 4173820.1,     108.0,     108.0,       1.5);
    ( 600470.6, 4173820.1,     107.9,     107.9,       1.5);         ( 600490.6, 4173820.1,     107.9,     107.9,       1.5);
    ( 599730.6, 4173840.1,     107.5,     107.5,       1.5);         ( 599750.6, 4173840.1,     108.0,     108.0,       1.5);
    ( 599770.6, 4173840.1,     108.2,     108.2,       1.5);         ( 599790.6, 4173840.1,     108.0,     108.0,       1.5);
    ( 599810.6, 4173840.1,     108.0,     108.0,       1.5);         ( 599830.6, 4173840.1,     107.9,     107.9,       1.5);
    ( 599850.6, 4173840.1,     107.7,     107.7,       1.5);         ( 599870.6, 4173840.1,     107.7,     107.7,       1.5);
    ( 599890.6, 4173840.1,     108.1,     108.1,       1.5);         ( 599910.6, 4173840.1,     108.2,     108.2,       1.5);
    ( 599930.6, 4173840.1,     108.2,     108.2,       1.5);         ( 600190.6, 4173840.1,     108.2,     108.2,       1.5);
    ( 600210.6, 4173840.1,     108.0,     108.0,       1.5);         ( 600230.6, 4173840.1,     108.0,     108.0,       1.5);
    ( 600250.6, 4173840.1,     108.1,     108.1,       1.5);         ( 600270.6, 4173840.1,     108.2,     108.2,       1.5);
    ( 600290.6, 4173840.1,     108.3,     108.3,       1.5);         ( 600310.6, 4173840.1,     108.5,     108.5,       1.5);
    ( 600330.6, 4173840.1,     108.8,     108.8,       1.5);         ( 600350.6, 4173840.1,     109.0,     109.0,       1.5);
    ( 600370.6, 4173840.1,     109.0,     109.0,       1.5);         ( 600390.6, 4173840.1,     109.0,     109.0,       1.5);
    ( 600410.6, 4173840.1,     108.9,     108.9,       1.5);         ( 600430.6, 4173840.1,     108.5,     108.5,       1.5);
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    ( 600450.6, 4173840.1,     108.5,     108.5,       1.5);         ( 600470.6, 4173840.1,     108.3,     108.3,       1.5);
    ( 600490.6, 4173840.1,     108.2,     108.2,       1.5);         ( 599730.6, 4173860.1,     107.8,     107.8,       1.5);
    ( 599750.6, 4173860.1,     108.2,     108.2,       1.5);         ( 599770.6, 4173860.1,     108.3,     108.3,       1.5);
    ( 599790.6, 4173860.1,     108.1,     108.1,       1.5);         ( 599810.6, 4173860.1,     108.1,     108.1,       1.5);
    ( 599830.6, 4173860.1,     108.0,     108.0,       1.5);         ( 599850.6, 4173860.1,     107.9,     107.9,       1.5);
    ( 599870.6, 4173860.1,     107.9,     107.9,       1.5);         ( 599890.6, 4173860.1,     108.2,     108.2,       1.5);
    ( 599910.6, 4173860.1,     108.1,     108.1,       1.5);         ( 599930.6, 4173860.1,     108.2,     108.2,       1.5);
    ( 600159.2, 4173869.6,     108.1,     108.1,       1.5);         ( 600170.6, 4173860.1,     108.1,     108.1,       1.5);
    ( 600190.6, 4173860.1,     108.2,     108.2,       1.5);         ( 600210.6, 4173860.1,     108.2,     108.2,       1.5);
    ( 600230.6, 4173860.1,     108.2,     108.2,       1.5);         ( 600250.6, 4173860.1,     108.5,     108.5,       1.5);
    ( 600270.6, 4173860.1,     108.4,     108.4,       1.5);         ( 600290.6, 4173860.1,     108.4,     108.4,       1.5);
    ( 600310.6, 4173860.1,     108.6,     108.6,       1.5);         ( 600330.6, 4173860.1,     109.2,     109.2,       1.5);
    ( 600350.6, 4173860.1,     109.1,     109.1,       1.5);         ( 600370.6, 4173860.1,     109.3,     109.3,       1.5);
    ( 600390.6, 4173860.1,     109.4,     109.4,       1.5);         ( 600410.6, 4173860.1,     109.4,     109.4,       1.5);
    ( 600430.6, 4173860.1,     109.2,     109.2,       1.5);         ( 600450.6, 4173860.1,     109.2,     109.2,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  28

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600470.6, 4173860.1,     108.9,     108.9,       1.5);         ( 600490.6, 4173860.1,     108.8,     108.8,       1.5);
    ( 599730.6, 4173880.1,     108.0,     108.0,       1.5);         ( 599750.6, 4173880.1,     108.4,     108.4,       1.5);
    ( 599770.6, 4173880.1,     108.5,     108.5,       1.5);         ( 599790.6, 4173880.1,     108.3,     108.3,       1.5);
    ( 599810.6, 4173880.1,     108.1,     108.1,       1.5);         ( 599830.6, 4173880.1,     108.2,     108.2,       1.5);
    ( 599850.6, 4173880.1,     108.2,     108.2,       1.5);         ( 599870.6, 4173880.1,     108.3,     108.3,       1.5);
    ( 599890.6, 4173880.1,     108.3,     108.3,       1.5);         ( 599910.6, 4173880.1,     108.2,     108.2,       1.5);
    ( 599930.6, 4173880.1,     108.4,     108.4,       1.5);         ( 599950.6, 4173880.1,     108.2,     108.2,       1.5);
    ( 600170.6, 4173880.1,     108.2,     108.2,       1.5);         ( 600190.6, 4173880.1,     108.3,     108.3,       1.5);
    ( 600210.6, 4173880.1,     108.3,     108.3,       1.5);         ( 600230.6, 4173880.1,     108.3,     108.3,       1.5);
    ( 600250.6, 4173880.1,     108.5,     108.5,       1.5);         ( 600270.6, 4173880.1,     108.6,     108.6,       1.5);
    ( 600290.6, 4173880.1,     108.6,     108.6,       1.5);         ( 600310.6, 4173880.1,     108.7,     108.7,       1.5);
    ( 600330.6, 4173880.1,     109.0,     109.0,       1.5);         ( 600350.6, 4173880.1,     109.1,     109.1,       1.5);
    ( 600370.6, 4173880.1,     109.4,     109.4,       1.5);         ( 600390.6, 4173880.1,     109.8,     109.8,       1.5);
    ( 600410.6, 4173880.1,     109.9,     109.9,       1.5);         ( 600430.6, 4173880.1,     109.8,     109.8,       1.5);
    ( 600450.6, 4173880.1,     109.8,     109.8,       1.5);         ( 600470.6, 4173880.1,     109.5,     109.5,       1.5);
    ( 600490.6, 4173880.1,     109.4,     109.4,       1.5);         ( 599730.6, 4173900.1,     108.2,     108.2,       1.5);
    ( 599750.6, 4173900.1,     108.5,     108.5,       1.5);         ( 599770.6, 4173900.1,     108.5,     108.5,       1.5);
    ( 599790.6, 4173900.1,     108.4,     108.4,       1.5);         ( 599810.6, 4173900.1,     108.3,     108.3,       1.5);
    ( 599830.6, 4173900.1,     108.4,     108.4,       1.5);         ( 599850.6, 4173900.1,     108.5,     108.5,       1.5);
    ( 599870.6, 4173900.1,     108.6,     108.6,       1.5);         ( 599890.6, 4173900.1,     108.4,     108.4,       1.5);
    ( 599910.6, 4173900.1,     108.3,     108.3,       1.5);         ( 599930.6, 4173900.1,     108.4,     108.4,       1.5);
    ( 599950.6, 4173900.1,     108.3,     108.3,       1.5);         ( 600170.6, 4173900.1,     108.2,     108.2,       1.5);
    ( 600190.6, 4173900.1,     108.4,     108.4,       1.5);         ( 600210.6, 4173900.1,     108.4,     108.4,       1.5);
    ( 600230.6, 4173900.1,     108.4,     108.4,       1.5);         ( 600250.6, 4173900.1,     108.6,     108.6,       1.5);
    ( 600270.6, 4173900.1,     108.8,     108.8,       1.5);         ( 600290.6, 4173900.1,     108.9,     108.9,       1.5);
    ( 600310.6, 4173900.1,     108.9,     108.9,       1.5);         ( 600330.6, 4173900.1,     108.9,     108.9,       1.5);
    ( 600350.6, 4173900.1,     109.1,     109.1,       1.5);         ( 600370.6, 4173900.1,     109.5,     109.5,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600390.6, 4173900.1,     110.0,     110.0,       1.5);         ( 600410.6, 4173900.1,     110.4,     110.4,       1.5);
    ( 600430.6, 4173900.1,     110.4,     110.4,       1.5);         ( 600450.6, 4173900.1,     110.3,     110.3,       1.5);
    ( 600470.6, 4173900.1,     110.1,     110.1,       1.5);         ( 600490.6, 4173900.1,     110.1,     110.1,       1.5);
    ( 599730.6, 4173920.1,     108.4,     108.4,       1.5);         ( 599750.6, 4173920.1,     108.5,     108.5,       1.5);
    ( 599770.6, 4173920.1,     108.4,     108.4,       1.5);         ( 599790.6, 4173920.1,     108.4,     108.4,       1.5);
    ( 599810.6, 4173920.1,     108.5,     108.5,       1.5);         ( 599830.6, 4173920.1,     108.6,     108.6,       1.5);
    ( 599850.6, 4173920.1,     108.8,     108.8,       1.5);         ( 599870.6, 4173920.1,     108.8,     108.8,       1.5);
    ( 599890.6, 4173920.1,     108.6,     108.6,       1.5);         ( 599910.6, 4173920.1,     108.3,     108.3,       1.5);
    ( 600170.6, 4173920.1,     108.3,     108.3,       1.5);         ( 600190.6, 4173920.1,     108.7,     108.7,       1.5);
    ( 600210.6, 4173920.1,     108.7,     108.7,       1.5);         ( 600230.6, 4173920.1,     108.7,     108.7,       1.5);
    ( 600250.6, 4173920.1,     108.8,     108.8,       1.5);         ( 600270.6, 4173920.1,     109.1,     109.1,       1.5);
    ( 600290.6, 4173920.1,     109.3,     109.3,       1.5);         ( 600310.6, 4173920.1,     109.3,     109.3,       1.5);
    ( 600330.6, 4173920.1,     109.3,     109.3,       1.5);         ( 600350.6, 4173920.1,     109.3,     109.3,       1.5);
    ( 600370.6, 4173920.1,     109.7,     109.7,       1.5);         ( 600390.6, 4173920.1,     110.2,     110.2,       1.5);
    ( 600410.6, 4173920.1,     110.6,     110.6,       1.5);         ( 600430.6, 4173920.1,     110.8,     110.8,       1.5);
    ( 600450.6, 4173920.1,     110.8,     110.8,       1.5);         ( 600470.6, 4173920.1,     110.7,     110.7,       1.5);
    ( 600490.6, 4173920.1,     110.7,     110.7,       1.5);         ( 599730.6, 4173940.1,     108.7,     108.7,       1.5);
    ( 599750.6, 4173940.1,     108.8,     108.8,       1.5);         ( 599770.6, 4173940.1,     108.8,     108.8,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  29

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 599790.6, 4173940.1,     108.8,     108.8,       1.5);         ( 599810.6, 4173940.1,     108.9,     108.9,       1.5);
    ( 599830.6, 4173940.1,     108.8,     108.8,       1.5);         ( 599850.6, 4173940.1,     108.8,     108.8,       1.5);
    ( 599870.6, 4173940.1,     108.8,     108.8,       1.5);         ( 600190.6, 4173940.1,     108.6,     108.6,       1.5);
    ( 600210.6, 4173940.1,     108.7,     108.7,       1.5);         ( 600230.6, 4173940.1,     108.7,     108.7,       1.5);
    ( 600250.6, 4173940.1,     108.8,     108.8,       1.5);         ( 600270.6, 4173940.1,     109.2,     109.2,       1.5);
    ( 600290.6, 4173940.1,     109.5,     109.5,       1.5);         ( 600310.6, 4173940.1,     109.5,     109.5,       1.5);
    ( 600330.6, 4173940.1,     109.5,     109.5,       1.5);         ( 600350.6, 4173940.1,     109.9,     109.9,       1.5);
    ( 600370.6, 4173940.1,     110.0,     110.0,       1.5);         ( 600390.6, 4173940.1,     110.2,     110.2,       1.5);
    ( 600410.6, 4173940.1,     110.6,     110.6,       1.5);         ( 600430.6, 4173940.1,     111.0,     111.0,       1.5);
    ( 600450.6, 4173940.1,     111.1,     111.1,       1.5);         ( 600470.6, 4173940.1,     111.2,     111.2,       1.5);
    ( 600490.6, 4173940.1,     111.2,     111.2,       1.5);         ( 599730.6, 4173960.1,     108.9,     108.9,       1.5);
    ( 599750.6, 4173960.1,     109.0,     109.0,       1.5);         ( 599770.6, 4173960.1,     109.0,     109.0,       1.5);
    ( 599790.6, 4173960.1,     109.0,     109.0,       1.5);         ( 599810.6, 4173960.1,     109.1,     109.1,       1.5);
    ( 599830.6, 4173960.1,     109.0,     109.0,       1.5);         ( 599850.6, 4173960.1,     108.9,     108.9,       1.5);
    ( 600190.6, 4173960.1,     108.6,     108.6,       1.5);         ( 600210.6, 4173960.1,     108.8,     108.8,       1.5);
    ( 600230.6, 4173960.1,     108.8,     108.8,       1.5);         ( 600250.6, 4173960.1,     108.9,     108.9,       1.5);
    ( 600270.6, 4173960.1,     109.3,     109.3,       1.5);         ( 600290.6, 4173960.1,     109.5,     109.5,       1.5);
    ( 600310.6, 4173960.1,     109.6,     109.6,       1.5);         ( 600330.6, 4173960.1,     109.7,     109.7,       1.5);
    ( 600350.6, 4173960.1,     110.5,     110.5,       1.5);         ( 600370.6, 4173960.1,     110.3,     110.3,       1.5);
    ( 600390.6, 4173960.1,     110.3,     110.3,       1.5);         ( 600410.6, 4173960.1,     110.6,     110.6,       1.5);
    ( 600430.6, 4173960.1,     111.0,     111.0,       1.5);         ( 600450.6, 4173960.1,     111.2,     111.2,       1.5);
    ( 600470.6, 4173960.1,     111.6,     111.6,       1.5);         ( 600490.6, 4173960.1,     111.6,     111.6,       1.5);
    ( 599730.6, 4173980.1,     109.0,     109.0,       1.5);         ( 599750.6, 4173980.1,     109.0,     109.0,       1.5);
    ( 599770.6, 4173980.1,     109.0,     109.0,       1.5);         ( 599790.6, 4173980.1,     109.1,     109.1,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 599810.6, 4173980.1,     109.1,     109.1,       1.5);         ( 599830.6, 4173980.1,     109.0,     109.0,       1.5);
    ( 599850.6, 4173980.1,     109.0,     109.0,       1.5);         ( 599870.6, 4173980.1,     108.9,     108.9,       1.5);
    ( 600190.6, 4173980.1,     108.8,     108.8,       1.5);         ( 600210.6, 4173980.1,     109.2,     109.2,       1.5);
    ( 600230.6, 4173980.1,     109.2,     109.2,       1.5);         ( 600250.6, 4173980.1,     109.1,     109.1,       1.5);
    ( 600270.6, 4173980.1,     109.4,     109.4,       1.5);         ( 600290.6, 4173980.1,     109.8,     109.8,       1.5);
    ( 600310.6, 4173980.1,     110.0,     110.0,       1.5);         ( 600330.6, 4173980.1,     110.1,     110.1,       1.5);
    ( 600350.6, 4173980.1,     110.5,     110.5,       1.5);         ( 600370.6, 4173980.1,     110.8,     110.8,       1.5);
    ( 600390.6, 4173980.1,     111.0,     111.0,       1.5);         ( 600410.6, 4173980.1,     111.1,     111.1,       1.5);
    ( 600430.6, 4173980.1,     111.3,     111.3,       1.5);         ( 600450.6, 4173980.1,     112.1,     112.1,       1.5);
    ( 600470.6, 4173980.1,     112.2,     112.2,       1.5);         ( 600490.6, 4173980.1,     112.1,     112.1,       1.5);
    ( 599730.6, 4174000.1,     109.3,     109.3,       1.5);         ( 599750.6, 4174000.1,     109.3,     109.3,       1.5);
    ( 599770.6, 4174000.1,     109.3,     109.3,       1.5);         ( 599790.6, 4174000.1,     109.3,     109.3,       1.5);
    ( 599810.6, 4174000.1,     109.4,     109.4,       1.5);         ( 599830.6, 4174000.1,     109.2,     109.2,       1.5);
    ( 599850.6, 4174000.1,     109.1,     109.1,       1.5);         ( 599870.6, 4174000.1,     109.0,     109.0,       1.5);
    ( 600195.1, 4174004.1,     109.1,     109.1,       1.5);         ( 600210.6, 4174000.1,     109.4,     109.4,       1.5);
    ( 600230.6, 4174000.1,     109.4,     109.4,       1.5);         ( 600250.6, 4174000.1,     109.3,     109.3,       1.5);
    ( 600270.6, 4174000.1,     109.4,     109.4,       1.5);         ( 600290.6, 4174000.1,     109.8,     109.8,       1.5);
    ( 600310.6, 4174000.1,     110.2,     110.2,       1.5);         ( 600330.6, 4174000.1,     110.2,     110.2,       1.5);
    ( 600350.6, 4174000.1,     110.6,     110.6,       1.5);         ( 600370.6, 4174000.1,     111.0,     111.0,       1.5);
    ( 600390.6, 4174000.1,     111.3,     111.3,       1.5);         ( 600410.6, 4174000.1,     111.4,     111.4,       1.5);
    ( 600430.6, 4174000.1,     111.6,     111.6,       1.5);         ( 600450.6, 4174000.1,     112.3,     112.3,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  30

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                            (METERS)

    ( 600470.6, 4174000.1,     112.4,     112.4,       1.5);         ( 600490.6, 4174000.1,     112.4,     112.4,       1.5);
    ( 599730.6, 4174020.1,     109.5,     109.5,       1.5);         ( 599750.6, 4174020.1,     109.5,     109.5,       1.5);
    ( 599770.6, 4174020.1,     109.5,     109.5,       1.5);         ( 599790.6, 4174020.1,     109.4,     109.4,       1.5);
    ( 599810.6, 4174020.1,     109.5,     109.5,       1.5);         ( 599830.6, 4174020.1,     109.3,     109.3,       1.5);
    ( 599850.6, 4174020.1,     109.2,     109.2,       1.5);         ( 599870.6, 4174020.1,     109.1,     109.1,       1.5);
    ( 599890.6, 4174020.1,     109.0,     109.0,       1.5);         ( 600210.6, 4174020.1,     109.4,     109.4,       1.5);
    ( 600230.6, 4174020.1,     109.6,     109.6,       1.5);         ( 600250.6, 4174020.1,     109.6,     109.6,       1.5);
    ( 600270.6, 4174020.1,     109.5,     109.5,       1.5);         ( 600290.6, 4174020.1,     109.8,     109.8,       1.5);
    ( 600310.6, 4174020.1,     110.1,     110.1,       1.5);         ( 600330.6, 4174020.1,     110.3,     110.3,       1.5);
    ( 600350.6, 4174020.1,     110.7,     110.7,       1.5);         ( 600370.6, 4174020.1,     110.8,     110.8,       1.5);
    ( 600390.6, 4174020.1,     111.2,     111.2,       1.5);         ( 600410.6, 4174020.1,     111.6,     111.6,       1.5);
    ( 600430.6, 4174020.1,     111.8,     111.8,       1.5);         ( 600450.6, 4174020.1,     112.1,     112.1,       1.5);
    ( 600470.6, 4174020.1,     112.4,     112.4,       1.5);         ( 600490.6, 4174020.1,     112.5,     112.5,       1.5);
    ( 599730.6, 4174040.1,     109.7,     109.7,       1.5);         ( 599750.6, 4174040.1,     109.7,     109.7,       1.5);
    ( 599770.6, 4174040.1,     109.7,     109.7,       1.5);         ( 599790.6, 4174040.1,     109.5,     109.5,       1.5);
    ( 599810.6, 4174040.1,     109.4,     109.4,       1.5);         ( 599830.6, 4174040.1,     109.4,     109.4,       1.5);
    ( 599850.6, 4174040.1,     109.3,     109.3,       1.5);         ( 599870.6, 4174040.1,     109.3,     109.3,       1.5);
    ( 599890.6, 4174040.1,     109.4,     109.4,       1.5);         ( 600210.6, 4174040.1,     109.5,     109.5,       1.5);
    ( 600230.6, 4174040.1,     109.6,     109.6,       1.5);         ( 600250.6, 4174040.1,     109.8,     109.8,       1.5);
    ( 600270.6, 4174040.1,     110.0,     110.0,       1.5);         ( 600290.6, 4174040.1,     110.2,     110.2,       1.5);
    ( 600310.6, 4174040.1,     110.4,     110.4,       1.5);         ( 600330.6, 4174040.1,     110.8,     110.8,       1.5);
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    ( 600350.6, 4174040.1,     111.0,     111.0,       1.5);         ( 600370.6, 4174040.1,     111.1,     111.1,       1.5);
    ( 600390.6, 4174040.1,     111.4,     111.4,       1.5);         ( 600410.6, 4174040.1,     111.7,     111.7,       1.5);
    ( 600430.6, 4174040.1,     112.0,     112.0,       1.5);         ( 600450.6, 4174040.1,     112.2,     112.2,       1.5);
    ( 600470.6, 4174040.1,     112.4,     112.4,       1.5);         ( 600490.6, 4174040.1,     112.7,     112.7,       1.5);
    ( 599730.6, 4174060.1,     109.9,     109.9,       1.5);         ( 599750.6, 4174060.1,     109.8,     109.8,       1.5);
    ( 599770.6, 4174060.1,     109.8,     109.8,       1.5);         ( 599790.6, 4174060.1,     109.6,     109.6,       1.5);
    ( 599810.6, 4174060.1,     109.8,     109.8,       1.5);         ( 599830.6, 4174060.1,     109.6,     109.6,       1.5);
    ( 599850.6, 4174060.1,     109.4,     109.4,       1.5);         ( 599870.6, 4174060.1,     109.4,     109.4,       1.5);
    ( 599890.6, 4174060.1,     109.5,     109.5,       1.5);         ( 599910.6, 4174060.1,     109.2,     109.2,       1.5);
    ( 600210.6, 4174060.1,     109.7,     109.7,       1.5);         ( 600230.6, 4174060.1,     109.7,     109.7,       1.5);
    ( 600250.6, 4174060.1,     109.8,     109.8,       1.5);         ( 600270.6, 4174060.1,     110.2,     110.2,       1.5);
    ( 600290.6, 4174060.1,     110.3,     110.3,       1.5);         ( 600310.6, 4174060.1,     110.4,     110.4,       1.5);
    ( 600330.6, 4174060.1,     110.7,     110.7,       1.5);         ( 600350.6, 4174060.1,     110.9,     110.9,       1.5);
    ( 600370.6, 4174060.1,     111.1,     111.1,       1.5);         ( 600390.6, 4174060.1,     111.4,     111.4,       1.5);
    ( 600410.6, 4174060.1,     111.8,     111.8,       1.5);         ( 600430.6, 4174060.1,     112.1,     112.1,       1.5);
    ( 600450.6, 4174060.1,     112.4,     112.4,       1.5);         ( 600470.6, 4174060.1,     112.6,     112.6,       1.5);
    ( 600490.6, 4174060.1,     113.0,     113.0,       1.5);         ( 599730.6, 4174080.1,     110.1,     110.1,       1.5);
    ( 599750.6, 4174080.1,     110.0,     110.0,       1.5);         ( 599770.6, 4174080.1,     110.1,     110.1,       1.5);
    ( 599790.6, 4174080.1,     109.9,     109.9,       1.5);         ( 599810.6, 4174080.1,     110.2,     110.2,       1.5);
    ( 599830.6, 4174080.1,     109.8,     109.8,       1.5);         ( 599850.6, 4174080.1,     109.6,     109.6,       1.5);
    ( 599870.6, 4174080.1,     109.5,     109.5,       1.5);         ( 599890.6, 4174080.1,     109.5,     109.5,       1.5);
    ( 599910.6, 4174080.1,     109.2,     109.2,       1.5);         ( 600230.6, 4174080.1,     109.8,     109.8,       1.5);
    ( 600250.6, 4174080.1,     109.8,     109.8,       1.5);         ( 600270.6, 4174080.1,     110.1,     110.1,       1.5);
    ( 600290.6, 4174080.1,     110.2,     110.2,       1.5);         ( 600310.6, 4174080.1,     110.3,     110.3,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  31
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600330.6, 4174080.1,     110.2,     110.2,       1.5);         ( 599730.6, 4174100.1,     110.3,     110.3,       1.5);
    ( 599750.6, 4174100.1,     110.4,     110.4,       1.5);         ( 599770.6, 4174100.1,     110.7,     110.7,       1.5);
    ( 599790.6, 4174100.1,     110.5,     110.5,       1.5);         ( 599810.6, 4174100.1,     110.3,     110.3,       1.5);
    ( 599830.6, 4174100.1,     110.2,     110.2,       1.5);         ( 599850.6, 4174100.1,     109.9,     109.9,       1.5);
    ( 599870.6, 4174100.1,     109.6,     109.6,       1.5);         ( 599890.6, 4174100.1,     109.4,     109.4,       1.5);
    ( 599910.6, 4174100.1,     109.4,     109.4,       1.5);         ( 599730.6, 4174120.1,     110.5,     110.5,       1.5);
    ( 599750.6, 4174120.1,     110.6,     110.6,       1.5);         ( 599770.6, 4174120.1,     110.8,     110.8,       1.5);
    ( 599790.6, 4174120.1,     110.6,     110.6,       1.5);         ( 599810.6, 4174120.1,     110.4,     110.4,       1.5);
    ( 599830.6, 4174120.1,     110.3,     110.3,       1.5);         ( 599850.6, 4174120.1,     110.1,     110.1,       1.5);
    ( 599870.6, 4174120.1,     109.9,     109.9,       1.5);         ( 599890.6, 4174120.1,     109.9,     109.9,       1.5);
    ( 599910.6, 4174120.1,     109.8,     109.8,       1.5);         ( 600270.6, 4174120.1,     109.8,     109.8,       1.5);
    ( 600290.6, 4174120.1,     110.0,     110.0,       1.5);         ( 600310.6, 4174120.1,     110.2,     110.2,       1.5);
    ( 600330.6, 4174120.1,     110.8,     110.8,       1.5);         ( 600350.6, 4174120.1,     111.5,     111.5,       1.5);
    ( 600370.6, 4174120.1,     112.2,     112.2,       1.5);         ( 600390.6, 4174120.1,     112.5,     112.5,       1.5);
    ( 600410.6, 4174120.1,     112.4,     112.4,       1.5);         ( 600430.6, 4174120.1,     112.5,     112.5,       1.5);
    ( 600450.6, 4174120.1,     112.8,     112.8,       1.5);         ( 600470.6, 4174120.1,     113.3,     113.3,       1.5);
    ( 600490.6, 4174120.1,     113.8,     113.8,       1.5);         ( 599730.6, 4174140.1,     110.7,     110.7,       1.5);
    ( 599750.6, 4174140.1,     110.7,     110.7,       1.5);         ( 599770.6, 4174140.1,     110.8,     110.8,       1.5);
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    ( 599790.6, 4174140.1,     110.7,     110.7,       1.5);         ( 599810.6, 4174140.1,     110.6,     110.6,       1.5);
    ( 599830.6, 4174140.1,     110.4,     110.4,       1.5);         ( 599850.6, 4174140.1,     110.2,     110.2,       1.5);
    ( 599870.6, 4174140.1,     110.3,     110.3,       1.5);         ( 599890.6, 4174140.1,     110.5,     110.5,       1.5);
    ( 599910.6, 4174140.1,     110.4,     110.4,       1.5);         ( 600210.6, 4174140.1,     110.3,     110.3,       1.5);
    ( 600230.6, 4174140.1,     111.5,     111.5,       1.5);         ( 600250.6, 4174140.1,     110.5,     110.5,       1.5);
    ( 600270.6, 4174140.1,     110.5,     110.5,       1.5);         ( 600290.6, 4174140.1,     110.8,     110.8,       1.5);
    ( 600310.6, 4174140.1,     111.2,     111.2,       1.5);         ( 600330.6, 4174140.1,     111.5,     111.5,       1.5);
    ( 600350.6, 4174140.1,     111.9,     111.9,       1.5);         ( 600370.6, 4174140.1,     112.1,     112.1,       1.5);
    ( 600390.6, 4174140.1,     112.3,     112.3,       1.5);         ( 600410.6, 4174140.1,     112.6,     112.6,       1.5);
    ( 600430.6, 4174140.1,     113.0,     113.0,       1.5);         ( 600450.6, 4174140.1,     113.4,     113.4,       1.5);
    ( 600470.6, 4174140.1,     113.6,     113.6,       1.5);         ( 600490.6, 4174140.1,     114.1,     114.1,       1.5);
    ( 599730.6, 4174160.1,     110.9,     110.9,       1.5);         ( 599750.6, 4174160.1,     110.9,     110.9,       1.5);
    ( 599770.6, 4174160.1,     111.1,     111.1,       1.5);         ( 599790.6, 4174160.1,     111.1,     111.1,       1.5);
    ( 599810.6, 4174160.1,     111.2,     111.2,       1.5);         ( 599830.6, 4174160.1,     110.7,     110.7,       1.5);
    ( 599850.6, 4174160.1,     110.6,     110.6,       1.5);         ( 599870.6, 4174160.1,     110.6,     110.6,       1.5);
    ( 599890.6, 4174160.1,     110.5,     110.5,       1.5);         ( 599910.6, 4174160.1,     110.4,     110.4,       1.5);
    ( 599930.6, 4174160.1,     109.8,     109.8,       1.5);         ( 600130.6, 4174160.1,     109.7,     109.7,       1.5);
    ( 600150.6, 4174160.1,     109.2,     109.2,       1.5);         ( 600170.6, 4174160.1,     109.3,     109.3,       1.5);
    ( 600190.6, 4174160.1,     110.0,     110.0,       1.5);         ( 600210.6, 4174160.1,     110.8,     110.8,       1.5);
    ( 600230.6, 4174160.1,     111.5,     111.5,       1.5);         ( 600250.6, 4174160.1,     111.4,     111.4,       1.5);
    ( 600270.6, 4174160.1,     111.7,     111.7,       1.5);         ( 600290.6, 4174160.1,     112.1,     112.1,       1.5);
    ( 600310.6, 4174160.1,     112.3,     112.3,       1.5);         ( 600330.6, 4174160.1,     112.5,     112.5,       1.5);
    ( 600350.6, 4174160.1,     112.7,     112.7,       1.5);         ( 600370.6, 4174160.1,     112.9,     112.9,       1.5);
    ( 600390.6, 4174160.1,     113.1,     113.1,       1.5);         ( 600410.6, 4174160.1,     113.3,     113.3,       1.5);
    ( 600430.6, 4174160.1,     113.6,     113.6,       1.5);         ( 600450.6, 4174160.1,     113.9,     113.9,       1.5);
    ( 600470.6, 4174160.1,     114.1,     114.1,       1.5);         ( 600490.6, 4174160.1,     114.6,     114.6,       1.5);
    ( 599730.6, 4174180.1,     111.1,     111.1,       1.5);         ( 599750.6, 4174180.1,     111.0,     111.0,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***       03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***       11:54:32
                                                                                                                PAGE  32
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 599770.6, 4174180.1,     111.1,     111.1,       1.5);         ( 599790.6, 4174180.1,     111.1,     111.1,       1.5);
    ( 599810.6, 4174180.1,     111.2,     111.2,       1.5);         ( 599830.6, 4174180.1,     110.8,     110.8,       1.5);
    ( 599850.6, 4174180.1,     110.6,     110.6,       1.5);         ( 599870.6, 4174180.1,     110.6,     110.6,       1.5);
    ( 599890.6, 4174180.1,     110.5,     110.5,       1.5);         ( 599910.6, 4174180.1,     110.4,     110.4,       1.5);
    ( 599930.6, 4174180.1,     110.0,     110.0,       1.5);         ( 600070.6, 4174180.1,     109.7,     109.7,       1.5);
    ( 600090.6, 4174180.1,     109.7,     109.7,       1.5);         ( 600110.6, 4174180.1,     109.9,     109.9,       1.5);
    ( 600130.6, 4174180.1,     110.0,     110.0,       1.5);         ( 600150.6, 4174180.1,     109.6,     109.6,       1.5);
    ( 600170.6, 4174180.1,     109.8,     109.8,       1.5);         ( 600190.6, 4174180.1,     110.7,     110.7,       1.5);
    ( 600210.6, 4174180.1,     111.6,     111.6,       1.5);         ( 600230.6, 4174180.1,     112.1,     112.1,       1.5);
    ( 600250.6, 4174180.1,     112.5,     112.5,       1.5);         ( 600270.6, 4174180.1,     113.0,     113.0,       1.5);
    ( 600290.6, 4174180.1,     113.2,     113.2,       1.5);         ( 600310.6, 4174180.1,     113.4,     113.4,       1.5);
    ( 600330.6, 4174180.1,     113.5,     113.5,       1.5);         ( 600350.6, 4174180.1,     113.6,     113.6,       1.5);
    ( 600370.6, 4174180.1,     113.8,     113.8,       1.5);         ( 600390.6, 4174180.1,     113.9,     113.9,       1.5);
    ( 600410.6, 4174180.1,     114.0,     114.0,       1.5);         ( 600430.6, 4174180.1,     114.3,     114.3,       1.5);
    ( 600450.6, 4174180.1,     114.5,     114.5,       1.5);         ( 600470.6, 4174180.1,     114.8,     114.8,       1.5);
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```
    ( 600490.6, 4174180.1,     115.3,     115.3,       1.5);         ( 599730.6, 4174200.1,     111.2,     111.2,       1.5);
    ( 599750.6, 4174200.1,     111.1,     111.1,       1.5);         ( 599770.6, 4174200.1,     111.1,     111.1,       1.5);
    ( 599790.6, 4174200.1,     111.0,     111.0,       1.5);         ( 599810.6, 4174200.1,     110.8,     110.8,       1.5);
    ( 599830.6, 4174200.1,     110.7,     110.7,       1.5);         ( 599850.6, 4174200.1,     110.6,     110.6,       1.5);
    ( 599870.6, 4174200.1,     110.5,     110.5,       1.5);         ( 599890.6, 4174200.1,     110.5,     110.5,       1.5);
    ( 599910.6, 4174200.1,     110.5,     110.5,       1.5);         ( 599930.6, 4174200.1,     110.3,     110.3,       1.5);
    ( 599990.6, 4174200.1,     110.2,     110.2,       1.5);         ( 600010.6, 4174200.1,     110.8,     110.8,       1.5);
    ( 600030.6, 4174200.1,     110.7,     110.7,       1.5);         ( 600050.6, 4174200.1,     110.6,     110.6,       1.5);
    ( 600070.6, 4174200.1,     110.5,     110.5,       1.5);         ( 600090.6, 4174200.1,     110.3,     113.6,       1.5);
    ( 600110.6, 4174200.1,     110.0,     113.6,       1.5);         ( 600130.6, 4174200.1,     110.0,     113.6,       1.5);
    ( 600150.6, 4174200.1,     110.2,     113.6,       1.5);         ( 600170.6, 4174200.1,     110.3,     110.3,       1.5);
    ( 600190.6, 4174200.1,     111.4,     111.4,       1.5);         ( 600210.6, 4174200.1,     112.7,     112.7,       1.5);
    ( 600230.6, 4174200.1,     113.6,     113.6,       1.5);         ( 600250.6, 4174200.1,     114.0,     114.0,       1.5);
    ( 600270.6, 4174200.1,     114.2,     114.2,       1.5);         ( 600290.6, 4174200.1,     114.3,     114.3,       1.5);
    ( 600310.6, 4174200.1,     114.4,     114.4,       1.5);         ( 600330.6, 4174200.1,     114.5,     114.5,       1.5);
    ( 600350.6, 4174200.1,     114.5,     114.5,       1.5);         ( 600370.6, 4174200.1,     114.8,     114.8,       1.5);
    ( 600390.6, 4174200.1,     114.7,     114.7,       1.5);         ( 600410.6, 4174200.1,     114.8,     114.8,       1.5);
    ( 600430.6, 4174200.1,     115.1,     115.1,       1.5);         ( 600450.6, 4174200.1,     115.3,     115.3,       1.5);
    ( 600470.6, 4174200.1,     115.6,     115.6,       1.5);         ( 600490.6, 4174200.1,     116.3,     116.3,       1.5);
    ( 599730.6, 4174220.1,     111.1,     111.1,       1.5);         ( 599750.6, 4174220.1,     111.0,     111.0,       1.5);
    ( 599770.6, 4174220.1,     110.9,     110.9,       1.5);         ( 599790.6, 4174220.1,     110.8,     110.8,       1.5);
    ( 599810.6, 4174220.1,     110.7,     110.7,       1.5);         ( 599830.6, 4174220.1,     110.7,     110.7,       1.5);
    ( 599850.6, 4174220.1,     110.9,     110.9,       1.5);         ( 599870.6, 4174220.1,     111.1,     111.1,       1.5);
    ( 599890.6, 4174220.1,     111.2,     111.2,       1.5);         ( 599910.6, 4174220.1,     111.1,     111.1,       1.5);
    ( 599930.6, 4174220.1,     111.0,     111.0,       1.5);         ( 599950.6, 4174220.1,     110.6,     110.6,       1.5);
    ( 599970.6, 4174220.1,     110.6,     110.6,       1.5);         ( 599990.6, 4174220.1,     110.7,     110.7,       1.5);
    ( 600010.6, 4174220.1,     110.8,     110.8,       1.5);         ( 600030.6, 4174220.1,     110.6,     110.6,       1.5);
    ( 600050.6, 4174220.1,     110.7,     110.7,       1.5);         ( 600070.6, 4174220.1,     111.8,     113.6,       1.5);
    ( 600090.6, 4174220.1,     112.0,     113.6,       1.5);         ( 600110.6, 4174220.1,     111.6,     111.6,       1.5);
    ( 600130.6, 4174220.1,     112.3,     113.6,       1.5);         ( 600150.6, 4174220.1,     112.3,     113.6,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  33

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600170.6, 4174220.1,     111.7,     111.7,       1.5);         ( 600190.6, 4174220.1,     112.6,     114.4,       1.5);
    ( 600210.6, 4174220.1,     114.0,     114.0,       1.5);         ( 600230.6, 4174220.1,     114.6,     114.6,       1.5);
    ( 600250.6, 4174220.1,     115.0,     115.0,       1.5);         ( 600270.6, 4174220.1,     115.2,     115.2,       1.5);
    ( 600290.6, 4174220.1,     115.3,     115.3,       1.5);         ( 600310.6, 4174220.1,     115.5,     115.5,       1.5);
    ( 600330.6, 4174220.1,     115.5,     115.5,       1.5);         ( 600350.6, 4174220.1,     115.6,     115.6,       1.5);
    ( 600370.6, 4174220.1,     115.8,     115.8,       1.5);         ( 600390.6, 4174220.1,     115.7,     115.7,       1.5);
    ( 600410.6, 4174220.1,     115.8,     115.8,       1.5);         ( 600430.6, 4174220.1,     116.1,     116.1,       1.5);
    ( 600450.6, 4174220.1,     116.5,     116.5,       1.5);         ( 600470.6, 4174220.1,     116.9,     116.9,       1.5);
    ( 600490.6, 4174220.1,     117.5,     117.5,       1.5);         ( 599730.6, 4174240.1,     111.6,     111.6,       1.5);
    ( 599750.6, 4174240.1,     111.5,     111.5,       1.5);         ( 599770.6, 4174240.1,     111.4,     111.4,       1.5);
    ( 599790.6, 4174240.1,     111.3,     111.3,       1.5);         ( 599810.6, 4174240.1,     111.2,     111.2,       1.5);
    ( 599830.6, 4174240.1,     111.1,     111.1,       1.5);         ( 599850.6, 4174240.1,     111.2,     111.2,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
( 599870.6, 4174240.1,     111.4,     111.4,       1.5);        ( 599890.6, 4174240.1,     111.5,     111.5,       1.5);
( 599910.6, 4174240.1,     111.4,     111.4,       1.5);        ( 599930.6, 4174240.1,     111.3,     111.3,       1.5);
( 599950.6, 4174240.1,     111.4,     111.4,       1.5);        ( 599970.6, 4174240.1,     111.8,     114.2,       1.5);
( 599990.6, 4174240.1,     112.1,     114.7,       1.5);        ( 600010.6, 4174240.1,     112.0,     114.7,       1.5);
( 600030.6, 4174240.1,     111.8,     114.5,       1.5);        ( 600050.6, 4174240.1,     111.9,     114.3,       1.5);
( 600070.6, 4174240.1,     113.0,     113.0,       1.5);        ( 600090.6, 4174240.1,     113.2,     113.2,       1.5);
( 600110.6, 4174240.1,     113.0,     113.0,       1.5);        ( 600130.6, 4174240.1,     113.7,     113.7,       1.5);
( 600150.6, 4174240.1,     113.6,     113.6,       1.5);        ( 600170.6, 4174240.1,     112.9,     112.9,       1.5);
( 600190.6, 4174240.1,     113.8,     113.8,       1.5);        ( 600210.6, 4174240.1,     115.0,     115.0,       1.5);
( 600230.6, 4174240.1,     115.7,     115.7,       1.5);        ( 600250.6, 4174240.1,     116.1,     116.1,       1.5);
( 600270.6, 4174240.1,     116.3,     116.3,       1.5);        ( 600290.6, 4174240.1,     116.4,     116.4,       1.5);
( 600310.6, 4174240.1,     116.5,     116.5,       1.5);        ( 600330.6, 4174240.1,     116.6,     116.6,       1.5);
( 600350.6, 4174240.1,     116.6,     116.6,       1.5);        ( 600370.6, 4174240.1,     116.8,     116.8,       1.5);
( 600390.6, 4174240.1,     116.8,     116.8,       1.5);        ( 600410.6, 4174240.1,     116.9,     116.9,       1.5);
( 600430.6, 4174240.1,     117.2,     117.2,       1.5);        ( 600450.6, 4174240.1,     117.8,     117.8,       1.5);
( 600470.6, 4174240.1,     118.3,     118.3,       1.5);        ( 600490.6, 4174240.1,     118.9,     118.9,       1.5);
( 599730.6, 4174260.1,     112.4,     112.4,       1.5);        ( 599750.6, 4174260.1,     112.4,     112.4,       1.5);
( 599770.6, 4174260.1,     112.4,     112.4,       1.5);        ( 599790.6, 4174260.1,     112.2,     115.2,       1.5);
( 599810.6, 4174260.1,     112.0,     112.0,       1.5);        ( 599830.6, 4174260.1,     111.8,     115.5,       1.5);
( 599850.6, 4174260.1,     111.6,     115.5,       1.5);        ( 599870.6, 4174260.1,     111.5,     115.4,       1.5);
( 599890.6, 4174260.1,     111.6,     115.4,       1.5);        ( 599910.6, 4174260.1,     111.5,     115.2,       1.5);
( 599930.6, 4174260.1,     111.5,     118.3,       1.5);        ( 599950.6, 4174260.1,     112.3,     112.3,       1.5);
( 599970.6, 4174260.1,     113.5,     113.5,       1.5);        ( 599990.6, 4174260.1,     114.3,     114.3,       1.5);
( 600010.6, 4174260.1,     114.6,     114.6,       1.5);        ( 600030.6, 4174260.1,     114.4,     114.5,       1.5);
( 600050.6, 4174260.1,     114.2,     114.2,       1.5);        ( 600070.6, 4174260.1,     114.0,     117.5,       1.5);
( 600090.6, 4174260.1,     114.0,     117.5,       1.5);        ( 600110.6, 4174260.1,     114.0,     114.0,       1.5);
( 600130.6, 4174260.1,     113.9,     113.9,       1.5);        ( 600150.6, 4174260.1,     113.8,     120.4,       1.5);
( 600170.6, 4174260.1,     113.8,     113.8,       1.5);        ( 600190.6, 4174260.1,     114.7,     114.7,       1.5);
( 600210.6, 4174260.1,     115.9,     115.9,       1.5);        ( 600230.6, 4174260.1,     116.7,     116.7,       1.5);
( 600250.6, 4174260.1,     117.2,     117.2,       1.5);        ( 600270.6, 4174260.1,     117.5,     117.5,       1.5);
( 600290.6, 4174260.1,     117.6,     117.6,       1.5);        ( 600310.6, 4174260.1,     117.6,     117.6,       1.5);
( 600330.6, 4174260.1,     117.6,     117.6,       1.5);        ( 600350.6, 4174260.1,     117.8,     117.8,       1.5);
( 600370.6, 4174260.1,     118.0,     118.0,       1.5);        ( 600390.6, 4174260.1,     118.2,     118.2,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	600410.6,	4174260.1,	118.5,	118.5,	1.5);	(600430.6,	4174260.1,	118.9,	118.9,	1.5);
(	600450.6,	4174260.1,	119.4,	119.4,	1.5);	(600470.6,	4174260.1,	120.0,	120.0,	1.5);
(	600490.6,	4174260.1,	120.7,	120.7,	1.5);	(599730.6,	4174280.1,	113.1,	113.1,	1.5);
(	599750.6,	4174280.1,	113.9,	115.3,	1.5);	(599770.6,	4174280.1,	114.4,	114.4,	1.5);
(	599790.6,	4174280.1,	114.2,	114.2,	1.5);	(599810.6,	4174280.1,	113.8,	113.8,	1.5);
(	599830.6,	4174280.1,	114.2,	115.5,	1.5);	(599850.6,	4174280.1,	114.2,	114.2,	1.5);
(	599870.6,	4174280.1,	114.1,	114.1,	1.5);	(599890.6,	4174280.1,	114.1,	115.4,	1.5);
(	599910.6,	4174280.1,	114.0,	115.2,	1.5);	(599930.6,	4174280.1,	113.8,	115.0,	1.5);
(	599950.6,	4174280.1,	114.0,	114.0,	1.5);	(599970.6,	4174280.1,	114.4,	114.4,	1.5);
(	599990.6,	4174280.1,	114.6,	114.6,	1.5);	(600010.6,	4174280.1,	114.7,	114.7,	1.5);
(	600030.6,	4174280.1,	114.5,	114.5,	1.5);	(600050.6,	4174280.1,	115.3,	115.3,	1.5);
(	600070.6,	4174280.1,	115.9,	117.5,	1.5);	(600090.6,	4174280.1,	116.0,	116.0,	1.5);
(	600110.6,	4174280.1,	115.7,	115.7,	1.5);	(600130.6,	4174280.1,	115.3,	120.4,	1.5);
(	600150.6,	4174280.1,	115.1,	120.4,	1.5);	(600170.6,	4174280.1,	114.9,	120.4,	1.5);
(	600190.6,	4174280.1,	115.9,	115.9,	1.5);	(600210.6,	4174280.1,	117.0,	117.0,	1.5);
(	600230.6,	4174280.1,	117.7,	117.7,	1.5);	(600250.6,	4174280.1,	118.4,	118.4,	1.5);
(	600270.6,	4174280.1,	118.6,	118.6,	1.5);	(600290.6,	4174280.1,	118.7,	118.7,	1.5);
(	600310.6,	4174280.1,	118.8,	118.8,	1.5);	(600330.6,	4174280.1,	118.8,	118.8,	1.5);
(	600350.6,	4174280.1,	119.0,	119.0,	1.5);	(600370.6,	4174280.1,	119.3,	119.3,	1.5);
(	600390.6,	4174280.1,	119.9,	121.8,	1.5);	(600410.6,	4174280.1,	120.4,	120.4,	1.5);
(	600430.6,	4174280.1,	120.8,	120.8,	1.5);	(600450.6,	4174280.1,	121.2,	121.2,	1.5);
(	600470.6,	4174280.1,	121.6,	121.6,	1.5);	(600490.6,	4174280.1,	122.2,	122.2,	1.5);
(	599730.6,	4174300.1,	113.8,	113.8,	1.5);	(599750.6,	4174300.1,	114.7,	114.7,	1.5);
(	599770.6,	4174300.1,	115.2,	115.2,	1.5);	(599790.6,	4174300.1,	115.2,	115.2,	1.5);
(	599810.6,	4174300.1,	115.1,	115.1,	1.5);	(599830.6,	4174300.1,	115.5,	115.5,	1.5);
(	599850.6,	4174300.1,	115.6,	115.6,	1.5);	(599870.6,	4174300.1,	115.5,	115.5,	1.5);
(	599890.6,	4174300.1,	115.4,	115.4,	1.5);	(599910.6,	4174300.1,	115.5,	115.5,	1.5);
(	599930.6,	4174300.1,	115.8,	115.8,	1.5);	(599950.6,	4174300.1,	115.9,	118.3,	1.5);
(	599970.6,	4174300.1,	115.8,	115.8,	1.5);	(599990.6,	4174300.1,	115.6,	115.6,	1.5);
(	600010.6,	4174300.1,	115.5,	121.4,	1.5);	(600030.6,	4174300.1,	115.5,	121.4,	1.5);
(	600050.6,	4174300.1,	116.6,	116.6,	1.5);	(600070.6,	4174300.1,	117.7,	117.7,	1.5);
(	600090.6,	4174300.1,	117.8,	117.8,	1.5);	(600110.6,	4174300.1,	117.2,	117.2,	1.5);
(	600130.6,	4174300.1,	116.8,	120.4,	1.5);	(600150.6,	4174300.1,	117.0,	120.4,	1.5);
(	600170.6,	4174300.1,	116.1,	122.1,	1.5);	(600190.6,	4174300.1,	117.0,	117.0,	1.5);
(	600210.6,	4174300.1,	118.2,	118.2,	1.5);	(600230.6,	4174300.1,	118.8,	118.8,	1.5);
(	600250.6,	4174300.1,	119.6,	119.6,	1.5);	(600270.6,	4174300.1,	119.8,	119.8,	1.5);
(	600290.6,	4174300.1,	120.0,	120.0,	1.5);	(600310.6,	4174300.1,	120.1,	120.1,	1.5);
(	600330.6,	4174300.1,	120.1,	120.1,	1.5);	(600350.6,	4174300.1,	120.4,	120.4,	1.5);
(	600370.6,	4174300.1,	120.8,	120.8,	1.5);	(600390.6,	4174300.1,	121.7,	121.7,	1.5);
(	600410.6,	4174300.1,	122.2,	122.2,	1.5);	(600430.6,	4174300.1,	122.5,	122.5,	1.5);
(	600450.6,	4174300.1,	122.8,	122.8,	1.5);	(600470.6,	4174300.1,	123.2,	123.2,	1.5);
(	600490.6,	4174300.1,	123.7,	123.7,	1.5);	(599730.6,	4174320.1,	114.5,	114.5,	1.5);

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    ( 599750.6, 4174320.1,     115.0,     115.0,       1.5);         ( 599770.6, 4174320.1,     115.2,     115.2,       1.5);
    ( 599790.6, 4174320.1,     115.3,     115.3,       1.5);         ( 599810.6, 4174320.1,     115.8,     115.8,       1.5);
    ( 599830.6, 4174320.1,     115.8,     115.8,       1.5);         ( 599850.6, 4174320.1,     115.8,     115.8,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  35
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 599870.6, 4174320.1,     115.6,     115.6,       1.5);         ( 599890.6, 4174320.1,     115.5,     115.5,       1.5);
    ( 599910.6, 4174320.1,     116.0,     116.0,       1.5);         ( 599930.6, 4174320.1,     117.5,     117.7,       1.5);
    ( 599950.6, 4174320.1,     118.0,     118.0,       1.5);         ( 599970.6, 4174320.1,     117.9,     117.9,       1.5);
    ( 599990.6, 4174320.1,     117.7,     117.7,       1.5);         ( 600010.6, 4174320.1,     117.6,     117.6,       1.5);
    ( 600030.6, 4174320.1,     117.9,     121.4,       1.5);         ( 600050.6, 4174320.1,     118.3,     118.3,       1.5);
    ( 600070.6, 4174320.1,     119.3,     119.3,       1.5);         ( 600090.6, 4174320.1,     119.1,     119.1,       1.5);
    ( 600110.6, 4174320.1,     118.3,     122.3,       1.5);         ( 600130.6, 4174320.1,     118.4,     118.4,       1.5);
    ( 600150.6, 4174320.1,     119.7,     120.4,       1.5);         ( 600170.6, 4174320.1,     117.6,     122.1,       1.5);
    ( 600190.6, 4174320.1,     118.3,     119.7,       1.5);         ( 600210.6, 4174320.1,     119.7,     119.7,       1.5);
    ( 600230.6, 4174320.1,     120.4,     120.4,       1.5);         ( 600250.6, 4174320.1,     121.0,     121.0,       1.5);
    ( 600270.6, 4174320.1,     121.6,     121.6,       1.5);         ( 600290.6, 4174320.1,     121.9,     121.9,       1.5);
    ( 600310.6, 4174320.1,     122.0,     122.0,       1.5);         ( 600330.6, 4174320.1,     122.1,     122.1,       1.5);
    ( 600350.6, 4174320.1,     122.2,     122.2,       1.5);         ( 600370.6, 4174320.1,     122.5,     122.5,       1.5);
    ( 600390.6, 4174320.1,     122.8,     122.8,       1.5);         ( 600410.6, 4174320.1,     123.2,     123.2,       1.5);
    ( 600430.6, 4174320.1,     123.6,     123.6,       1.5);         ( 600450.6, 4174320.1,     124.0,     124.0,       1.5);
    ( 600470.6, 4174320.1,     124.3,     124.3,       1.5);         ( 600490.6, 4174320.1,     124.7,     124.7,       1.5);
    ( 599730.6, 4174340.1,     115.3,     115.3,       1.5);         ( 599750.6, 4174340.1,     116.5,     118.1,       1.5);
    ( 599770.6, 4174340.1,     117.0,     117.0,       1.5);         ( 599790.6, 4174340.1,     117.0,     117.0,       1.5);
    ( 599810.6, 4174340.1,     117.2,     117.2,       1.5);         ( 599830.6, 4174340.1,     117.5,     117.5,       1.5);
    ( 599850.6, 4174340.1,     117.5,     117.5,       1.5);         ( 599870.6, 4174340.1,     117.4,     117.4,       1.5);
    ( 599890.6, 4174340.1,     117.3,     117.3,       1.5);         ( 599910.6, 4174340.1,     117.5,     117.5,       1.5);
    ( 599930.6, 4174340.1,     118.3,     118.3,       1.5);         ( 599950.6, 4174340.1,     118.8,     118.8,       1.5);
    ( 599970.6, 4174340.1,     119.0,     119.0,       1.5);         ( 599990.6, 4174340.1,     119.0,     119.0,       1.5);
    ( 600010.6, 4174340.1,     119.2,     119.2,       1.5);         ( 600030.6, 4174340.1,     120.0,     121.4,       1.5);
    ( 600050.6, 4174340.1,     119.4,     119.4,       1.5);         ( 600070.6, 4174340.1,     120.5,     120.5,       1.5);
    ( 600090.6, 4174340.1,     120.8,     120.8,       1.5);         ( 600110.6, 4174340.1,     120.4,     122.3,       1.5);
    ( 600130.6, 4174340.1,     120.2,     120.2,       1.5);         ( 600150.6, 4174340.1,     121.2,     121.2,       1.5);
    ( 600170.6, 4174340.1,     118.7,     122.1,       1.5);         ( 600190.6, 4174340.1,     119.3,     119.3,       1.5);
    ( 600210.6, 4174340.1,     120.9,     120.9,       1.5);         ( 600230.6, 4174340.1,     121.9,     121.9,       1.5);
    ( 600250.6, 4174340.1,     122.6,     122.6,       1.5);         ( 600270.6, 4174340.1,     123.0,     123.0,       1.5);
    ( 600290.6, 4174340.1,     123.1,     123.1,       1.5);         ( 600310.6, 4174340.1,     123.2,     123.2,       1.5);
    ( 600330.6, 4174340.1,     123.3,     123.3,       1.5);         ( 600350.6, 4174340.1,     123.5,     123.5,       1.5);
    ( 600370.6, 4174340.1,     123.7,     123.7,       1.5);         ( 600390.6, 4174340.1,     123.8,     123.8,       1.5);
    ( 600410.6, 4174340.1,     124.1,     124.1,       1.5);         ( 600430.6, 4174340.1,     124.5,     124.5,       1.5);
    ( 600450.6, 4174340.1,     124.8,     124.8,       1.5);         ( 600470.6, 4174340.1,     125.1,     125.1,       1.5);
    ( 600490.6, 4174340.1,     125.4,     125.4,       1.5);         ( 599730.6, 4174360.1,     116.1,     116.1,       1.5);
    ( 599750.6, 4174360.1,     117.4,     117.4,       1.5);         ( 599770.6, 4174360.1,     118.0,     118.0,       1.5);
    ( 599790.6, 4174360.1,     117.9,     117.9,       1.5);         ( 599810.6, 4174360.1,     118.1,     118.1,       1.5);
    ( 599830.6, 4174360.1,     118.5,     118.5,       1.5);         ( 599850.6, 4174360.1,     118.8,     118.8,       1.5);
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    ( 599870.6, 4174360.1,     118.8,     118.8,       1.5);         ( 599890.6, 4174360.1,     118.7,     118.7,       1.5);
    ( 599910.6, 4174360.1,     118.7,     118.7,       1.5);         ( 599930.6, 4174360.1,     119.0,     119.0,       1.5);
    ( 599950.6, 4174360.1,     119.3,     119.3,       1.5);         ( 599970.6, 4174360.1,     119.7,     119.7,       1.5);
    ( 599990.6, 4174360.1,     119.9,     119.9,       1.5);         ( 600010.6, 4174360.1,     120.2,     120.2,       1.5);
    ( 600030.6, 4174360.1,     121.3,     121.3,       1.5);         ( 600050.6, 4174360.1,     120.3,     120.3,       1.5);
    ( 600070.6, 4174360.1,     121.2,     121.2,       1.5);         ( 600090.6, 4174360.1,     122.0,     122.0,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  36
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

    ( 600110.6, 4174360.1,     122.1,     122.1,       1.5);         ( 600130.6, 4174360.1,     121.9,     121.9,       1.5);
    ( 600150.6, 4174360.1,     122.3,     122.3,       1.5);         ( 600170.6, 4174360.1,     119.7,     123.4,       1.5);
    ( 600190.6, 4174360.1,     120.2,     120.2,       1.5);         ( 600210.6, 4174360.1,     121.9,     121.9,       1.5);
    ( 600230.6, 4174360.1,     123.3,     123.3,       1.5);         ( 600250.6, 4174360.1,     123.9,     123.9,       1.5);
    ( 600270.6, 4174360.1,     124.0,     124.0,       1.5);         ( 600290.6, 4174360.1,     124.0,     124.0,       1.5);
    ( 600310.6, 4174360.1,     124.0,     124.0,       1.5);         ( 600330.6, 4174360.1,     124.2,     124.2,       1.5);
    ( 600350.6, 4174360.1,     124.4,     124.4,       1.5);         ( 600370.6, 4174360.1,     124.5,     124.5,       1.5);
    ( 600390.6, 4174360.1,     124.7,     124.7,       1.5);         ( 600410.6, 4174360.1,     125.0,     125.0,       1.5);
    ( 600430.6, 4174360.1,     125.2,     125.2,       1.5);         ( 600450.6, 4174360.1,     125.5,     125.5,       1.5);
    ( 600470.6, 4174360.1,     125.8,     125.8,       1.5);         ( 600490.6, 4174360.1,     126.0,     126.0,       1.5);
    ( 599730.6, 4174380.1,     117.0,     117.0,       1.5);         ( 599750.6, 4174380.1,     117.6,     117.6,       1.5);
    ( 599770.6, 4174380.1,     117.9,     117.9,       1.5);         ( 599790.6, 4174380.1,     118.0,     118.0,       1.5);
    ( 599810.6, 4174380.1,     118.3,     118.3,       1.5);         ( 599830.6, 4174380.1,     118.8,     118.8,       1.5);
    ( 599850.6, 4174380.1,     119.6,     119.6,       1.5);         ( 599870.6, 4174380.1,     119.7,     119.7,       1.5);
    ( 599890.6, 4174380.1,     119.3,     119.3,       1.5);         ( 599910.6, 4174380.1,     119.1,     119.1,       1.5);
    ( 599930.6, 4174380.1,     119.3,     119.3,       1.5);         ( 599950.6, 4174380.1,     119.5,     119.5,       1.5);
    ( 599970.6, 4174380.1,     119.7,     119.7,       1.5);         ( 599990.6, 4174380.1,     119.9,     119.9,       1.5);
    ( 600010.6, 4174380.1,     120.3,     120.3,       1.5);         ( 600030.6, 4174380.1,     121.4,     121.4,       1.5);
    ( 600050.6, 4174380.1,     121.0,     121.0,       1.5);         ( 600070.6, 4174380.1,     121.3,     121.3,       1.5);
    ( 600090.6, 4174380.1,     121.8,     121.8,       1.5);         ( 600110.6, 4174380.1,     122.5,     122.5,       1.5);
    ( 600130.6, 4174380.1,     123.1,     123.1,       1.5);         ( 600150.6, 4174380.1,     123.2,     123.2,       1.5);
    ( 600170.6, 4174380.1,     120.6,     123.4,       1.5);         ( 600190.6, 4174380.1,     121.2,     122.4,       1.5);
    ( 600210.6, 4174380.1,     122.8,     122.8,       1.5);         ( 600230.6, 4174380.1,     123.8,     123.8,       1.5);
    ( 600250.6, 4174380.1,     124.1,     124.1,       1.5);         ( 600270.6, 4174380.1,     124.2,     124.2,       1.5);
    ( 600290.6, 4174380.1,     124.3,     124.3,       1.5);         ( 600310.6, 4174380.1,     124.5,     124.5,       1.5);
    ( 600330.6, 4174380.1,     124.7,     124.7,       1.5);         ( 600350.6, 4174380.1,     124.8,     124.8,       1.5);
    ( 600370.6, 4174380.1,     125.1,     125.1,       1.5);         ( 600390.6, 4174380.1,     125.3,     125.3,       1.5);
    ( 600410.6, 4174380.1,     125.6,     125.6,       1.5);         ( 600430.6, 4174380.1,     125.9,     125.9,       1.5);
    ( 600450.6, 4174380.1,     126.1,     126.1,       1.5);         ( 600470.6, 4174380.1,     126.3,     126.3,       1.5);
    ( 600490.6, 4174380.1,     126.6,     126.6,       1.5);         ( 599730.6, 4174400.1,     117.9,     117.9,       1.5);
    ( 599750.6, 4174400.1,     118.3,     118.3,       1.5);         ( 599770.6, 4174400.1,     118.4,     118.4,       1.5);
    ( 599790.6, 4174400.1,     118.4,     118.4,       1.5);         ( 599810.6, 4174400.1,     118.4,     118.4,       1.5);
    ( 599830.6, 4174400.1,     118.7,     118.7,       1.5);         ( 599850.6, 4174400.1,     119.1,     119.1,       1.5);
    ( 599870.6, 4174400.1,     119.1,     119.1,       1.5);         ( 599890.6, 4174400.1,     119.0,     119.0,       1.5);
    ( 599910.6, 4174400.1,     119.2,     119.2,       1.5);         ( 599930.6, 4174400.1,     120.2,     120.2,       1.5);
    ( 599950.6, 4174400.1,     120.1,     120.1,       1.5);         ( 599970.6, 4174400.1,     120.0,     120.0,       1.5);
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    ( 599990.6, 4174400.1,     120.2,     120.2,       1.5);         ( 600010.6, 4174400.1,     120.6,     120.6,       1.5);
    ( 600030.6, 4174400.1,     121.4,     121.4,       1.5);         ( 600050.6, 4174400.1,     121.6,     121.6,       1.5);
    ( 600070.6, 4174400.1,     121.5,     121.5,       1.5);         ( 600090.6, 4174400.1,     121.7,     121.7,       1.5);
    ( 600110.6, 4174400.1,     122.1,     122.1,       1.5);         ( 600130.6, 4174400.1,     122.8,     122.8,       1.5);
    ( 600150.6, 4174400.1,     123.4,     123.4,       1.5);         ( 600170.6, 4174400.1,     121.3,     121.3,       1.5);
    ( 600190.6, 4174400.1,     122.2,     122.2,       1.5);         ( 600210.6, 4174400.1,     123.5,     123.5,       1.5);
    ( 600230.6, 4174400.1,     124.2,     124.2,       1.5);         ( 600250.6, 4174400.1,     124.4,     124.4,       1.5);
    ( 600270.6, 4174400.1,     124.6,     124.6,       1.5);         ( 600290.6, 4174400.1,     124.8,     124.8,       1.5);
    ( 600310.6, 4174400.1,     125.0,     125.0,       1.5);         ( 600330.6, 4174400.1,     125.1,     125.1,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                 PAGE  37

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 600350.6, 4174400.1,     125.3,     125.3,       1.5);         ( 600370.6, 4174400.1,     125.6,     125.6,       1.5);
    ( 600390.6, 4174400.1,     125.9,     125.9,       1.5);         ( 600410.6, 4174400.1,     126.2,     126.2,       1.5);
    ( 600430.6, 4174400.1,     126.5,     126.5,       1.5);         ( 600450.6, 4174400.1,     126.8,     126.8,       1.5);
    ( 600470.6, 4174400.1,     126.9,     126.9,       1.5);         ( 600490.6, 4174400.1,     127.2,     127.2,       1.5);
    ( 599730.6, 4174420.1,     118.8,     118.8,       1.5);         ( 599750.6, 4174420.1,     119.0,     119.0,       1.5);
    ( 599770.6, 4174420.1,     119.1,     119.1,       1.5);         ( 599790.6, 4174420.1,     119.0,     119.0,       1.5);
    ( 599810.6, 4174420.1,     118.9,     118.9,       1.5);         ( 599830.6, 4174420.1,     118.7,     118.7,       1.5);
    ( 599850.6, 4174420.1,     118.7,     118.7,       1.5);         ( 599870.6, 4174420.1,     118.7,     118.7,       1.5);
    ( 599890.6, 4174420.1,     119.0,     119.0,       1.5);         ( 599910.6, 4174420.1,     119.8,     119.8,       1.5);
    ( 599930.6, 4174420.1,     121.3,     121.3,       1.5);         ( 599950.6, 4174420.1,     120.8,     120.8,       1.5);
    ( 599970.6, 4174420.1,     120.6,     120.6,       1.5);         ( 599990.6, 4174420.1,     120.7,     120.7,       1.5);
    ( 600010.6, 4174420.1,     121.0,     121.0,       1.5);         ( 600030.6, 4174420.1,     121.6,     121.6,       1.5);
    ( 600050.6, 4174420.1,     122.2,     122.2,       1.5);         ( 600070.6, 4174420.1,     121.9,     121.9,       1.5);
    ( 600090.6, 4174420.1,     121.9,     125.1,       1.5);         ( 600110.6, 4174420.1,     122.1,     125.1,       1.5);
    ( 600130.6, 4174420.1,     122.4,     122.4,       1.5);         ( 600150.6, 4174420.1,     123.3,     123.3,       1.5);
    ( 600170.6, 4174420.1,     122.0,     122.0,       1.5);         ( 600190.6, 4174420.1,     123.1,     123.1,       1.5);
    ( 600210.6, 4174420.1,     124.2,     124.2,       1.5);         ( 600230.6, 4174420.1,     124.6,     124.6,       1.5);
    ( 600250.6, 4174420.1,     124.8,     124.8,       1.5);         ( 600270.6, 4174420.1,     125.0,     125.0,       1.5);
    ( 600290.6, 4174420.1,     125.2,     125.2,       1.5);         ( 600310.6, 4174420.1,     125.4,     125.4,       1.5);
    ( 600330.6, 4174420.1,     125.6,     125.6,       1.5);         ( 600350.6, 4174420.1,     125.8,     125.8,       1.5);
    ( 600370.6, 4174420.1,     126.0,     126.0,       1.5);         ( 600390.6, 4174420.1,     126.5,     126.5,       1.5);
    ( 600410.6, 4174420.1,     126.9,     126.9,       1.5);         ( 600430.6, 4174420.1,     127.1,     127.1,       1.5);
    ( 600450.6, 4174420.1,     127.3,     127.3,       1.5);         ( 600470.6, 4174420.1,     127.5,     127.5,       1.5);
    ( 600490.6, 4174420.1,     127.7,     127.7,       1.5);         ( 599730.6, 4174440.1,     119.8,     119.8,       1.5);
    ( 599750.6, 4174440.1,     120.0,     120.0,       1.5);         ( 599770.6, 4174440.1,     120.0,     120.0,       1.5);
    ( 599790.6, 4174440.1,     120.0,     120.0,       1.5);         ( 599810.6, 4174440.1,     120.0,     120.0,       1.5);
    ( 599830.6, 4174440.1,     118.9,     122.4,       1.5);         ( 599850.6, 4174440.1,     118.7,     122.8,       1.5);
    ( 599870.6, 4174440.1,     118.7,     124.2,       1.5);         ( 599890.6, 4174440.1,     119.8,     124.2,       1.5);
    ( 599910.6, 4174440.1,     121.6,     121.6,       1.5);         ( 599930.6, 4174440.1,     122.5,     122.5,       1.5);
    ( 599950.6, 4174440.1,     122.0,     122.0,       1.5);         ( 599970.6, 4174440.1,     121.9,     121.9,       1.5);
    ( 599990.6, 4174440.1,     121.7,     121.7,       1.5);         ( 600010.6, 4174440.1,     121.6,     121.6,       1.5);
    ( 600030.6, 4174440.1,     122.2,     122.2,       1.5);         ( 600050.6, 4174440.1,     122.7,     122.7,       1.5);
    ( 600070.6, 4174440.1,     122.4,     122.4,       1.5);         ( 600090.6, 4174440.1,     123.4,     125.1,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600110.6, 4174440.1,     124.3,     124.3,       1.5);         ( 600130.6, 4174440.1,     124.1,     125.0,       1.5);
    ( 600150.6, 4174440.1,     123.5,     123.5,       1.5);         ( 600170.6, 4174440.1,     122.8,     122.8,       1.5);
    ( 600190.6, 4174440.1,     123.9,     123.9,       1.5);         ( 600210.6, 4174440.1,     124.7,     124.7,       1.5);
    ( 600230.6, 4174440.1,     125.0,     125.0,       1.5);         ( 600250.6, 4174440.1,     125.3,     125.3,       1.5);
    ( 600270.6, 4174440.1,     125.5,     125.5,       1.5);         ( 600290.6, 4174440.1,     125.7,     125.7,       1.5);
    ( 600310.6, 4174440.1,     125.9,     125.9,       1.5);         ( 600330.6, 4174440.1,     126.1,     126.1,       1.5);
    ( 600350.6, 4174440.1,     126.4,     126.4,       1.5);         ( 600370.6, 4174440.1,     126.6,     126.6,       1.5);
    ( 600390.6, 4174440.1,     127.0,     127.0,       1.5);         ( 600410.6, 4174440.1,     127.3,     127.3,       1.5);
    ( 600430.6, 4174440.1,     127.5,     127.5,       1.5);         ( 600450.6, 4174440.1,     127.7,     127.7,       1.5);
    ( 600470.6, 4174440.1,     127.9,     127.9,       1.5);         ( 600490.6, 4174440.1,     128.2,     128.2,       1.5);
    ( 599730.6, 4174460.1,     120.6,     120.6,       1.5);         ( 599750.6, 4174460.1,     121.5,     123.3,       1.5);
    ( 599770.6, 4174460.1,     121.9,     121.9,       1.5);         ( 599790.6, 4174460.1,     121.8,     121.8,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  38

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 599810.6, 4174460.1,     121.4,     121.4,       1.5);         ( 599830.6, 4174460.1,     120.8,     122.4,       1.5);
    ( 599850.6, 4174460.1,     120.8,     122.8,       1.5);         ( 599870.6, 4174460.1,     121.0,     123.3,       1.5);
    ( 599890.6, 4174460.1,     121.9,     124.2,       1.5);         ( 599910.6, 4174460.1,     123.1,     123.1,       1.5);
    ( 599930.6, 4174460.1,     123.5,     123.5,       1.5);         ( 599950.6, 4174460.1,     123.4,     123.4,       1.5);
    ( 599970.6, 4174460.1,     123.1,     123.1,       1.5);         ( 599990.6, 4174460.1,     122.7,     122.7,       1.5);
    ( 600010.6, 4174460.1,     122.7,     122.7,       1.5);         ( 600030.6, 4174460.1,     123.1,     123.1,       1.5);
    ( 600050.6, 4174460.1,     123.7,     123.7,       1.5);         ( 600070.6, 4174460.1,     123.7,     123.7,       1.5);
    ( 600090.6, 4174460.1,     123.8,     123.8,       1.5);         ( 600110.6, 4174460.1,     123.9,     123.9,       1.5);
    ( 600130.6, 4174460.1,     123.9,     123.9,       1.5);         ( 600150.6, 4174460.1,     124.1,     124.1,       1.5);
    ( 600170.6, 4174460.1,     123.8,     123.8,       1.5);         ( 600190.6, 4174460.1,     124.6,     124.6,       1.5);
    ( 600210.6, 4174460.1,     125.3,     125.3,       1.5);         ( 600230.6, 4174460.1,     125.5,     125.5,       1.5);
    ( 600250.6, 4174460.1,     125.7,     125.7,       1.5);         ( 600270.6, 4174460.1,     126.0,     126.0,       1.5);
    ( 600290.6, 4174460.1,     126.2,     126.2,       1.5);         ( 600310.6, 4174460.1,     126.4,     126.4,       1.5);
    ( 600330.6, 4174460.1,     126.6,     126.6,       1.5);         ( 600350.6, 4174460.1,     126.9,     126.9,       1.5);
    ( 600370.6, 4174460.1,     127.1,     127.1,       1.5);         ( 600390.6, 4174460.1,     127.5,     127.5,       1.5);
    ( 600410.6, 4174460.1,     127.8,     127.8,       1.5);         ( 600430.6, 4174460.1,     128.0,     128.0,       1.5);
    ( 600450.6, 4174460.1,     128.2,     128.2,       1.5);         ( 600470.6, 4174460.1,     128.3,     128.3,       1.5);
    ( 600490.6, 4174460.1,     128.5,     128.5,       1.5);         ( 599730.6, 4174480.1,     121.4,     121.4,       1.5);
    ( 599750.6, 4174480.1,     122.7,     122.7,       1.5);         ( 599770.6, 4174480.1,     123.3,     123.3,       1.5);
    ( 599790.6, 4174480.1,     123.1,     123.1,       1.5);         ( 599810.6, 4174480.1,     122.8,     122.8,       1.5);
    ( 599830.6, 4174480.1,     122.6,     122.6,       1.5);         ( 599850.6, 4174480.1,     122.8,     122.8,       1.5);
    ( 599870.6, 4174480.1,     123.2,     123.2,       1.5);         ( 599890.6, 4174480.1,     123.7,     123.7,       1.5);
    ( 599910.6, 4174480.1,     124.2,     124.2,       1.5);         ( 599930.6, 4174480.1,     124.2,     124.2,       1.5);
    ( 599950.6, 4174480.1,     124.6,     124.6,       1.5);         ( 599970.6, 4174480.1,     124.2,     124.2,       1.5);
    ( 599990.6, 4174480.1,     123.8,     123.8,       1.5);         ( 600010.6, 4174480.1,     123.8,     123.8,       1.5);
    ( 600030.6, 4174480.1,     124.0,     124.0,       1.5);         ( 600050.6, 4174480.1,     124.8,     124.8,       1.5);
    ( 600070.6, 4174480.1,     125.1,     125.1,       1.5);         ( 600090.6, 4174480.1,     123.8,     123.8,       1.5);
    ( 600110.6, 4174480.1,     122.6,     122.6,       1.5);         ( 600130.6, 4174480.1,     123.0,     123.0,       1.5);
    ( 600150.6, 4174480.1,     124.8,     124.8,       1.5);         ( 600170.6, 4174480.1,     124.7,     124.7,       1.5);
    ( 600190.6, 4174480.1,     125.4,     125.4,       1.5);         ( 600210.6, 4174480.1,     125.8,     125.8,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600230.6, 4174480.1,     125.9,     125.9,       1.5);         ( 600250.6, 4174480.1,     126.1,     126.1,       1.5);
    ( 600270.6, 4174480.1,     126.4,     126.4,       1.5);         ( 600290.6, 4174480.1,     126.7,     126.7,       1.5);
    ( 600310.6, 4174480.1,     126.9,     126.9,       1.5);         ( 600330.6, 4174480.1,     127.1,     127.1,       1.5);
    ( 600350.6, 4174480.1,     127.3,     127.3,       1.5);         ( 600370.6, 4174480.1,     127.5,     127.5,       1.5);
    ( 600390.6, 4174480.1,     128.0,     128.0,       1.5);         ( 600410.6, 4174480.1,     128.3,     128.3,       1.5);
    ( 600430.6, 4174480.1,     128.5,     128.5,       1.5);         ( 600450.6, 4174480.1,     128.6,     128.6,       1.5);
    ( 600470.6, 4174480.1,     128.7,     128.7,       1.5);         ( 600490.6, 4174480.1,     128.2,     128.2,       1.5);
    ( 599730.6, 4174500.1,     122.2,     122.2,       1.5);         ( 599750.6, 4174500.1,     122.9,     122.9,       1.5);
    ( 599770.6, 4174500.1,     123.3,     123.3,       1.5);         ( 599790.6, 4174500.1,     123.4,     123.4,       1.5);
    ( 599810.6, 4174500.1,     123.5,     123.5,       1.5);         ( 599830.6, 4174500.1,     123.0,     123.0,       1.5);
    ( 599850.6, 4174500.1,     123.4,     123.4,       1.5);         ( 599870.6, 4174500.1,     123.6,     123.6,       1.5);
    ( 599890.6, 4174500.1,     123.8,     123.8,       1.5);         ( 599910.6, 4174500.1,     124.1,     124.1,       1.5);
    ( 599930.6, 4174500.1,     124.1,     124.1,       1.5);         ( 599950.6, 4174500.1,     124.4,     124.4,       1.5);
    ( 599970.6, 4174500.1,     124.8,     124.8,       1.5);         ( 599990.6, 4174500.1,     124.9,     124.9,       1.5);
    ( 600010.6, 4174500.1,     124.7,     124.7,       1.5);         ( 600030.6, 4174500.1,     124.6,     124.6,       1.5);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  39

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600050.6, 4174500.1,     125.0,     125.0,       1.5);         ( 600070.6, 4174500.1,     125.2,     125.2,       1.5);
    ( 600090.6, 4174500.1,     124.9,     124.9,       1.5);         ( 600110.6, 4174500.1,     124.6,     124.6,       1.5);
    ( 600130.6, 4174500.1,     125.0,     125.0,       1.5);         ( 600150.6, 4174500.1,     125.7,     125.7,       1.5);
    ( 600170.6, 4174500.1,     125.5,     125.5,       1.5);         ( 600190.6, 4174500.1,     125.9,     125.9,       1.5);
    ( 600210.6, 4174500.1,     126.3,     126.3,       1.5);         ( 600230.6, 4174500.1,     126.4,     126.4,       1.5);
    ( 600250.6, 4174500.1,     126.6,     126.6,       1.5);         ( 600270.6, 4174500.1,     126.8,     126.8,       1.5);
    ( 600290.6, 4174500.1,     127.1,     127.1,       1.5);         ( 600310.6, 4174500.1,     127.3,     127.3,       1.5);
    ( 600330.6, 4174500.1,     127.6,     127.6,       1.5);         ( 600350.6, 4174500.1,     127.8,     127.8,       1.5);
    ( 600370.6, 4174500.1,     128.0,     128.0,       1.5);         ( 600390.6, 4174500.1,     128.4,     128.4,       1.5);
    ( 600410.6, 4174500.1,     128.7,     128.7,       1.5);         ( 600430.6, 4174500.1,     128.4,     128.4,       1.5);
    ( 600450.6, 4174500.1,     127.7,     127.7,       1.5);         ( 600470.6, 4174500.1,     127.3,     127.3,       1.5);
    ( 600490.6, 4174500.1,     127.0,     127.0,       1.5);         ( 599730.6, 4174520.1,     122.7,     122.7,       1.5);
    ( 599750.6, 4174520.1,     123.2,     123.2,       1.5);         ( 599770.6, 4174520.1,     123.5,     123.5,       1.5);
    ( 599790.6, 4174520.1,     123.7,     123.7,       1.5);         ( 599810.6, 4174520.1,     124.0,     124.0,       1.5);
    ( 599830.6, 4174520.1,     123.7,     123.7,       1.5);         ( 599850.6, 4174520.1,     124.0,     124.0,       1.5);
    ( 599870.6, 4174520.1,     124.3,     124.3,       1.5);         ( 599890.6, 4174520.1,     124.5,     124.5,       1.5);
    ( 599910.6, 4174520.1,     124.5,     124.5,       1.5);         ( 599930.6, 4174520.1,     124.4,     124.4,       1.5);
    ( 599950.6, 4174520.1,     124.5,     124.5,       1.5);         ( 599970.6, 4174520.1,     124.9,     124.9,       1.5);
    ( 599990.6, 4174520.1,     125.1,     125.1,       1.5);         ( 600010.6, 4174520.1,     125.1,     125.1,       1.5);
    ( 600030.6, 4174520.1,     125.2,     125.2,       1.5);         ( 600050.6, 4174520.1,     125.4,     125.4,       1.5);
    ( 600070.6, 4174520.1,     125.8,     125.8,       1.5);         ( 600090.6, 4174520.1,     125.9,     125.9,       1.5);
    ( 600110.6, 4174520.1,     126.1,     126.1,       1.5);         ( 600130.6, 4174520.1,     126.3,     126.3,       1.5);
    ( 600150.6, 4174520.1,     126.3,     126.3,       1.5);         ( 600170.6, 4174520.1,     126.3,     126.3,       1.5);
    ( 600190.6, 4174520.1,     126.6,     126.6,       1.5);         ( 600210.6, 4174520.1,     126.8,     126.8,       1.5);
    ( 600230.6, 4174520.1,     126.9,     126.9,       1.5);         ( 600250.6, 4174520.1,     127.1,     127.1,       1.5);
    ( 600270.6, 4174520.1,     127.3,     127.3,       1.5);         ( 600290.6, 4174520.1,     127.6,     127.6,       1.5);
    ( 600310.6, 4174520.1,     127.8,     127.8,       1.5);         ( 600330.6, 4174520.1,     128.1,     128.1,       1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600350.6, 4174520.1,     128.4,     128.4,       1.5);         ( 600370.6, 4174520.1,     128.6,     128.6,       1.5);
    ( 600390.6, 4174520.1,     128.9,     128.9,       1.5);         ( 600410.6, 4174520.1,     129.2,     129.2,       1.5);
    ( 600430.6, 4174520.1,     128.6,     128.6,       1.5);         ( 600450.6, 4174520.1,     127.6,     127.6,       1.5);
    ( 600470.6, 4174520.1,     126.9,     131.5,       1.5);         ( 600490.6, 4174520.1,     127.3,     131.5,       1.5);
    ( 600010.6, 4173500.1,     107.2,     107.2,       6.1);         ( 600030.6, 4173500.1,     106.4,     106.4,       6.1);
    ( 600050.6, 4173500.1,     105.3,     105.3,       6.1);         ( 600070.6, 4173500.1,     104.7,     104.7,       6.1);
    ( 600090.6, 4173500.1,     104.7,     104.7,       6.1);         ( 600110.6, 4173500.1,     104.7,     104.7,       6.1);
    ( 600130.6, 4173500.1,     104.7,     104.7,       6.1);         ( 600150.6, 4173500.1,     104.7,     104.7,       6.1);
    ( 600170.6, 4173500.1,     104.7,     104.7,       6.1);         ( 600190.6, 4173500.1,     104.8,     104.8,       6.1);
    ( 600210.6, 4173500.1,     104.8,     104.8,       6.1);         ( 600230.6, 4173500.1,     104.8,     104.8,       6.1);
    ( 600250.6, 4173500.1,     104.9,     104.9,       6.1);         ( 600270.6, 4173500.1,     106.0,     106.0,       6.1);
    ( 600290.6, 4173500.1,     107.4,     107.4,       6.1);         ( 600310.6, 4173500.1,     107.6,     107.6,       6.1);
    ( 600330.6, 4173500.1,     107.5,     107.5,       6.1);         ( 600350.6, 4173500.1,     107.5,     107.5,       6.1);
    ( 600370.6, 4173500.1,     107.5,     107.5,       6.1);         ( 600390.6, 4173500.1,     107.5,     107.5,       6.1);
    ( 600410.6, 4173500.1,     107.5,     107.5,       6.1);         ( 600430.6, 4173500.1,     107.5,     107.5,       6.1);
    ( 600450.6, 4173500.1,     107.4,     107.4,       6.1);         ( 600470.6, 4173500.1,     107.5,     107.5,       6.1);
    ( 600490.6, 4173500.1,     107.5,     107.5,       6.1);         ( 600010.6, 4173520.1,     107.3,     107.3,       6.1);
    ( 600030.6, 4173520.1,     106.4,     106.4,       6.1);         ( 600050.6, 4173520.1,     105.3,     105.3,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  40
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600070.6, 4173520.1,     104.6,     104.6,       6.1);         ( 600090.6, 4173520.1,     104.6,     104.6,       6.1);
    ( 600110.6, 4173520.1,     104.6,     104.6,       6.1);         ( 600130.6, 4173520.1,     104.7,     104.7,       6.1);
    ( 600150.6, 4173520.1,     104.7,     104.7,       6.1);         ( 600170.6, 4173520.1,     104.7,     104.7,       6.1);
    ( 600190.6, 4173520.1,     104.8,     104.8,       6.1);         ( 600210.6, 4173520.1,     104.8,     104.8,       6.1);
    ( 600230.6, 4173520.1,     104.8,     104.8,       6.1);         ( 600250.6, 4173520.1,     104.8,     104.8,       6.1);
    ( 600270.6, 4173520.1,     106.0,     107.4,       6.1);         ( 600290.6, 4173520.1,     107.5,     107.5,       6.1);
    ( 600310.6, 4173520.1,     107.6,     107.6,       6.1);         ( 600330.6, 4173520.1,     107.6,     107.6,       6.1);
    ( 600350.6, 4173520.1,     107.6,     107.6,       6.1);         ( 600370.6, 4173520.1,     107.6,     107.6,       6.1);
    ( 600390.6, 4173520.1,     107.6,     107.6,       6.1);         ( 600410.6, 4173520.1,     107.6,     107.6,       6.1);
    ( 600430.6, 4173520.1,     107.6,     107.6,       6.1);         ( 600450.6, 4173520.1,     107.6,     107.6,       6.1);
    ( 600470.6, 4173520.1,     107.6,     107.6,       6.1);         ( 600490.6, 4173520.1,     107.5,     107.5,       6.1);
    ( 600010.6, 4173540.1,     107.3,     107.3,       6.1);         ( 600030.6, 4173540.1,     106.4,     106.4,       6.1);
    ( 600050.6, 4173540.1,     105.3,     105.3,       6.1);         ( 600070.6, 4173540.1,     104.6,     104.6,       6.1);
    ( 600090.6, 4173540.1,     104.6,     104.6,       6.1);         ( 600110.6, 4173540.1,     104.6,     104.6,       6.1);
    ( 600130.6, 4173540.1,     104.7,     104.7,       6.1);         ( 600150.6, 4173540.1,     104.7,     104.7,       6.1);
    ( 600170.6, 4173540.1,     104.7,     104.7,       6.1);         ( 600190.6, 4173540.1,     104.8,     104.8,       6.1);
    ( 600210.6, 4173540.1,     104.8,     104.8,       6.1);         ( 600230.6, 4173540.1,     104.9,     104.9,       6.1);
    ( 600250.6, 4173540.1,     104.9,     104.9,       6.1);         ( 600270.6, 4173540.1,     106.1,     106.1,       6.1);
    ( 600290.6, 4173540.1,     107.5,     107.5,       6.1);         ( 600310.6, 4173540.1,     107.7,     107.7,       6.1);
    ( 600330.6, 4173540.1,     107.7,     107.7,       6.1);         ( 600350.6, 4173540.1,     107.7,     107.7,       6.1);
    ( 600370.6, 4173540.1,     107.6,     107.6,       6.1);         ( 600390.6, 4173540.1,     107.6,     107.6,       6.1);
    ( 600410.6, 4173540.1,     107.6,     107.6,       6.1);         ( 600430.6, 4173540.1,     107.6,     107.6,       6.1);
    ( 600450.6, 4173540.1,     107.6,     107.6,       6.1);         ( 600470.6, 4173540.1,     107.6,     107.6,       6.1);
    ( 600490.6, 4173540.1,     107.6,     107.6,       6.1);         ( 600010.6, 4173560.1,     107.3,     107.3,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600030.6, 4173560.1,     106.4,     106.4,       6.1);         ( 600050.6, 4173560.1,     105.5,     105.5,       6.1);
    ( 600070.6, 4173560.1,     105.0,     105.0,       6.1);         ( 600090.6, 4173560.1,     105.1,     105.1,       6.1);
    ( 600110.6, 4173560.1,     105.0,     105.0,       6.1);         ( 600130.6, 4173560.1,     105.2,     105.2,       6.1);
    ( 600150.6, 4173560.1,     105.1,     105.1,       6.1);         ( 600170.6, 4173560.1,     105.1,     105.1,       6.1);
    ( 600190.6, 4173560.1,     105.2,     105.2,       6.1);         ( 600210.6, 4173560.1,     105.3,     105.3,       6.1);
    ( 600230.6, 4173560.1,     105.4,     105.4,       6.1);         ( 600250.6, 4173560.1,     105.5,     105.5,       6.1);
    ( 600270.6, 4173560.1,     106.5,     106.5,       6.1);         ( 600290.6, 4173560.1,     107.6,     107.6,       6.1);
    ( 600310.6, 4173560.1,     107.7,     107.7,       6.1);         ( 600330.6, 4173560.1,     107.8,     107.8,       6.1);
    ( 600350.6, 4173560.1,     107.8,     107.8,       6.1);         ( 600370.6, 4173560.1,     107.7,     107.7,       6.1);
    ( 600390.6, 4173560.1,     107.7,     107.7,       6.1);         ( 600410.6, 4173560.1,     107.7,     107.7,       6.1);
    ( 600430.6, 4173560.1,     107.7,     107.7,       6.1);         ( 600450.6, 4173560.1,     107.7,     107.7,       6.1);
    ( 600470.6, 4173560.1,     107.7,     107.7,       6.1);         ( 600490.6, 4173560.1,     107.7,     107.7,       6.1);
    ( 600030.6, 4173580.1,     106.5,     106.5,       6.1);         ( 600050.6, 4173580.1,     106.0,     106.0,       6.1);
    ( 600070.6, 4173580.1,     106.0,     106.0,       6.1);         ( 600090.6, 4173580.1,     106.4,     106.4,       6.1);
    ( 600110.6, 4173580.1,     106.4,     106.4,       6.1);         ( 600130.6, 4173580.1,     106.3,     106.3,       6.1);
    ( 600150.6, 4173580.1,     106.4,     106.4,       6.1);         ( 600170.6, 4173580.1,     106.5,     106.5,       6.1);
    ( 600190.6, 4173580.1,     106.6,     106.6,       6.1);         ( 600210.6, 4173580.1,     106.8,     106.8,       6.1);
    ( 600230.6, 4173580.1,     106.8,     106.8,       6.1);         ( 600250.6, 4173580.1,     107.0,     107.0,       6.1);
    ( 600270.6, 4173580.1,     107.3,     107.3,       6.1);         ( 600290.6, 4173580.1,     107.7,     107.7,       6.1);
    ( 600310.6, 4173580.1,     107.8,     107.8,       6.1);         ( 600330.6, 4173580.1,     108.0,     108.0,       6.1);
    ( 600350.6, 4173580.1,     108.0,     108.0,       6.1);         ( 600370.6, 4173580.1,     107.9,     107.9,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  41

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                            (METERS)

    ( 600390.6, 4173580.1,     107.9,     107.9,       6.1);         ( 600410.6, 4173580.1,     107.9,     107.9,       6.1);
    ( 600430.6, 4173580.1,     107.8,     107.8,       6.1);         ( 600450.6, 4173580.1,     107.8,     107.8,       6.1);
    ( 600470.6, 4173580.1,     107.8,     107.8,       6.1);         ( 600490.6, 4173580.1,     107.8,     107.8,       6.1);
    ( 600030.6, 4173600.1,     106.4,     106.4,       6.1);         ( 600050.6, 4173600.1,     106.1,     106.1,       6.1);
    ( 600070.6, 4173600.1,     106.3,     106.3,       6.1);         ( 600090.6, 4173600.1,     106.7,     106.7,       6.1);
    ( 600110.6, 4173600.1,     106.8,     106.8,       6.1);         ( 600130.6, 4173600.1,     106.7,     106.7,       6.1);
    ( 600150.6, 4173600.1,     106.8,     106.8,       6.1);         ( 600170.6, 4173600.1,     106.9,     106.9,       6.1);
    ( 600190.6, 4173600.1,     106.9,     106.9,       6.1);         ( 600210.6, 4173600.1,     107.1,     107.1,       6.1);
    ( 600230.6, 4173600.1,     107.3,     107.3,       6.1);         ( 600250.6, 4173600.1,     107.5,     107.5,       6.1);
    ( 600270.6, 4173600.1,     107.6,     107.6,       6.1);         ( 600290.6, 4173600.1,     107.8,     107.8,       6.1);
    ( 600310.6, 4173600.1,     107.8,     107.8,       6.1);         ( 600330.6, 4173600.1,     107.9,     107.9,       6.1);
    ( 600350.6, 4173600.1,     108.0,     108.0,       6.1);         ( 600370.6, 4173600.1,     108.0,     108.0,       6.1);
    ( 600390.6, 4173600.1,     108.0,     108.0,       6.1);         ( 600410.6, 4173600.1,     107.9,     107.9,       6.1);
    ( 600430.6, 4173600.1,     107.8,     107.8,       6.1);         ( 600450.6, 4173600.1,     107.8,     107.8,       6.1);
    ( 600470.6, 4173600.1,     107.8,     107.8,       6.1);         ( 600490.6, 4173600.1,     107.8,     107.8,       6.1);
    ( 600030.6, 4173620.1,     106.3,     106.3,       6.1);         ( 600050.6, 4173620.1,     106.2,     106.2,       6.1);
    ( 600070.6, 4173620.1,     106.5,     106.5,       6.1);         ( 600090.6, 4173620.1,     106.7,     106.7,       6.1);
    ( 600110.6, 4173620.1,     106.9,     106.9,       6.1);         ( 600130.6, 4173620.1,     106.9,     106.9,       6.1);
    ( 600150.6, 4173620.1,     107.0,     107.0,       6.1);         ( 600170.6, 4173620.1,     107.0,     107.0,       6.1);
    ( 600190.6, 4173620.1,     107.0,     107.0,       6.1);         ( 600210.6, 4173620.1,     107.1,     107.1,       6.1);
    ( 600230.6, 4173620.1,     107.4,     107.4,       6.1);         ( 600250.6, 4173620.1,     107.6,     107.6,       6.1);
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```
    ( 600270.6, 4173620.1,     107.7,     107.7,       6.1);         ( 600290.6, 4173620.1,     107.8,     107.8,       6.1);
    ( 600310.6, 4173620.1,     107.7,     107.7,       6.1);         ( 600330.6, 4173620.1,     107.8,     107.8,       6.1);
    ( 600350.6, 4173620.1,     107.9,     107.9,       6.1);         ( 600370.6, 4173620.1,     107.9,     107.9,       6.1);
    ( 600390.6, 4173620.1,     107.9,     107.9,       6.1);         ( 600410.6, 4173620.1,     107.8,     107.8,       6.1);
    ( 600430.6, 4173620.1,     107.8,     107.8,       6.1);         ( 600450.6, 4173620.1,     107.7,     107.7,       6.1);
    ( 600470.6, 4173620.1,     107.7,     107.7,       6.1);         ( 600490.6, 4173620.1,     107.7,     107.7,       6.1);
    ( 600030.6, 4173640.1,     106.3,     106.3,       6.1);         ( 600050.6, 4173640.1,     106.2,     106.2,       6.1);
    ( 600070.6, 4173640.1,     106.5,     106.5,       6.1);         ( 600090.6, 4173640.1,     106.7,     106.7,       6.1);
    ( 600110.6, 4173640.1,     107.0,     107.0,       6.1);         ( 600130.6, 4173640.1,     107.1,     107.1,       6.1);
    ( 600150.6, 4173640.1,     107.2,     107.2,       6.1);         ( 600170.6, 4173640.1,     107.3,     107.3,       6.1);
    ( 600190.6, 4173640.1,     107.3,     107.3,       6.1);         ( 600210.6, 4173640.1,     107.4,     107.4,       6.1);
    ( 600230.6, 4173640.1,     107.5,     107.5,       6.1);         ( 600250.6, 4173640.1,     107.6,     107.6,       6.1);
    ( 600270.6, 4173640.1,     107.7,     107.7,       6.1);         ( 600290.6, 4173640.1,     107.8,     107.8,       6.1);
    ( 600310.6, 4173640.1,     107.7,     107.7,       6.1);         ( 600330.6, 4173640.1,     107.7,     107.7,       6.1);
    ( 600350.6, 4173640.1,     107.7,     107.7,       6.1);         ( 600370.6, 4173640.1,     107.7,     107.7,       6.1);
    ( 600390.6, 4173640.1,     107.6,     107.6,       6.1);         ( 600410.6, 4173640.1,     107.5,     107.5,       6.1);
    ( 600430.6, 4173640.1,     107.4,     107.4,       6.1);         ( 600450.6, 4173640.1,     107.3,     107.3,       6.1);
    ( 600470.6, 4173640.1,     107.2,     107.2,       6.1);         ( 600490.6, 4173640.1,     107.2,     107.2,       6.1);
    ( 600030.6, 4173660.1,     106.6,     106.6,       6.1);         ( 600050.6, 4173660.1,     106.5,     106.5,       6.1);
    ( 600070.6, 4173660.1,     106.6,     106.6,       6.1);         ( 600090.6, 4173660.1,     106.8,     106.8,       6.1);
    ( 600110.6, 4173660.1,     107.1,     107.1,       6.1);         ( 600130.6, 4173660.1,     107.3,     107.3,       6.1);
    ( 600150.6, 4173660.1,     107.5,     107.5,       6.1);         ( 600170.6, 4173660.1,     107.6,     107.6,       6.1);
    ( 600190.6, 4173660.1,     107.6,     107.6,       6.1);         ( 600210.6, 4173660.1,     107.7,     107.7,       6.1);
    ( 600230.6, 4173660.1,     107.7,     107.7,       6.1);         ( 600250.6, 4173660.1,     107.8,     107.8,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  42
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600270.6, 4173660.1,     107.8,     107.8,       6.1);         ( 600290.6, 4173660.1,     107.8,     107.8,       6.1);
    ( 600310.6, 4173660.1,     107.7,     107.7,       6.1);         ( 600330.6, 4173660.1,     107.7,     107.7,       6.1);
    ( 600350.6, 4173660.1,     107.7,     107.7,       6.1);         ( 600370.6, 4173660.1,     107.6,     107.6,       6.1);
    ( 600390.6, 4173660.1,     107.5,     107.5,       6.1);         ( 600410.6, 4173660.1,     107.4,     107.4,       6.1);
    ( 600430.6, 4173660.1,     107.4,     107.4,       6.1);         ( 600450.6, 4173660.1,     107.6,     107.6,       6.1);
    ( 600470.6, 4173660.1,     107.3,     107.3,       6.1);         ( 600490.6, 4173660.1,     107.1,     107.1,       6.1);
    ( 600030.6, 4173680.1,     107.0,     107.0,       6.1);         ( 600050.6, 4173680.1,     106.8,     106.8,       6.1);
    ( 600070.6, 4173680.1,     106.8,     106.8,       6.1);         ( 600150.6, 4173680.1,     107.7,     107.7,       6.1);
    ( 600170.6, 4173680.1,     107.9,     107.9,       6.1);         ( 600190.6, 4173680.1,     108.0,     108.0,       6.1);
    ( 600210.6, 4173680.1,     108.1,     108.1,       6.1);         ( 600230.6, 4173680.1,     108.1,     108.1,       6.1);
    ( 600250.6, 4173680.1,     108.1,     108.1,       6.1);         ( 600270.6, 4173680.1,     108.0,     108.0,       6.1);
    ( 600290.6, 4173680.1,     107.9,     107.9,       6.1);         ( 600310.6, 4173680.1,     107.7,     107.7,       6.1);
    ( 600330.6, 4173680.1,     107.7,     107.7,       6.1);         ( 600350.6, 4173680.1,     107.8,     107.8,       6.1);
    ( 600370.6, 4173680.1,     107.8,     107.8,       6.1);         ( 600390.6, 4173680.1,     107.7,     107.7,       6.1);
    ( 600410.6, 4173680.1,     107.5,     107.5,       6.1);         ( 600430.6, 4173680.1,     107.7,     107.7,       6.1);
    ( 600450.6, 4173680.1,     108.6,     108.6,       6.1);         ( 600470.6, 4173680.1,     107.9,     107.9,       6.1);
    ( 600490.6, 4173680.1,     107.3,     107.3,       6.1);         ( 600150.6, 4173700.1,     107.6,     107.6,       6.1);
    ( 600170.6, 4173700.1,     108.0,     108.0,       6.1);         ( 600190.6, 4173700.1,     108.4,     108.4,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600210.6, 4173700.1,     108.8,     108.8,       6.1);         ( 600230.6, 4173700.1,     109.4,     109.4,       6.1);
    ( 600250.6, 4173700.1,     109.2,     109.2,       6.1);         ( 600270.6, 4173700.1,     109.2,     109.2,       6.1);
    ( 600290.6, 4173700.1,     108.8,     108.8,       6.1);         ( 600310.6, 4173700.1,     107.8,     107.8,       6.1);
    ( 600330.6, 4173700.1,     107.7,     107.7,       6.1);         ( 600350.6, 4173700.1,     108.5,     108.5,       6.1);
    ( 600370.6, 4173700.1,     109.0,     109.0,       6.1);         ( 600390.6, 4173700.1,     109.2,     109.2,       6.1);
    ( 600410.6, 4173700.1,     109.2,     109.2,       6.1);         ( 600430.6, 4173700.1,     109.1,     109.1,       6.1);
    ( 600450.6, 4173700.1,     109.4,     109.4,       6.1);         ( 600470.6, 4173700.1,     108.6,     108.6,       6.1);
    ( 600490.6, 4173700.1,     107.7,     107.7,       6.1);         ( 600150.6, 4173720.1,     107.7,     107.7,       6.1);
    ( 600170.6, 4173720.1,     108.2,     108.2,       6.1);         ( 600190.6, 4173720.1,     109.0,     109.0,       6.1);
    ( 600210.6, 4173720.1,     109.3,     109.3,       6.1);         ( 600230.6, 4173720.1,     109.9,     109.9,       6.1);
    ( 600250.6, 4173720.1,     109.8,     109.8,       6.1);         ( 600270.6, 4173720.1,     109.8,     109.8,       6.1);
    ( 600290.6, 4173720.1,     109.4,     109.4,       6.1);         ( 600310.6, 4173720.1,     108.5,     108.5,       6.1);
    ( 600330.6, 4173720.1,     107.8,     107.8,       6.1);         ( 600350.6, 4173720.1,     109.1,     109.1,       6.1);
    ( 600370.6, 4173720.1,     109.7,     109.7,       6.1);         ( 600390.6, 4173720.1,     110.0,     110.0,       6.1);
    ( 600410.6, 4173720.1,     110.1,     110.1,       6.1);         ( 600430.6, 4173720.1,     109.9,     109.9,       6.1);
    ( 600450.6, 4173720.1,     110.0,     110.0,       6.1);         ( 600470.6, 4173720.1,     109.3,     109.3,       6.1);
    ( 600490.6, 4173720.1,     108.1,     108.1,       6.1);         ( 600170.6, 4173740.1,     108.7,     108.7,       6.1);
    ( 600190.6, 4173740.1,     109.6,     109.6,       6.1);         ( 600210.6, 4173740.1,     109.9,     109.9,       6.1);
    ( 600230.6, 4173740.1,     110.0,     110.0,       6.1);         ( 600250.6, 4173740.1,     110.0,     110.0,       6.1);
    ( 600270.6, 4173740.1,     110.0,     110.0,       6.1);         ( 600290.6, 4173740.1,     109.9,     109.9,       6.1);
    ( 600310.6, 4173740.1,     109.5,     109.5,       6.1);         ( 600330.6, 4173740.1,     108.0,     108.0,       6.1);
    ( 600350.6, 4173740.1,     109.6,     109.6,       6.1);         ( 600370.6, 4173740.1,     110.0,     110.0,       6.1);
    ( 600390.6, 4173740.1,     110.0,     110.0,       6.1);         ( 600410.6, 4173740.1,     110.0,     110.0,       6.1);
    ( 600430.6, 4173740.1,     110.0,     110.0,       6.1);         ( 600450.6, 4173740.1,     110.1,     110.1,       6.1);
    ( 600470.6, 4173740.1,     110.0,     110.0,       6.1);         ( 600490.6, 4173740.1,     108.5,     110.0,       6.1);
    ( 599870.6, 4173760.1,     107.4,     107.4,       6.1);         ( 599890.6, 4173760.1,     107.4,     107.4,       6.1);
    ( 599910.6, 4173760.1,     107.4,     107.4,       6.1);         ( 600170.6, 4173760.1,     108.4,     108.4,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  43
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                   (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600190.6, 4173760.1,     109.6,     109.6,       6.1);         ( 600210.6, 4173760.1,     109.9,     109.9,       6.1);
    ( 600230.6, 4173760.1,     109.9,     109.9,       6.1);         ( 600250.6, 4173760.1,     110.0,     110.0,       6.1);
    ( 600270.6, 4173760.1,     110.0,     110.0,       6.1);         ( 600290.6, 4173760.1,     109.8,     109.8,       6.1);
    ( 600310.6, 4173760.1,     109.2,     109.2,       6.1);         ( 600330.6, 4173760.1,     108.0,     108.0,       6.1);
    ( 600350.6, 4173760.1,     109.4,     109.4,       6.1);         ( 600370.6, 4173760.1,     109.6,     109.6,       6.1);
    ( 600390.6, 4173760.1,     109.7,     109.7,       6.1);         ( 600410.6, 4173760.1,     109.8,     109.8,       6.1);
    ( 600430.6, 4173760.1,     109.8,     109.8,       6.1);         ( 600450.6, 4173760.1,     109.8,     109.8,       6.1);
    ( 600470.6, 4173760.1,     109.5,     109.5,       6.1);         ( 600490.6, 4173760.1,     108.3,     108.3,       6.1);
    ( 599730.6, 4173780.1,     107.2,     107.2,       6.1);         ( 599750.6, 4173780.1,     107.5,     107.5,       6.1);
    ( 599770.6, 4173780.1,     107.6,     107.6,       6.1);         ( 599790.6, 4173780.1,     107.7,     107.7,       6.1);
    ( 599810.6, 4173780.1,     107.7,     107.7,       6.1);         ( 599830.6, 4173780.1,     107.6,     107.6,       6.1);
    ( 599850.6, 4173780.1,     107.5,     107.5,       6.1);         ( 599870.6, 4173780.1,     107.5,     107.5,       6.1);
    ( 599890.6, 4173780.1,     107.7,     107.7,       6.1);         ( 599910.6, 4173780.1,     107.7,     107.7,       6.1);
    ( 600170.6, 4173780.1,     108.1,     108.1,       6.1);         ( 600190.6, 4173780.1,     109.3,     109.3,       6.1);
    ( 600210.6, 4173780.1,     109.9,     109.9,       6.1);         ( 600230.6, 4173780.1,     109.9,     109.9,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

(600250.6,	4173780.1,	110.0,	110.0,	6.1);	(600270.6,	4173780.1,	110.0,	110.0,	6.1);
(600290.6,	4173780.1,	109.7,	109.7,	6.1);	(600310.6,	4173780.1,	109.1,	109.1,	6.1);
(600330.6,	4173780.1,	108.1,	108.1,	6.1);	(600350.6,	4173780.1,	109.1,	109.1,	6.1);
(600370.6,	4173780.1,	109.2,	109.2,	6.1);	(600390.6,	4173780.1,	109.2,	109.2,	6.1);
(600410.6,	4173780.1,	109.3,	109.3,	6.1);	(600430.6,	4173780.1,	109.2,	109.2,	6.1);
(600450.6,	4173780.1,	109.1,	109.1,	6.1);	(600470.6,	4173780.1,	108.8,	108.8,	6.1);
(600490.6,	4173780.1,	108.0,	108.0,	6.1);	(599730.6,	4173800.1,	107.1,	107.1,	6.1);
(599750.6,	4173800.1,	107.6,	107.6,	6.1);	(599770.6,	4173800.1,	107.8,	107.8,	6.1);
(599790.6,	4173800.1,	107.8,	107.8,	6.1);	(599810.6,	4173800.1,	107.8,	107.8,	6.1);
(599830.6,	4173800.1,	107.5,	107.5,	6.1);	(599850.6,	4173800.1,	107.4,	107.4,	6.1);
(599870.6,	4173800.1,	107.6,	107.6,	6.1);	(599890.6,	4173800.1,	108.1,	108.1,	6.1);
(599910.6,	4173800.1,	108.1,	108.1,	6.1);	(599923.0,	4173805.1,	108.1,	108.1,	6.1);
(600170.6,	4173800.1,	107.8,	107.8,	6.1);	(600190.6,	4173800.1,	108.8,	108.8,	6.1);
(600210.6,	4173800.1,	110.0,	110.0,	6.1);	(600230.6,	4173800.1,	110.1,	110.1,	6.1);
(600250.6,	4173800.1,	109.9,	109.9,	6.1);	(600270.6,	4173800.1,	110.0,	110.0,	6.1);
(600290.6,	4173800.1,	109.8,	109.8,	6.1);	(600310.6,	4173800.1,	109.3,	109.3,	6.1);
(600330.6,	4173800.1,	108.4,	108.4,	6.1);	(600350.6,	4173800.1,	108.6,	108.6,	6.1);
(600370.6,	4173800.1,	108.6,	108.6,	6.1);	(600390.6,	4173800.1,	108.4,	108.4,	6.1);
(600410.6,	4173800.1,	108.2,	108.2,	6.1);	(600430.6,	4173800.1,	108.1,	108.1,	6.1);
(600450.6,	4173800.1,	107.9,	107.9,	6.1);	(600470.6,	4173800.1,	107.8,	107.8,	6.1);
(600490.6,	4173800.1,	107.7,	107.7,	6.1);	(599730.6,	4173820.1,	107.3,	107.3,	6.1);
(599750.6,	4173820.1,	107.8,	107.8,	6.1);	(599770.6,	4173820.1,	108.1,	108.1,	6.1);
(599790.6,	4173820.1,	107.9,	107.9,	6.1);	(599810.6,	4173820.1,	108.0,	108.0,	6.1);
(599830.6,	4173820.1,	107.7,	107.7,	6.1);	(599850.6,	4173820.1,	107.5,	107.5,	6.1);
(599870.6,	4173820.1,	107.5,	107.5,	6.1);	(599890.6,	4173820.1,	108.0,	108.0,	6.1);
(599910.6,	4173820.1,	108.2,	108.2,	6.1);	(599930.6,	4173820.1,	108.2,	108.2,	6.1);
(600190.6,	4173820.1,	108.4,	108.4,	6.1);	(600210.6,	4173820.1,	108.8,	108.8,	6.1);
(600230.6,	4173820.1,	108.8,	108.8,	6.1);	(600250.6,	4173820.1,	108.8,	108.8,	6.1);
(600270.6,	4173820.1,	108.9,	108.9,	6.1);	(600290.6,	4173820.1,	108.9,	108.9,	6.1);
(600310.6,	4173820.1,	108.8,	108.8,	6.1);	(600330.6,	4173820.1,	108.6,	108.6,	6.1);

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	600350.6,	4173820.1,	108.8,	108.8,	6.1);	(600370.6,	4173820.1,	108.7,	108.7,	6.1);
(	600390.6,	4173820.1,	108.6,	108.6,	6.1);	(600410.6,	4173820.1,	108.4,	108.4,	6.1);
(	600430.6,	4173820.1,	108.1,	108.1,	6.1);	(600450.6,	4173820.1,	108.0,	108.0,	6.1);
(	600470.6,	4173820.1,	107.9,	107.9,	6.1);	(600490.6,	4173820.1,	107.9,	107.9,	6.1);
(	599730.6,	4173840.1,	107.5,	107.5,	6.1);	(599750.6,	4173840.1,	108.0,	108.0,	6.1);
(	599770.6,	4173840.1,	108.2,	108.2,	6.1);	(599790.6,	4173840.1,	108.0,	108.0,	6.1);
(	599810.6,	4173840.1,	108.0,	108.0,	6.1);	(599830.6,	4173840.1,	107.9,	107.9,	6.1);
(	599850.6,	4173840.1,	107.7,	107.7,	6.1);	(599870.6,	4173840.1,	107.7,	107.7,	6.1);
(	599890.6,	4173840.1,	108.1,	108.1,	6.1);	(599910.6,	4173840.1,	108.2,	108.2,	6.1);
(	599930.6,	4173840.1,	108.2,	108.2,	6.1);	(600190.6,	4173840.1,	108.2,	108.2,	6.1);
(	600210.6,	4173840.1,	108.0,	108.0,	6.1);	(600230.6,	4173840.1,	108.0,	108.0,	6.1);
(	600250.6,	4173840.1,	108.1,	108.1,	6.1);	(600270.6,	4173840.1,	108.2,	108.2,	6.1);
(	600290.6,	4173840.1,	108.3,	108.3,	6.1);	(600310.6,	4173840.1,	108.5,	108.5,	6.1);
(	600330.6,	4173840.1,	108.8,	108.8,	6.1);	(600350.6,	4173840.1,	109.0,	109.0,	6.1);
(	600370.6,	4173840.1,	109.0,	109.0,	6.1);	(600390.6,	4173840.1,	109.0,	109.0,	6.1);
(	600410.6,	4173840.1,	108.9,	108.9,	6.1);	(600430.6,	4173840.1,	108.5,	108.5,	6.1);
(	600450.6,	4173840.1,	108.5,	108.5,	6.1);	(600470.6,	4173840.1,	108.3,	108.3,	6.1);
(	600490.6,	4173840.1,	108.2,	108.2,	6.1);	(599730.6,	4173860.1,	107.8,	107.8,	6.1);
(	599750.6,	4173860.1,	108.2,	108.2,	6.1);	(599770.6,	4173860.1,	108.3,	108.3,	6.1);
(	599790.6,	4173860.1,	108.1,	108.1,	6.1);	(599810.6,	4173860.1,	108.1,	108.1,	6.1);
(	599830.6,	4173860.1,	108.0,	108.0,	6.1);	(599850.6,	4173860.1,	107.9,	107.9,	6.1);
(	599870.6,	4173860.1,	107.9,	107.9,	6.1);	(599890.6,	4173860.1,	108.2,	108.2,	6.1);
(	599910.6,	4173860.1,	108.1,	108.1,	6.1);	(599930.6,	4173860.1,	108.2,	108.2,	6.1);
(	600159.2,	4173869.6,	108.1,	108.1,	6.1);	(600170.6,	4173860.1,	108.1,	108.1,	6.1);
(	600190.6,	4173860.1,	108.2,	108.2,	6.1);	(600210.6,	4173860.1,	108.2,	108.2,	6.1);
(	600230.6,	4173860.1,	108.2,	108.2,	6.1);	(600250.6,	4173860.1,	108.5,	108.5,	6.1);
(	600270.6,	4173860.1,	108.4,	108.4,	6.1);	(600290.6,	4173860.1,	108.4,	108.4,	6.1);
(	600310.6,	4173860.1,	108.6,	108.6,	6.1);	(600330.6,	4173860.1,	109.2,	109.2,	6.1);
(	600350.6,	4173860.1,	109.1,	109.1,	6.1);	(600370.6,	4173860.1,	109.3,	109.3,	6.1);
(	600390.6,	4173860.1,	109.4,	109.4,	6.1);	(600410.6,	4173860.1,	109.4,	109.4,	6.1);
(	600430.6,	4173860.1,	109.2,	109.2,	6.1);	(600450.6,	4173860.1,	109.2,	109.2,	6.1);
(	600470.6,	4173860.1,	108.9,	108.9,	6.1);	(600490.6,	4173860.1,	108.8,	108.8,	6.1);
(	599730.6,	4173880.1,	108.0,	108.0,	6.1);	(599750.6,	4173880.1,	108.4,	108.4,	6.1);
(	599770.6,	4173880.1,	108.5,	108.5,	6.1);	(599790.6,	4173880.1,	108.3,	108.3,	6.1);
(	599810.6,	4173880.1,	108.1,	108.1,	6.1);	(599830.6,	4173880.1,	108.2,	108.2,	6.1);
(	599850.6,	4173880.1,	108.2,	108.2,	6.1);	(599870.6,	4173880.1,	108.3,	108.3,	6.1);
(	599890.6,	4173880.1,	108.3,	108.3,	6.1);	(599910.6,	4173880.1,	108.2,	108.2,	6.1);
(	599930.6,	4173880.1,	108.4,	108.4,	6.1);	(599950.6,	4173880.1,	108.2,	108.2,	6.1);
(	600170.6,	4173880.1,	108.2,	108.2,	6.1);	(600190.6,	4173880.1,	108.3,	108.3,	6.1);
(	600210.6,	4173880.1,	108.3,	108.3,	6.1);	(600230.6,	4173880.1,	108.3,	108.3,	6.1);
(	600250.6,	4173880.1,	108.5,	108.5,	6.1);	(600270.6,	4173880.1,	108.6,	108.6,	6.1);
(	600290.6,	4173880.1,	108.6,	108.6,	6.1);	(600310.6,	4173880.1,	108.7,	108.7,	6.1);

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     ( 600330.6, 4173880.1,     109.0,     109.0,       6.1);         ( 600350.6, 4173880.1,     109.1,     109.1,       6.1);
     ( 600370.6, 4173880.1,     109.4,     109.4,       6.1);         ( 600390.6, 4173880.1,     109.8,     109.8,       6.1);
     ( 600410.6, 4173880.1,     109.9,     109.9,       6.1);         ( 600430.6, 4173880.1,     109.8,     109.8,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
 *** AERMET - VERSION  14134 ***   *** Dublin, CA                                                            ***        11:54:32
                                                                                                                      PAGE  45
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 600450.6, 4173880.1,     109.8,     109.8,       6.1);         ( 600470.6, 4173880.1,     109.5,     109.5,       6.1);
     ( 600490.6, 4173880.1,     109.4,     109.4,       6.1);         ( 599730.6, 4173900.1,     108.2,     108.2,       6.1);
     ( 599750.6, 4173900.1,     108.5,     108.5,       6.1);         ( 599770.6, 4173900.1,     108.5,     108.5,       6.1);
     ( 599790.6, 4173900.1,     108.4,     108.4,       6.1);         ( 599810.6, 4173900.1,     108.3,     108.3,       6.1);
     ( 599830.6, 4173900.1,     108.4,     108.4,       6.1);         ( 599850.6, 4173900.1,     108.5,     108.5,       6.1);
     ( 599870.6, 4173900.1,     108.6,     108.6,       6.1);         ( 599890.6, 4173900.1,     108.4,     108.4,       6.1);
     ( 599910.6, 4173900.1,     108.3,     108.3,       6.1);         ( 599930.6, 4173900.1,     108.4,     108.4,       6.1);
     ( 599950.6, 4173900.1,     108.3,     108.3,       6.1);         ( 600170.6, 4173900.1,     108.2,     108.2,       6.1);
     ( 600190.6, 4173900.1,     108.4,     108.4,       6.1);         ( 600210.6, 4173900.1,     108.4,     108.4,       6.1);
     ( 600230.6, 4173900.1,     108.4,     108.4,       6.1);         ( 600250.6, 4173900.1,     108.6,     108.6,       6.1);
     ( 600270.6, 4173900.1,     108.8,     108.8,       6.1);         ( 600290.6, 4173900.1,     108.9,     108.9,       6.1);
     ( 600310.6, 4173900.1,     108.9,     108.9,       6.1);         ( 600330.6, 4173900.1,     108.9,     108.9,       6.1);
     ( 600350.6, 4173900.1,     109.1,     109.1,       6.1);         ( 600370.6, 4173900.1,     109.5,     109.5,       6.1);
     ( 600390.6, 4173900.1,     110.0,     110.0,       6.1);         ( 600410.6, 4173900.1,     110.4,     110.4,       6.1);
     ( 600430.6, 4173900.1,     110.4,     110.4,       6.1);         ( 600450.6, 4173900.1,     110.3,     110.3,       6.1);
     ( 600470.6, 4173900.1,     110.1,     110.1,       6.1);         ( 600490.6, 4173900.1,     110.1,     110.1,       6.1);
     ( 599730.6, 4173920.1,     108.4,     108.4,       6.1);         ( 599750.6, 4173920.1,     108.5,     108.5,       6.1);
     ( 599770.6, 4173920.1,     108.4,     108.4,       6.1);         ( 599790.6, 4173920.1,     108.4,     108.4,       6.1);
     ( 599810.6, 4173920.1,     108.5,     108.5,       6.1);         ( 599830.6, 4173920.1,     108.6,     108.6,       6.1);
     ( 599850.6, 4173920.1,     108.8,     108.8,       6.1);         ( 599870.6, 4173920.1,     108.8,     108.8,       6.1);
     ( 599890.6, 4173920.1,     108.6,     108.6,       6.1);         ( 599910.6, 4173920.1,     108.3,     108.3,       6.1);
     ( 600170.6, 4173920.1,     108.3,     108.3,       6.1);         ( 600190.6, 4173920.1,     108.7,     108.7,       6.1);
     ( 600210.6, 4173920.1,     108.7,     108.7,       6.1);         ( 600230.6, 4173920.1,     108.7,     108.7,       6.1);
     ( 600250.6, 4173920.1,     108.8,     108.8,       6.1);         ( 600270.6, 4173920.1,     109.1,     109.1,       6.1);
     ( 600290.6, 4173920.1,     109.3,     109.3,       6.1);         ( 600310.6, 4173920.1,     109.3,     109.3,       6.1);
     ( 600330.6, 4173920.1,     109.3,     109.3,       6.1);         ( 600350.6, 4173920.1,     109.3,     109.3,       6.1);
     ( 600370.6, 4173920.1,     109.7,     109.7,       6.1);         ( 600390.6, 4173920.1,     110.2,     110.2,       6.1);
     ( 600410.6, 4173920.1,     110.6,     110.6,       6.1);         ( 600430.6, 4173920.1,     110.8,     110.8,       6.1);
     ( 600450.6, 4173920.1,     110.8,     110.8,       6.1);         ( 600470.6, 4173920.1,     110.7,     110.7,       6.1);
     ( 600490.6, 4173920.1,     110.7,     110.7,       6.1);         ( 599730.6, 4173940.1,     108.7,     108.7,       6.1);
     ( 599750.6, 4173940.1,     108.8,     108.8,       6.1);         ( 599770.6, 4173940.1,     108.8,     108.8,       6.1);
     ( 599790.6, 4173940.1,     108.8,     108.8,       6.1);         ( 599810.6, 4173940.1,     108.9,     108.9,       6.1);
     ( 599830.6, 4173940.1,     108.8,     108.8,       6.1);         ( 599850.6, 4173940.1,     108.8,     108.8,       6.1);
     ( 599870.6, 4173940.1,     108.8,     108.8,       6.1);         ( 600190.6, 4173940.1,     108.6,     108.6,       6.1);
     ( 600210.6, 4173940.1,     108.7,     108.7,       6.1);         ( 600230.6, 4173940.1,     108.7,     108.7,       6.1);
     ( 600250.6, 4173940.1,     108.8,     108.8,       6.1);         ( 600270.6, 4173940.1,     109.2,     109.2,       6.1);
     ( 600290.6, 4173940.1,     109.5,     109.5,       6.1);         ( 600310.6, 4173940.1,     109.5,     109.5,       6.1);
     ( 600330.6, 4173940.1,     109.5,     109.5,       6.1);         ( 600350.6, 4173940.1,     109.9,     109.9,       6.1);
     ( 600370.6, 4173940.1,     110.0,     110.0,       6.1);         ( 600390.6, 4173940.1,     110.2,     110.2,       6.1);
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    ( 600410.6, 4173940.1,     110.6,     110.6,       6.1);         ( 600430.6, 4173940.1,     111.0,     111.0,       6.1);
    ( 600450.6, 4173940.1,     111.1,     111.1,       6.1);         ( 600470.6, 4173940.1,     111.2,     111.2,       6.1);
    ( 600490.6, 4173940.1,     111.2,     111.2,       6.1);         ( 599730.6, 4173960.1,     108.9,     108.9,       6.1);
    ( 599750.6, 4173960.1,     109.0,     109.0,       6.1);         ( 599770.6, 4173960.1,     109.0,     109.0,       6.1);
    ( 599790.6, 4173960.1,     109.0,     109.0,       6.1);         ( 599810.6, 4173960.1,     109.1,     109.1,       6.1);
    ( 599830.6, 4173960.1,     109.0,     109.0,       6.1);         ( 599850.6, 4173960.1,     108.9,     108.9,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  46
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600190.6, 4173960.1,     108.6,     108.6,       6.1);         ( 600210.6, 4173960.1,     108.8,     108.8,       6.1);
    ( 600230.6, 4173960.1,     108.8,     108.8,       6.1);         ( 600250.6, 4173960.1,     108.9,     108.9,       6.1);
    ( 600270.6, 4173960.1,     109.3,     109.3,       6.1);         ( 600290.6, 4173960.1,     109.5,     109.5,       6.1);
    ( 600310.6, 4173960.1,     109.6,     109.6,       6.1);         ( 600330.6, 4173960.1,     109.7,     109.7,       6.1);
    ( 600350.6, 4173960.1,     110.5,     110.5,       6.1);         ( 600370.6, 4173960.1,     110.3,     110.3,       6.1);
    ( 600390.6, 4173960.1,     110.3,     110.3,       6.1);         ( 600410.6, 4173960.1,     110.6,     110.6,       6.1);
    ( 600430.6, 4173960.1,     111.0,     111.0,       6.1);         ( 600450.6, 4173960.1,     111.2,     111.2,       6.1);
    ( 600470.6, 4173960.1,     111.6,     111.6,       6.1);         ( 600490.6, 4173960.1,     111.6,     111.6,       6.1);
    ( 599730.6, 4173980.1,     109.0,     109.0,       6.1);         ( 599750.6, 4173980.1,     109.0,     109.0,       6.1);
    ( 599770.6, 4173980.1,     109.0,     109.0,       6.1);         ( 599790.6, 4173980.1,     109.1,     109.1,       6.1);
    ( 599810.6, 4173980.1,     109.1,     109.1,       6.1);         ( 599830.6, 4173980.1,     109.0,     109.0,       6.1);
    ( 599850.6, 4173980.1,     109.0,     109.0,       6.1);         ( 599870.6, 4173980.1,     108.9,     108.9,       6.1);
    ( 600190.6, 4173980.1,     108.8,     108.8,       6.1);         ( 600210.6, 4173980.1,     109.2,     109.2,       6.1);
    ( 600230.6, 4173980.1,     109.2,     109.2,       6.1);         ( 600250.6, 4173980.1,     109.1,     109.1,       6.1);
    ( 600270.6, 4173980.1,     109.4,     109.4,       6.1);         ( 600290.6, 4173980.1,     109.8,     109.8,       6.1);
    ( 600310.6, 4173980.1,     110.0,     110.0,       6.1);         ( 600330.6, 4173980.1,     110.1,     110.1,       6.1);
    ( 600350.6, 4173980.1,     110.5,     110.5,       6.1);         ( 600370.6, 4173980.1,     110.8,     110.8,       6.1);
    ( 600390.6, 4173980.1,     111.0,     111.0,       6.1);         ( 600410.6, 4173980.1,     111.1,     111.1,       6.1);
    ( 600430.6, 4173980.1,     111.3,     111.3,       6.1);         ( 600450.6, 4173980.1,     112.1,     112.1,       6.1);
    ( 600470.6, 4173980.1,     112.2,     112.2,       6.1);         ( 600490.6, 4173980.1,     112.1,     112.1,       6.1);
    ( 599730.6, 4174000.1,     109.3,     109.3,       6.1);         ( 599750.6, 4174000.1,     109.3,     109.3,       6.1);
    ( 599770.6, 4174000.1,     109.3,     109.3,       6.1);         ( 599790.6, 4174000.1,     109.3,     109.3,       6.1);
    ( 599810.6, 4174000.1,     109.4,     109.4,       6.1);         ( 599830.6, 4174000.1,     109.2,     109.2,       6.1);
    ( 599850.6, 4174000.1,     109.1,     109.1,       6.1);         ( 599870.6, 4174000.1,     109.0,     109.0,       6.1);
    ( 600195.1, 4174004.1,     109.1,     109.1,       6.1);         ( 600210.6, 4174000.1,     109.4,     109.4,       6.1);
    ( 600230.6, 4174000.1,     109.4,     109.4,       6.1);         ( 600250.6, 4174000.1,     109.3,     109.3,       6.1);
    ( 600270.6, 4174000.1,     109.4,     109.4,       6.1);         ( 600290.6, 4174000.1,     109.8,     109.8,       6.1);
    ( 600310.6, 4174000.1,     110.2,     110.2,       6.1);         ( 600330.6, 4174000.1,     110.2,     110.2,       6.1);
    ( 600350.6, 4174000.1,     110.6,     110.6,       6.1);         ( 600370.6, 4174000.1,     111.0,     111.0,       6.1);
    ( 600390.6, 4174000.1,     111.3,     111.3,       6.1);         ( 600410.6, 4174000.1,     111.4,     111.4,       6.1);
    ( 600430.6, 4174000.1,     111.6,     111.6,       6.1);         ( 600450.6, 4174000.1,     112.3,     112.3,       6.1);
    ( 600470.6, 4174000.1,     112.4,     112.4,       6.1);         ( 600490.6, 4174000.1,     112.4,     112.4,       6.1);
    ( 599730.6, 4174020.1,     109.5,     109.5,       6.1);         ( 599750.6, 4174020.1,     109.5,     109.5,       6.1);
    ( 599770.6, 4174020.1,     109.5,     109.5,       6.1);         ( 599790.6, 4174020.1,     109.4,     109.4,       6.1);
    ( 599810.6, 4174020.1,     109.5,     109.5,       6.1);         ( 599830.6, 4174020.1,     109.3,     109.3,       6.1);
    ( 599850.6, 4174020.1,     109.2,     109.2,       6.1);         ( 599870.6, 4174020.1,     109.1,     109.1,       6.1);
```

```
    ( 599890.6, 4174020.1,     109.0,     109.0,       6.1);         ( 600210.6, 4174020.1,     109.4,     109.4,       6.1);
    ( 600230.6, 4174020.1,     109.6,     109.6,       6.1);         ( 600250.6, 4174020.1,     109.6,     109.6,       6.1);
    ( 600270.6, 4174020.1,     109.5,     109.5,       6.1);         ( 600290.6, 4174020.1,     109.8,     109.8,       6.1);
    ( 600310.6, 4174020.1,     110.1,     110.1,       6.1);         ( 600330.6, 4174020.1,     110.3,     110.3,       6.1);
    ( 600350.6, 4174020.1,     110.7,     110.7,       6.1);         ( 600370.6, 4174020.1,     110.8,     110.8,       6.1);
    ( 600390.6, 4174020.1,     111.2,     111.2,       6.1);         ( 600410.6, 4174020.1,     111.6,     111.6,       6.1);
    ( 600430.6, 4174020.1,     111.8,     111.8,       6.1);         ( 600450.6, 4174020.1,     112.1,     112.1,       6.1);
    ( 600470.6, 4174020.1,     112.4,     112.4,       6.1);         ( 600490.6, 4174020.1,     112.5,     112.5,       6.1);
    ( 599730.6, 4174040.1,     109.7,     109.7,       6.1);         ( 599750.6, 4174040.1,     109.7,     109.7,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  47

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 599770.6, 4174040.1,     109.7,     109.7,       6.1);         ( 599790.6, 4174040.1,     109.5,     109.5,       6.1);
    ( 599810.6, 4174040.1,     109.4,     109.4,       6.1);         ( 599830.6, 4174040.1,     109.4,     109.4,       6.1);
    ( 599850.6, 4174040.1,     109.3,     109.3,       6.1);         ( 599870.6, 4174040.1,     109.3,     109.3,       6.1);
    ( 599890.6, 4174040.1,     109.4,     109.4,       6.1);         ( 600210.6, 4174040.1,     109.5,     109.5,       6.1);
    ( 600230.6, 4174040.1,     109.6,     109.6,       6.1);         ( 600250.6, 4174040.1,     109.8,     109.8,       6.1);
    ( 600270.6, 4174040.1,     110.0,     110.0,       6.1);         ( 600290.6, 4174040.1,     110.2,     110.2,       6.1);
    ( 600310.6, 4174040.1,     110.4,     110.4,       6.1);         ( 600330.6, 4174040.1,     110.8,     110.8,       6.1);
    ( 600350.6, 4174040.1,     111.0,     111.0,       6.1);         ( 600370.6, 4174040.1,     111.1,     111.1,       6.1);
    ( 600390.6, 4174040.1,     111.4,     111.4,       6.1);         ( 600410.6, 4174040.1,     111.7,     111.7,       6.1);
    ( 600430.6, 4174040.1,     112.0,     112.0,       6.1);         ( 600450.6, 4174040.1,     112.2,     112.2,       6.1);
    ( 600470.6, 4174040.1,     112.4,     112.4,       6.1);         ( 600490.6, 4174040.1,     112.7,     112.7,       6.1);
    ( 599730.6, 4174060.1,     109.9,     109.9,       6.1);         ( 599750.6, 4174060.1,     109.8,     109.8,       6.1);
    ( 599770.6, 4174060.1,     109.8,     109.8,       6.1);         ( 599790.6, 4174060.1,     109.6,     109.6,       6.1);
    ( 599810.6, 4174060.1,     109.8,     109.8,       6.1);         ( 599830.6, 4174060.1,     109.6,     109.6,       6.1);
    ( 599850.6, 4174060.1,     109.4,     109.4,       6.1);         ( 599870.6, 4174060.1,     109.4,     109.4,       6.1);
    ( 599890.6, 4174060.1,     109.5,     109.5,       6.1);         ( 599910.6, 4174060.1,     109.2,     109.2,       6.1);
    ( 600210.6, 4174060.1,     109.7,     109.7,       6.1);         ( 600230.6, 4174060.1,     109.7,     109.7,       6.1);
    ( 600250.6, 4174060.1,     109.8,     109.8,       6.1);         ( 600270.6, 4174060.1,     110.2,     110.2,       6.1);
    ( 600290.6, 4174060.1,     110.3,     110.3,       6.1);         ( 600310.6, 4174060.1,     110.4,     110.4,       6.1);
    ( 600330.6, 4174060.1,     110.7,     110.7,       6.1);         ( 600350.6, 4174060.1,     110.9,     110.9,       6.1);
    ( 600370.6, 4174060.1,     111.1,     111.1,       6.1);         ( 600390.6, 4174060.1,     111.4,     111.4,       6.1);
    ( 600410.6, 4174060.1,     111.8,     111.8,       6.1);         ( 600430.6, 4174060.1,     112.1,     112.1,       6.1);
    ( 600450.6, 4174060.1,     112.4,     112.4,       6.1);         ( 600470.6, 4174060.1,     112.6,     112.6,       6.1);
    ( 600490.6, 4174060.1,     113.0,     113.0,       6.1);         ( 599730.6, 4174080.1,     110.1,     110.1,       6.1);
    ( 599750.6, 4174080.1,     110.0,     110.0,       6.1);         ( 599770.6, 4174080.1,     110.1,     110.1,       6.1);
    ( 599790.6, 4174080.1,     109.9,     109.9,       6.1);         ( 599810.6, 4174080.1,     110.2,     110.2,       6.1);
    ( 599830.6, 4174080.1,     109.8,     109.8,       6.1);         ( 599850.6, 4174080.1,     109.6,     109.6,       6.1);
    ( 599870.6, 4174080.1,     109.5,     109.5,       6.1);         ( 599890.6, 4174080.1,     109.5,     109.5,       6.1);
    ( 599910.6, 4174080.1,     109.2,     109.2,       6.1);         ( 600230.6, 4174080.1,     109.8,     109.8,       6.1);
    ( 600250.6, 4174080.1,     109.8,     109.8,       6.1);         ( 600270.6, 4174080.1,     110.1,     110.1,       6.1);
    ( 600290.6, 4174080.1,     110.2,     110.2,       6.1);         ( 600310.6, 4174080.1,     110.3,     110.3,       6.1);
    ( 600330.6, 4174080.1,     110.2,     110.2,       6.1);         ( 599730.6, 4174100.1,     110.3,     110.3,       6.1);
    ( 599750.6, 4174100.1,     110.4,     110.4,       6.1);         ( 599770.6, 4174100.1,     110.7,     110.7,       6.1);
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    ( 599790.6, 4174100.1,     110.5,     110.5,       6.1);         ( 599810.6, 4174100.1,     110.3,     110.3,       6.1);
    ( 599830.6, 4174100.1,     110.2,     110.2,       6.1);         ( 599850.6, 4174100.1,     109.9,     109.9,       6.1);
    ( 599870.6, 4174100.1,     109.6,     109.6,       6.1);         ( 599890.6, 4174100.1,     109.4,     109.4,       6.1);
    ( 599910.6, 4174100.1,     109.4,     109.4,       6.1);         ( 599730.6, 4174120.1,     110.5,     110.5,       6.1);
    ( 599750.6, 4174120.1,     110.6,     110.6,       6.1);         ( 599770.6, 4174120.1,     110.8,     110.8,       6.1);
    ( 599790.6, 4174120.1,     110.6,     110.6,       6.1);         ( 599810.6, 4174120.1,     110.4,     110.4,       6.1);
    ( 599830.6, 4174120.1,     110.3,     110.3,       6.1);         ( 599850.6, 4174120.1,     110.1,     110.1,       6.1);
    ( 599870.6, 4174120.1,     109.9,     109.9,       6.1);         ( 599890.6, 4174120.1,     109.9,     109.9,       6.1);
    ( 599910.6, 4174120.1,     109.8,     109.8,       6.1);         ( 600270.6, 4174120.1,     109.8,     109.8,       6.1);
    ( 600290.6, 4174120.1,     110.0,     110.0,       6.1);         ( 600310.6, 4174120.1,     110.2,     110.2,       6.1);
    ( 600330.6, 4174120.1,     110.8,     110.8,       6.1);         ( 600350.6, 4174120.1,     111.5,     111.5,       6.1);
    ( 600370.6, 4174120.1,     112.2,     112.2,       6.1);         ( 600390.6, 4174120.1,     112.5,     112.5,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  48

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600410.6, 4174120.1,     112.4,     112.4,       6.1);         ( 600430.6, 4174120.1,     112.5,     112.5,       6.1);
    ( 600450.6, 4174120.1,     112.8,     112.8,       6.1);         ( 600470.6, 4174120.1,     113.3,     113.3,       6.1);
    ( 600490.6, 4174120.1,     113.8,     113.8,       6.1);         ( 599730.6, 4174140.1,     110.7,     110.7,       6.1);
    ( 599750.6, 4174140.1,     110.7,     110.7,       6.1);         ( 599770.6, 4174140.1,     110.8,     110.8,       6.1);
    ( 599790.6, 4174140.1,     110.7,     110.7,       6.1);         ( 599810.6, 4174140.1,     110.6,     110.6,       6.1);
    ( 599830.6, 4174140.1,     110.4,     110.4,       6.1);         ( 599850.6, 4174140.1,     110.2,     110.2,       6.1);
    ( 599870.6, 4174140.1,     110.3,     110.3,       6.1);         ( 599890.6, 4174140.1,     110.5,     110.5,       6.1);
    ( 599910.6, 4174140.1,     110.4,     110.4,       6.1);         ( 600210.6, 4174140.1,     110.3,     110.3,       6.1);
    ( 600230.6, 4174140.1,     111.5,     111.5,       6.1);         ( 600250.6, 4174140.1,     110.5,     110.5,       6.1);
    ( 600270.6, 4174140.1,     110.5,     110.5,       6.1);         ( 600290.6, 4174140.1,     110.8,     110.8,       6.1);
    ( 600310.6, 4174140.1,     111.2,     111.2,       6.1);         ( 600330.6, 4174140.1,     111.5,     111.5,       6.1);
    ( 600350.6, 4174140.1,     111.9,     111.9,       6.1);         ( 600370.6, 4174140.1,     112.1,     112.1,       6.1);
    ( 600390.6, 4174140.1,     112.3,     112.3,       6.1);         ( 600410.6, 4174140.1,     112.6,     112.6,       6.1);
    ( 600430.6, 4174140.1,     113.0,     113.0,       6.1);         ( 600450.6, 4174140.1,     113.4,     113.4,       6.1);
    ( 600470.6, 4174140.1,     113.6,     113.6,       6.1);         ( 600490.6, 4174140.1,     114.1,     114.1,       6.1);
    ( 599730.6, 4174160.1,     110.9,     110.9,       6.1);         ( 599750.6, 4174160.1,     110.9,     110.9,       6.1);
    ( 599770.6, 4174160.1,     111.1,     111.1,       6.1);         ( 599790.6, 4174160.1,     111.1,     111.1,       6.1);
    ( 599810.6, 4174160.1,     111.2,     111.2,       6.1);         ( 599830.6, 4174160.1,     110.7,     110.7,       6.1);
    ( 599850.6, 4174160.1,     110.6,     110.6,       6.1);         ( 599870.6, 4174160.1,     110.6,     110.6,       6.1);
    ( 599890.6, 4174160.1,     110.5,     110.5,       6.1);         ( 599910.6, 4174160.1,     110.4,     110.4,       6.1);
    ( 599930.6, 4174160.1,     109.8,     109.8,       6.1);         ( 600130.6, 4174160.1,     109.7,     109.7,       6.1);
    ( 600150.6, 4174160.1,     109.2,     109.2,       6.1);         ( 600170.6, 4174160.1,     109.3,     109.3,       6.1);
    ( 600190.6, 4174160.1,     110.0,     110.0,       6.1);         ( 600210.6, 4174160.1,     110.8,     110.8,       6.1);
    ( 600230.6, 4174160.1,     111.5,     111.5,       6.1);         ( 600250.6, 4174160.1,     111.4,     111.4,       6.1);
    ( 600270.6, 4174160.1,     111.7,     111.7,       6.1);         ( 600290.6, 4174160.1,     112.1,     112.1,       6.1);
    ( 600310.6, 4174160.1,     112.3,     112.3,       6.1);         ( 600330.6, 4174160.1,     112.5,     112.5,       6.1);
    ( 600350.6, 4174160.1,     112.7,     112.7,       6.1);         ( 600370.6, 4174160.1,     112.9,     112.9,       6.1);
    ( 600390.6, 4174160.1,     113.1,     113.1,       6.1);         ( 600410.6, 4174160.1,     113.3,     113.3,       6.1);
    ( 600430.6, 4174160.1,     113.6,     113.6,       6.1);         ( 600450.6, 4174160.1,     113.9,     113.9,       6.1);
    ( 600470.6, 4174160.1,     114.1,     114.1,       6.1);         ( 600490.6, 4174160.1,     114.6,     114.6,       6.1);
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    ( 599730.6, 4174180.1,     111.1,     111.1,       6.1);         ( 599750.6, 4174180.1,     111.0,     111.0,       6.1);
    ( 599770.6, 4174180.1,     111.1,     111.1,       6.1);         ( 599790.6, 4174180.1,     111.1,     111.1,       6.1);
    ( 599810.6, 4174180.1,     111.2,     111.2,       6.1);         ( 599830.6, 4174180.1,     110.8,     110.8,       6.1);
    ( 599850.6, 4174180.1,     110.6,     110.6,       6.1);         ( 599870.6, 4174180.1,     110.6,     110.6,       6.1);
    ( 599890.6, 4174180.1,     110.5,     110.5,       6.1);         ( 599910.6, 4174180.1,     110.4,     110.4,       6.1);
    ( 599930.6, 4174180.1,     110.0,     110.0,       6.1);         ( 600070.6, 4174180.1,     109.7,     109.7,       6.1);
    ( 600090.6, 4174180.1,     109.7,     109.7,       6.1);         ( 600110.6, 4174180.1,     109.9,     109.9,       6.1);
    ( 600130.6, 4174180.1,     110.0,     110.0,       6.1);         ( 600150.6, 4174180.1,     109.6,     109.6,       6.1);
    ( 600170.6, 4174180.1,     109.8,     109.8,       6.1);         ( 600190.6, 4174180.1,     110.7,     110.7,       6.1);
    ( 600210.6, 4174180.1,     111.6,     111.6,       6.1);         ( 600230.6, 4174180.1,     112.1,     112.1,       6.1);
    ( 600250.6, 4174180.1,     112.5,     112.5,       6.1);         ( 600270.6, 4174180.1,     113.0,     113.0,       6.1);
    ( 600290.6, 4174180.1,     113.2,     113.2,       6.1);         ( 600310.6, 4174180.1,     113.4,     113.4,       6.1);
    ( 600330.6, 4174180.1,     113.5,     113.5,       6.1);         ( 600350.6, 4174180.1,     113.6,     113.6,       6.1);
    ( 600370.6, 4174180.1,     113.8,     113.8,       6.1);         ( 600390.6, 4174180.1,     113.9,     113.9,       6.1);
    ( 600410.6, 4174180.1,     114.0,     114.0,       6.1);         ( 600430.6, 4174180.1,     114.3,     114.3,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***         03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***         11:54:32
                                                                                                                 PAGE  49

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600450.6, 4174180.1,     114.5,     114.5,       6.1);         ( 600470.6, 4174180.1,     114.8,     114.8,       6.1);
    ( 600490.6, 4174180.1,     115.3,     115.3,       6.1);         ( 599730.6, 4174200.1,     111.2,     111.2,       6.1);
    ( 599750.6, 4174200.1,     111.1,     111.1,       6.1);         ( 599770.6, 4174200.1,     111.1,     111.1,       6.1);
    ( 599790.6, 4174200.1,     111.0,     111.0,       6.1);         ( 599810.6, 4174200.1,     110.8,     110.8,       6.1);
    ( 599830.6, 4174200.1,     110.7,     110.7,       6.1);         ( 599850.6, 4174200.1,     110.6,     110.6,       6.1);
    ( 599870.6, 4174200.1,     110.5,     110.5,       6.1);         ( 599890.6, 4174200.1,     110.5,     110.5,       6.1);
    ( 599910.6, 4174200.1,     110.5,     110.5,       6.1);         ( 599930.6, 4174200.1,     110.3,     110.3,       6.1);
    ( 599990.6, 4174200.1,     110.2,     110.2,       6.1);         ( 600010.6, 4174200.1,     110.8,     110.8,       6.1);
    ( 600030.6, 4174200.1,     110.7,     110.7,       6.1);         ( 600050.6, 4174200.1,     110.6,     110.6,       6.1);
    ( 600070.6, 4174200.1,     110.5,     110.5,       6.1);         ( 600090.6, 4174200.1,     110.3,     113.6,       6.1);
    ( 600110.6, 4174200.1,     110.0,     113.6,       6.1);         ( 600130.6, 4174200.1,     110.0,     113.6,       6.1);
    ( 600150.6, 4174200.1,     110.2,     113.6,       6.1);         ( 600170.6, 4174200.1,     110.3,     110.3,       6.1);
    ( 600190.6, 4174200.1,     111.4,     111.4,       6.1);         ( 600210.6, 4174200.1,     112.7,     112.7,       6.1);
    ( 600230.6, 4174200.1,     113.6,     113.6,       6.1);         ( 600250.6, 4174200.1,     114.0,     114.0,       6.1);
    ( 600270.6, 4174200.1,     114.2,     114.2,       6.1);         ( 600290.6, 4174200.1,     114.3,     114.3,       6.1);
    ( 600310.6, 4174200.1,     114.4,     114.4,       6.1);         ( 600330.6, 4174200.1,     114.5,     114.5,       6.1);
    ( 600350.6, 4174200.1,     114.5,     114.5,       6.1);         ( 600370.6, 4174200.1,     114.8,     114.8,       6.1);
    ( 600390.6, 4174200.1,     114.7,     114.7,       6.1);         ( 600410.6, 4174200.1,     114.8,     114.8,       6.1);
    ( 600430.6, 4174200.1,     115.1,     115.1,       6.1);         ( 600450.6, 4174200.1,     115.3,     115.3,       6.1);
    ( 600470.6, 4174200.1,     115.6,     115.6,       6.1);         ( 600490.6, 4174200.1,     116.3,     116.3,       6.1);
    ( 599730.6, 4174220.1,     111.1,     111.1,       6.1);         ( 599750.6, 4174220.1,     111.0,     111.0,       6.1);
    ( 599770.6, 4174220.1,     110.9,     110.9,       6.1);         ( 599790.6, 4174220.1,     110.8,     110.8,       6.1);
    ( 599810.6, 4174220.1,     110.7,     110.7,       6.1);         ( 599830.6, 4174220.1,     110.7,     110.7,       6.1);
    ( 599850.6, 4174220.1,     110.9,     110.9,       6.1);         ( 599870.6, 4174220.1,     111.1,     111.1,       6.1);
    ( 599890.6, 4174220.1,     111.2,     111.2,       6.1);         ( 599910.6, 4174220.1,     111.1,     111.1,       6.1);
    ( 599930.6, 4174220.1,     111.0,     111.0,       6.1);         ( 599950.6, 4174220.1,     110.6,     110.6,       6.1);
    ( 599970.6, 4174220.1,     110.6,     110.6,       6.1);         ( 599990.6, 4174220.1,     110.7,     110.7,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600010.6, 4174220.1,     110.8,     110.8,       6.1);         ( 600030.6, 4174220.1,     110.6,     110.6,       6.1);
    ( 600050.6, 4174220.1,     110.7,     110.7,       6.1);         ( 600070.6, 4174220.1,     111.8,     113.6,       6.1);
    ( 600090.6, 4174220.1,     112.0,     113.6,       6.1);         ( 600110.6, 4174220.1,     111.6,     111.6,       6.1);
    ( 600130.6, 4174220.1,     112.3,     113.6,       6.1);         ( 600150.6, 4174220.1,     112.3,     113.6,       6.1);
    ( 600170.6, 4174220.1,     111.7,     111.7,       6.1);         ( 600190.6, 4174220.1,     112.6,     114.4,       6.1);
    ( 600210.6, 4174220.1,     114.0,     114.0,       6.1);         ( 600230.6, 4174220.1,     114.6,     114.6,       6.1);
    ( 600250.6, 4174220.1,     115.0,     115.0,       6.1);         ( 600270.6, 4174220.1,     115.2,     115.2,       6.1);
    ( 600290.6, 4174220.1,     115.3,     115.3,       6.1);         ( 600310.6, 4174220.1,     115.5,     115.5,       6.1);
    ( 600330.6, 4174220.1,     115.5,     115.5,       6.1);         ( 600350.6, 4174220.1,     115.6,     115.6,       6.1);
    ( 600370.6, 4174220.1,     115.8,     115.8,       6.1);         ( 600390.6, 4174220.1,     115.7,     115.7,       6.1);
    ( 600410.6, 4174220.1,     115.8,     115.8,       6.1);         ( 600430.6, 4174220.1,     116.1,     116.1,       6.1);
    ( 600450.6, 4174220.1,     116.5,     116.5,       6.1);         ( 600470.6, 4174220.1,     116.9,     116.9,       6.1);
    ( 600490.6, 4174220.1,     117.5,     117.5,       6.1);         ( 599730.6, 4174240.1,     111.6,     111.6,       6.1);
    ( 599750.6, 4174240.1,     111.5,     111.5,       6.1);         ( 599770.6, 4174240.1,     111.4,     111.4,       6.1);
    ( 599790.6, 4174240.1,     111.3,     111.3,       6.1);         ( 599810.6, 4174240.1,     111.2,     111.2,       6.1);
    ( 599830.6, 4174240.1,     111.1,     111.1,       6.1);         ( 599850.6, 4174240.1,     111.2,     111.2,       6.1);
    ( 599870.6, 4174240.1,     111.4,     111.4,       6.1);         ( 599890.6, 4174240.1,     111.5,     111.5,       6.1);
    ( 599910.6, 4174240.1,     111.4,     111.4,       6.1);         ( 599930.6, 4174240.1,     111.3,     111.3,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  50

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 599950.6, 4174240.1,     111.4,     111.4,       6.1);         ( 599970.6, 4174240.1,     111.8,     114.2,       6.1);
    ( 599990.6, 4174240.1,     112.1,     114.7,       6.1);         ( 600010.6, 4174240.1,     112.0,     114.7,       6.1);
    ( 600030.6, 4174240.1,     111.8,     114.5,       6.1);         ( 600050.6, 4174240.1,     111.9,     114.3,       6.1);
    ( 600070.6, 4174240.1,     113.0,     113.0,       6.1);         ( 600090.6, 4174240.1,     113.2,     113.2,       6.1);
    ( 600110.6, 4174240.1,     113.0,     113.0,       6.1);         ( 600130.6, 4174240.1,     113.7,     113.7,       6.1);
    ( 600150.6, 4174240.1,     113.6,     113.6,       6.1);         ( 600170.6, 4174240.1,     112.9,     112.9,       6.1);
    ( 600190.6, 4174240.1,     113.8,     113.8,       6.1);         ( 600210.6, 4174240.1,     115.0,     115.0,       6.1);
    ( 600230.6, 4174240.1,     115.7,     115.7,       6.1);         ( 600250.6, 4174240.1,     116.1,     116.1,       6.1);
    ( 600270.6, 4174240.1,     116.3,     116.3,       6.1);         ( 600290.6, 4174240.1,     116.4,     116.4,       6.1);
    ( 600310.6, 4174240.1,     116.5,     116.5,       6.1);         ( 600330.6, 4174240.1,     116.6,     116.6,       6.1);
    ( 600350.6, 4174240.1,     116.6,     116.6,       6.1);         ( 600370.6, 4174240.1,     116.8,     116.8,       6.1);
    ( 600390.6, 4174240.1,     116.8,     116.8,       6.1);         ( 600410.6, 4174240.1,     116.9,     116.9,       6.1);
    ( 600430.6, 4174240.1,     117.2,     117.2,       6.1);         ( 600450.6, 4174240.1,     117.8,     117.8,       6.1);
    ( 600470.6, 4174240.1,     118.3,     118.3,       6.1);         ( 600490.6, 4174240.1,     118.9,     118.9,       6.1);
    ( 599730.6, 4174260.1,     112.4,     112.4,       6.1);         ( 599750.6, 4174260.1,     112.4,     112.4,       6.1);
    ( 599770.6, 4174260.1,     112.4,     112.4,       6.1);         ( 599790.6, 4174260.1,     112.2,     115.2,       6.1);
    ( 599810.6, 4174260.1,     112.0,     112.0,       6.1);         ( 599830.6, 4174260.1,     111.8,     115.5,       6.1);
    ( 599850.6, 4174260.1,     111.6,     115.5,       6.1);         ( 599870.6, 4174260.1,     111.5,     115.4,       6.1);
    ( 599890.6, 4174260.1,     111.6,     115.4,       6.1);         ( 599910.6, 4174260.1,     111.5,     115.2,       6.1);
    ( 599930.6, 4174260.1,     111.5,     118.3,       6.1);         ( 599950.6, 4174260.1,     112.3,     112.3,       6.1);
    ( 599970.6, 4174260.1,     113.5,     113.5,       6.1);         ( 599990.6, 4174260.1,     114.3,     114.3,       6.1);
    ( 600010.6, 4174260.1,     114.6,     114.6,       6.1);         ( 600030.6, 4174260.1,     114.4,     114.5,       6.1);
    ( 600050.6, 4174260.1,     114.2,     114.2,       6.1);         ( 600070.6, 4174260.1,     114.0,     117.5,       6.1);
    ( 600090.6, 4174260.1,     114.0,     117.5,       6.1);         ( 600110.6, 4174260.1,     114.0,     114.0,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600130.6, 4174260.1,     113.9,     113.9,       6.1);         ( 600150.6, 4174260.1,     113.8,     120.4,       6.1);
    ( 600170.6, 4174260.1,     113.8,     113.8,       6.1);         ( 600190.6, 4174260.1,     114.7,     114.7,       6.1);
    ( 600210.6, 4174260.1,     115.9,     115.9,       6.1);         ( 600230.6, 4174260.1,     116.7,     116.7,       6.1);
    ( 600250.6, 4174260.1,     117.2,     117.2,       6.1);         ( 600270.6, 4174260.1,     117.5,     117.5,       6.1);
    ( 600290.6, 4174260.1,     117.6,     117.6,       6.1);         ( 600310.6, 4174260.1,     117.6,     117.6,       6.1);
    ( 600330.6, 4174260.1,     117.6,     117.6,       6.1);         ( 600350.6, 4174260.1,     117.8,     117.8,       6.1);
    ( 600370.6, 4174260.1,     118.0,     118.0,       6.1);         ( 600390.6, 4174260.1,     118.2,     118.2,       6.1);
    ( 600410.6, 4174260.1,     118.5,     118.5,       6.1);         ( 600430.6, 4174260.1,     118.9,     118.9,       6.1);
    ( 600450.6, 4174260.1,     119.4,     119.4,       6.1);         ( 600470.6, 4174260.1,     120.0,     120.0,       6.1);
    ( 600490.6, 4174260.1,     120.7,     120.7,       6.1);         ( 599730.6, 4174280.1,     113.1,     113.1,       6.1);
    ( 599750.6, 4174280.1,     113.9,     115.3,       6.1);         ( 599770.6, 4174280.1,     114.4,     114.4,       6.1);
    ( 599790.6, 4174280.1,     114.2,     114.2,       6.1);         ( 599810.6, 4174280.1,     113.8,     113.8,       6.1);
    ( 599830.6, 4174280.1,     114.2,     115.5,       6.1);         ( 599850.6, 4174280.1,     114.2,     114.2,       6.1);
    ( 599870.6, 4174280.1,     114.1,     114.1,       6.1);         ( 599890.6, 4174280.1,     114.1,     115.4,       6.1);
    ( 599910.6, 4174280.1,     114.0,     115.2,       6.1);         ( 599930.6, 4174280.1,     113.8,     115.0,       6.1);
    ( 599950.6, 4174280.1,     114.0,     114.0,       6.1);         ( 599970.6, 4174280.1,     114.4,     114.4,       6.1);
    ( 599990.6, 4174280.1,     114.6,     114.6,       6.1);         ( 600010.6, 4174280.1,     114.7,     114.7,       6.1);
    ( 600030.6, 4174280.1,     114.5,     114.5,       6.1);         ( 600050.6, 4174280.1,     115.3,     115.3,       6.1);
    ( 600070.6, 4174280.1,     115.9,     117.5,       6.1);         ( 600090.6, 4174280.1,     116.0,     116.0,       6.1);
    ( 600110.6, 4174280.1,     115.7,     115.7,       6.1);         ( 600130.6, 4174280.1,     115.3,     120.4,       6.1);
    ( 600150.6, 4174280.1,     115.1,     120.4,       6.1);         ( 600170.6, 4174280.1,     114.9,     120.4,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***         03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***         11:54:32
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 600190.6, 4174280.1,     115.9,     115.9,       6.1);         ( 600210.6, 4174280.1,     117.0,     117.0,       6.1);
    ( 600230.6, 4174280.1,     117.7,     117.7,       6.1);         ( 600250.6, 4174280.1,     118.4,     118.4,       6.1);
    ( 600270.6, 4174280.1,     118.6,     118.6,       6.1);         ( 600290.6, 4174280.1,     118.7,     118.7,       6.1);
    ( 600310.6, 4174280.1,     118.8,     118.8,       6.1);         ( 600330.6, 4174280.1,     118.8,     118.8,       6.1);
    ( 600350.6, 4174280.1,     119.0,     119.0,       6.1);         ( 600370.6, 4174280.1,     119.3,     119.3,       6.1);
    ( 600390.6, 4174280.1,     119.9,     121.8,       6.1);         ( 600410.6, 4174280.1,     120.4,     120.4,       6.1);
    ( 600430.6, 4174280.1,     120.8,     120.8,       6.1);         ( 600450.6, 4174280.1,     121.2,     121.2,       6.1);
    ( 600470.6, 4174280.1,     121.6,     121.6,       6.1);         ( 600490.6, 4174280.1,     122.2,     122.2,       6.1);
    ( 599730.6, 4174300.1,     113.8,     113.8,       6.1);         ( 599750.6, 4174300.1,     114.7,     114.7,       6.1);
    ( 599770.6, 4174300.1,     115.2,     115.2,       6.1);         ( 599790.6, 4174300.1,     115.2,     115.2,       6.1);
    ( 599810.6, 4174300.1,     115.1,     115.1,       6.1);         ( 599830.6, 4174300.1,     115.5,     115.5,       6.1);
    ( 599850.6, 4174300.1,     115.6,     115.6,       6.1);         ( 599870.6, 4174300.1,     115.5,     115.5,       6.1);
    ( 599890.6, 4174300.1,     115.4,     115.4,       6.1);         ( 599910.6, 4174300.1,     115.5,     115.5,       6.1);
    ( 599930.6, 4174300.1,     115.8,     115.8,       6.1);         ( 599950.6, 4174300.1,     115.9,     118.3,       6.1);
    ( 599970.6, 4174300.1,     115.8,     115.8,       6.1);         ( 599990.6, 4174300.1,     115.6,     115.6,       6.1);
    ( 600010.6, 4174300.1,     115.5,     121.4,       6.1);         ( 600030.6, 4174300.1,     115.5,     121.4,       6.1);
    ( 600050.6, 4174300.1,     116.6,     116.6,       6.1);         ( 600070.6, 4174300.1,     117.7,     117.7,       6.1);
    ( 600090.6, 4174300.1,     117.8,     117.8,       6.1);         ( 600110.6, 4174300.1,     117.2,     117.2,       6.1);
    ( 600130.6, 4174300.1,     116.8,     120.4,       6.1);         ( 600150.6, 4174300.1,     117.0,     120.4,       6.1);
    ( 600170.6, 4174300.1,     116.1,     122.1,       6.1);         ( 600190.6, 4174300.1,     117.0,     117.0,       6.1);
    ( 600210.6, 4174300.1,     118.2,     118.2,       6.1);         ( 600230.6, 4174300.1,     118.8,     118.8,       6.1);
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```
    ( 600250.6, 4174300.1,     119.6,     119.6,       6.1);         ( 600270.6, 4174300.1,     119.8,     119.8,       6.1);
    ( 600290.6, 4174300.1,     120.0,     120.0,       6.1);         ( 600310.6, 4174300.1,     120.1,     120.1,       6.1);
    ( 600330.6, 4174300.1,     120.1,     120.1,       6.1);         ( 600350.6, 4174300.1,     120.4,     120.4,       6.1);
    ( 600370.6, 4174300.1,     120.8,     120.8,       6.1);         ( 600390.6, 4174300.1,     121.7,     121.7,       6.1);
    ( 600410.6, 4174300.1,     122.2,     122.2,       6.1);         ( 600430.6, 4174300.1,     122.5,     122.5,       6.1);
    ( 600450.6, 4174300.1,     122.8,     122.8,       6.1);         ( 600470.6, 4174300.1,     123.2,     123.2,       6.1);
    ( 600490.6, 4174300.1,     123.7,     123.7,       6.1);         ( 599730.6, 4174320.1,     114.5,     114.5,       6.1);
    ( 599750.6, 4174320.1,     115.0,     115.0,       6.1);         ( 599770.6, 4174320.1,     115.2,     115.2,       6.1);
    ( 599790.6, 4174320.1,     115.3,     115.3,       6.1);         ( 599810.6, 4174320.1,     115.8,     115.8,       6.1);
    ( 599830.6, 4174320.1,     115.8,     115.8,       6.1);         ( 599850.6, 4174320.1,     115.8,     115.8,       6.1);
    ( 599870.6, 4174320.1,     115.6,     115.6,       6.1);         ( 599890.6, 4174320.1,     115.5,     115.5,       6.1);
    ( 599910.6, 4174320.1,     116.0,     116.0,       6.1);         ( 599930.6, 4174320.1,     117.5,     117.7,       6.1);
    ( 599950.6, 4174320.1,     118.0,     118.0,       6.1);         ( 599970.6, 4174320.1,     117.9,     117.9,       6.1);
    ( 599990.6, 4174320.1,     117.7,     117.7,       6.1);         ( 600010.6, 4174320.1,     117.6,     117.6,       6.1);
    ( 600030.6, 4174320.1,     117.9,     121.4,       6.1);         ( 600050.6, 4174320.1,     118.3,     118.3,       6.1);
    ( 600070.6, 4174320.1,     119.3,     119.3,       6.1);         ( 600090.6, 4174320.1,     119.1,     119.1,       6.1);
    ( 600110.6, 4174320.1,     118.3,     122.3,       6.1);         ( 600130.6, 4174320.1,     118.4,     118.4,       6.1);
    ( 600150.6, 4174320.1,     119.7,     120.4,       6.1);         ( 600170.6, 4174320.1,     117.6,     122.1,       6.1);
    ( 600190.6, 4174320.1,     118.3,     119.7,       6.1);         ( 600210.6, 4174320.1,     119.7,     119.7,       6.1);
    ( 600230.6, 4174320.1,     120.4,     120.4,       6.1);         ( 600250.6, 4174320.1,     121.0,     121.0,       6.1);
    ( 600270.6, 4174320.1,     121.6,     121.6,       6.1);         ( 600290.6, 4174320.1,     121.9,     121.9,       6.1);
    ( 600310.6, 4174320.1,     122.0,     122.0,       6.1);         ( 600330.6, 4174320.1,     122.1,     122.1,       6.1);
    ( 600350.6, 4174320.1,     122.2,     122.2,       6.1);         ( 600370.6, 4174320.1,     122.5,     122.5,       6.1);
    ( 600390.6, 4174320.1,     122.8,     122.8,       6.1);         ( 600410.6, 4174320.1,     123.2,     123.2,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                  ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                     ***        11:54:32
                                                                                                               PAGE  52
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600430.6, 4174320.1,     123.6,     123.6,       6.1);         ( 600450.6, 4174320.1,     124.0,     124.0,       6.1);
    ( 600470.6, 4174320.1,     124.3,     124.3,       6.1);         ( 600490.6, 4174320.1,     124.7,     124.7,       6.1);
    ( 599730.6, 4174340.1,     115.3,     115.3,       6.1);         ( 599750.6, 4174340.1,     116.5,     118.1,       6.1);
    ( 599770.6, 4174340.1,     117.0,     117.0,       6.1);         ( 599790.6, 4174340.1,     117.0,     117.0,       6.1);
    ( 599810.6, 4174340.1,     117.2,     117.2,       6.1);         ( 599830.6, 4174340.1,     117.5,     117.5,       6.1);
    ( 599850.6, 4174340.1,     117.5,     117.5,       6.1);         ( 599870.6, 4174340.1,     117.4,     117.4,       6.1);
    ( 599890.6, 4174340.1,     117.3,     117.3,       6.1);         ( 599910.6, 4174340.1,     117.5,     117.5,       6.1);
    ( 599930.6, 4174340.1,     118.3,     118.3,       6.1);         ( 599950.6, 4174340.1,     118.8,     118.8,       6.1);
    ( 599970.6, 4174340.1,     119.0,     119.0,       6.1);         ( 599990.6, 4174340.1,     119.0,     119.0,       6.1);
    ( 600010.6, 4174340.1,     119.2,     119.2,       6.1);         ( 600030.6, 4174340.1,     120.0,     121.4,       6.1);
    ( 600050.6, 4174340.1,     119.4,     119.4,       6.1);         ( 600070.6, 4174340.1,     120.5,     120.5,       6.1);
    ( 600090.6, 4174340.1,     120.8,     120.8,       6.1);         ( 600110.6, 4174340.1,     120.4,     122.3,       6.1);
    ( 600130.6, 4174340.1,     120.2,     120.2,       6.1);         ( 600150.6, 4174340.1,     121.2,     121.2,       6.1);
    ( 600170.6, 4174340.1,     118.7,     122.1,       6.1);         ( 600190.6, 4174340.1,     119.3,     119.3,       6.1);
    ( 600210.6, 4174340.1,     120.9,     120.9,       6.1);         ( 600230.6, 4174340.1,     121.9,     121.9,       6.1);
    ( 600250.6, 4174340.1,     122.6,     122.6,       6.1);         ( 600270.6, 4174340.1,     123.0,     123.0,       6.1);
    ( 600290.6, 4174340.1,     123.1,     123.1,       6.1);         ( 600310.6, 4174340.1,     123.2,     123.2,       6.1);
    ( 600330.6, 4174340.1,     123.3,     123.3,       6.1);         ( 600350.6, 4174340.1,     123.5,     123.5,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600370.6, 4174340.1,     123.7,     123.7,       6.1);         ( 600390.6, 4174340.1,     123.8,     123.8,       6.1);
    ( 600410.6, 4174340.1,     124.1,     124.1,       6.1);         ( 600430.6, 4174340.1,     124.5,     124.5,       6.1);
    ( 600450.6, 4174340.1,     124.8,     124.8,       6.1);         ( 600470.6, 4174340.1,     125.1,     125.1,       6.1);
    ( 600490.6, 4174340.1,     125.4,     125.4,       6.1);         ( 599730.6, 4174360.1,     116.1,     116.1,       6.1);
    ( 599750.6, 4174360.1,     117.4,     117.4,       6.1);         ( 599770.6, 4174360.1,     118.0,     118.0,       6.1);
    ( 599790.6, 4174360.1,     117.9,     117.9,       6.1);         ( 599810.6, 4174360.1,     118.1,     118.1,       6.1);
    ( 599830.6, 4174360.1,     118.5,     118.5,       6.1);         ( 599850.6, 4174360.1,     118.8,     118.8,       6.1);
    ( 599870.6, 4174360.1,     118.8,     118.8,       6.1);         ( 599890.6, 4174360.1,     118.7,     118.7,       6.1);
    ( 599910.6, 4174360.1,     118.7,     118.7,       6.1);         ( 599930.6, 4174360.1,     119.0,     119.0,       6.1);
    ( 599950.6, 4174360.1,     119.3,     119.3,       6.1);         ( 599970.6, 4174360.1,     119.7,     119.7,       6.1);
    ( 599990.6, 4174360.1,     119.9,     119.9,       6.1);         ( 600010.6, 4174360.1,     120.2,     120.2,       6.1);
    ( 600030.6, 4174360.1,     121.3,     121.3,       6.1);         ( 600050.6, 4174360.1,     120.3,     120.3,       6.1);
    ( 600070.6, 4174360.1,     121.2,     121.2,       6.1);         ( 600090.6, 4174360.1,     122.0,     122.0,       6.1);
    ( 600110.6, 4174360.1,     122.1,     122.1,       6.1);         ( 600130.6, 4174360.1,     121.9,     121.9,       6.1);
    ( 600150.6, 4174360.1,     122.3,     122.3,       6.1);         ( 600170.6, 4174360.1,     119.7,     123.4,       6.1);
    ( 600190.6, 4174360.1,     120.2,     120.2,       6.1);         ( 600210.6, 4174360.1,     121.9,     121.9,       6.1);
    ( 600230.6, 4174360.1,     123.3,     123.3,       6.1);         ( 600250.6, 4174360.1,     123.9,     123.9,       6.1);
    ( 600270.6, 4174360.1,     124.0,     124.0,       6.1);         ( 600290.6, 4174360.1,     124.0,     124.0,       6.1);
    ( 600310.6, 4174360.1,     124.0,     124.0,       6.1);         ( 600330.6, 4174360.1,     124.2,     124.2,       6.1);
    ( 600350.6, 4174360.1,     124.4,     124.4,       6.1);         ( 600370.6, 4174360.1,     124.5,     124.5,       6.1);
    ( 600390.6, 4174360.1,     124.7,     124.7,       6.1);         ( 600410.6, 4174360.1,     125.0,     125.0,       6.1);
    ( 600430.6, 4174360.1,     125.2,     125.2,       6.1);         ( 600450.6, 4174360.1,     125.5,     125.5,       6.1);
    ( 600470.6, 4174360.1,     125.8,     125.8,       6.1);         ( 600490.6, 4174360.1,     126.0,     126.0,       6.1);
    ( 599730.6, 4174380.1,     117.0,     117.0,       6.1);         ( 599750.6, 4174380.1,     117.6,     117.6,       6.1);
    ( 599770.6, 4174380.1,     117.9,     117.9,       6.1);         ( 599790.6, 4174380.1,     118.0,     118.0,       6.1);
    ( 599810.6, 4174380.1,     118.3,     118.3,       6.1);         ( 599830.6, 4174380.1,     118.8,     118.8,       6.1);
    ( 599850.6, 4174380.1,     119.6,     119.6,       6.1);         ( 599870.6, 4174380.1,     119.7,     119.7,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  53
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 599890.6, 4174380.1,     119.3,     119.3,       6.1);         ( 599910.6, 4174380.1,     119.1,     119.1,       6.1);
    ( 599930.6, 4174380.1,     119.3,     119.3,       6.1);         ( 599950.6, 4174380.1,     119.5,     119.5,       6.1);
    ( 599970.6, 4174380.1,     119.7,     119.7,       6.1);         ( 599990.6, 4174380.1,     119.9,     119.9,       6.1);
    ( 600010.6, 4174380.1,     120.3,     120.3,       6.1);         ( 600030.6, 4174380.1,     121.4,     121.4,       6.1);
    ( 600050.6, 4174380.1,     121.0,     121.0,       6.1);         ( 600070.6, 4174380.1,     121.3,     121.3,       6.1);
    ( 600090.6, 4174380.1,     121.8,     121.8,       6.1);         ( 600110.6, 4174380.1,     122.5,     122.5,       6.1);
    ( 600130.6, 4174380.1,     123.1,     123.1,       6.1);         ( 600150.6, 4174380.1,     123.2,     123.2,       6.1);
    ( 600170.6, 4174380.1,     120.6,     123.4,       6.1);         ( 600190.6, 4174380.1,     121.2,     122.4,       6.1);
    ( 600210.6, 4174380.1,     122.8,     122.8,       6.1);         ( 600230.6, 4174380.1,     123.8,     123.8,       6.1);
    ( 600250.6, 4174380.1,     124.1,     124.1,       6.1);         ( 600270.6, 4174380.1,     124.2,     124.2,       6.1);
    ( 600290.6, 4174380.1,     124.3,     124.3,       6.1);         ( 600310.6, 4174380.1,     124.5,     124.5,       6.1);
    ( 600330.6, 4174380.1,     124.7,     124.7,       6.1);         ( 600350.6, 4174380.1,     124.8,     124.8,       6.1);
    ( 600370.6, 4174380.1,     125.1,     125.1,       6.1);         ( 600390.6, 4174380.1,     125.3,     125.3,       6.1);
    ( 600410.6, 4174380.1,     125.6,     125.6,       6.1);         ( 600430.6, 4174380.1,     125.9,     125.9,       6.1);
    ( 600450.6, 4174380.1,     126.1,     126.1,       6.1);         ( 600470.6, 4174380.1,     126.3,     126.3,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600490.6, 4174380.1,     126.6,     126.6,       6.1);         ( 599730.6, 4174400.1,     117.9,     117.9,       6.1);
    ( 599750.6, 4174400.1,     118.3,     118.3,       6.1);         ( 599770.6, 4174400.1,     118.4,     118.4,       6.1);
    ( 599790.6, 4174400.1,     118.4,     118.4,       6.1);         ( 599810.6, 4174400.1,     118.4,     118.4,       6.1);
    ( 599830.6, 4174400.1,     118.7,     118.7,       6.1);         ( 599850.6, 4174400.1,     119.1,     119.1,       6.1);
    ( 599870.6, 4174400.1,     119.1,     119.1,       6.1);         ( 599890.6, 4174400.1,     119.0,     119.0,       6.1);
    ( 599910.6, 4174400.1,     119.2,     119.2,       6.1);         ( 599930.6, 4174400.1,     120.2,     120.2,       6.1);
    ( 599950.6, 4174400.1,     120.1,     120.1,       6.1);         ( 599970.6, 4174400.1,     120.0,     120.0,       6.1);
    ( 599990.6, 4174400.1,     120.2,     120.2,       6.1);         ( 600010.6, 4174400.1,     120.6,     120.6,       6.1);
    ( 600030.6, 4174400.1,     121.4,     121.4,       6.1);         ( 600050.6, 4174400.1,     121.6,     121.6,       6.1);
    ( 600070.6, 4174400.1,     121.5,     121.5,       6.1);         ( 600090.6, 4174400.1,     121.7,     121.7,       6.1);
    ( 600110.6, 4174400.1,     122.1,     122.1,       6.1);         ( 600130.6, 4174400.1,     122.8,     122.8,       6.1);
    ( 600150.6, 4174400.1,     123.4,     123.4,       6.1);         ( 600170.6, 4174400.1,     121.3,     121.3,       6.1);
    ( 600190.6, 4174400.1,     122.2,     122.2,       6.1);         ( 600210.6, 4174400.1,     123.5,     123.5,       6.1);
    ( 600230.6, 4174400.1,     124.2,     124.2,       6.1);         ( 600250.6, 4174400.1,     124.4,     124.4,       6.1);
    ( 600270.6, 4174400.1,     124.6,     124.6,       6.1);         ( 600290.6, 4174400.1,     124.8,     124.8,       6.1);
    ( 600310.6, 4174400.1,     125.0,     125.0,       6.1);         ( 600330.6, 4174400.1,     125.1,     125.1,       6.1);
    ( 600350.6, 4174400.1,     125.3,     125.3,       6.1);         ( 600370.6, 4174400.1,     125.6,     125.6,       6.1);
    ( 600390.6, 4174400.1,     125.9,     125.9,       6.1);         ( 600410.6, 4174400.1,     126.2,     126.2,       6.1);
    ( 600430.6, 4174400.1,     126.5,     126.5,       6.1);         ( 600450.6, 4174400.1,     126.8,     126.8,       6.1);
    ( 600470.6, 4174400.1,     126.9,     126.9,       6.1);         ( 600490.6, 4174400.1,     127.2,     127.2,       6.1);
    ( 599730.6, 4174420.1,     118.8,     118.8,       6.1);         ( 599750.6, 4174420.1,     119.0,     119.0,       6.1);
    ( 599770.6, 4174420.1,     119.1,     119.1,       6.1);         ( 599790.6, 4174420.1,     119.0,     119.0,       6.1);
    ( 599810.6, 4174420.1,     118.9,     118.9,       6.1);         ( 599830.6, 4174420.1,     118.7,     118.7,       6.1);
    ( 599850.6, 4174420.1,     118.7,     118.7,       6.1);         ( 599870.6, 4174420.1,     118.7,     118.7,       6.1);
    ( 599890.6, 4174420.1,     119.0,     119.0,       6.1);         ( 599910.6, 4174420.1,     119.8,     119.8,       6.1);
    ( 599930.6, 4174420.1,     121.3,     121.3,       6.1);         ( 599950.6, 4174420.1,     120.8,     120.8,       6.1);
    ( 599970.6, 4174420.1,     120.6,     120.6,       6.1);         ( 599990.6, 4174420.1,     120.7,     120.7,       6.1);
    ( 600010.6, 4174420.1,     121.0,     121.0,       6.1);         ( 600030.6, 4174420.1,     121.6,     121.6,       6.1);
    ( 600050.6, 4174420.1,     122.2,     122.2,       6.1);         ( 600070.6, 4174420.1,     121.9,     121.9,       6.1);
    ( 600090.6, 4174420.1,     121.9,     125.1,       6.1);         ( 600110.6, 4174420.1,     122.1,     125.1,       6.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  54

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600130.6, 4174420.1,     122.4,     122.4,       6.1);         ( 600150.6, 4174420.1,     123.3,     123.3,       6.1);
    ( 600170.6, 4174420.1,     122.0,     122.0,       6.1);         ( 600190.6, 4174420.1,     123.1,     123.1,       6.1);
    ( 600210.6, 4174420.1,     124.2,     124.2,       6.1);         ( 600230.6, 4174420.1,     124.6,     124.6,       6.1);
    ( 600250.6, 4174420.1,     124.8,     124.8,       6.1);         ( 600270.6, 4174420.1,     125.0,     125.0,       6.1);
    ( 600290.6, 4174420.1,     125.2,     125.2,       6.1);         ( 600310.6, 4174420.1,     125.4,     125.4,       6.1);
    ( 600330.6, 4174420.1,     125.6,     125.6,       6.1);         ( 600350.6, 4174420.1,     125.8,     125.8,       6.1);
    ( 600370.6, 4174420.1,     126.0,     126.0,       6.1);         ( 600390.6, 4174420.1,     126.5,     126.5,       6.1);
    ( 600410.6, 4174420.1,     126.9,     126.9,       6.1);         ( 600430.6, 4174420.1,     127.1,     127.1,       6.1);
    ( 600450.6, 4174420.1,     127.3,     127.3,       6.1);         ( 600470.6, 4174420.1,     127.5,     127.5,       6.1);
    ( 600490.6, 4174420.1,     127.7,     127.7,       6.1);         ( 599730.6, 4174440.1,     119.8,     119.8,       6.1);
    ( 599750.6, 4174440.1,     120.0,     120.0,       6.1);         ( 599770.6, 4174440.1,     120.0,     120.0,       6.1);
    ( 599790.6, 4174440.1,     120.0,     120.0,       6.1);         ( 599810.6, 4174440.1,     120.0,     120.0,       6.1);
```

Model Output
Unit Emission Rates (1 g/s)

(599830.6,	4174440.1,	118.9,	122.4,	6.1);	(599850.6,	4174440.1,	118.7,	122.8,	6.1);
(599870.6,	4174440.1,	118.7,	124.2,	6.1);	(599890.6,	4174440.1,	119.8,	124.2,	6.1);
(599910.6,	4174440.1,	121.6,	121.6,	6.1);	(599930.6,	4174440.1,	122.5,	122.5,	6.1);
(599950.6,	4174440.1,	122.0,	122.0,	6.1);	(599970.6,	4174440.1,	121.9,	121.9,	6.1);
(599990.6,	4174440.1,	121.7,	121.7,	6.1);	(600010.6,	4174440.1,	121.6,	121.6,	6.1);
(600030.6,	4174440.1,	122.2,	122.2,	6.1);	(600050.6,	4174440.1,	122.7,	122.7,	6.1);
(600070.6,	4174440.1,	122.4,	122.4,	6.1);	(600090.6,	4174440.1,	123.4,	125.1,	6.1);
(600110.6,	4174440.1,	124.3,	124.3,	6.1);	(600130.6,	4174440.1,	124.1,	125.0,	6.1);
(600150.6,	4174440.1,	123.5,	123.5,	6.1);	(600170.6,	4174440.1,	122.8,	122.8,	6.1);
(600190.6,	4174440.1,	123.9,	123.9,	6.1);	(600210.6,	4174440.1,	124.7,	124.7,	6.1);
(600230.6,	4174440.1,	125.0,	125.0,	6.1);	(600250.6,	4174440.1,	125.3,	125.3,	6.1);
(600270.6,	4174440.1,	125.5,	125.5,	6.1);	(600290.6,	4174440.1,	125.7,	125.7,	6.1);
(600310.6,	4174440.1,	125.9,	125.9,	6.1);	(600330.6,	4174440.1,	126.1,	126.1,	6.1);
(600350.6,	4174440.1,	126.4,	126.4,	6.1);	(600370.6,	4174440.1,	126.6,	126.6,	6.1);
(600390.6,	4174440.1,	127.0,	127.0,	6.1);	(600410.6,	4174440.1,	127.3,	127.3,	6.1);
(600430.6,	4174440.1,	127.5,	127.5,	6.1);	(600450.6,	4174440.1,	127.7,	127.7,	6.1);
(600470.6,	4174440.1,	127.9,	127.9,	6.1);	(600490.6,	4174440.1,	128.2,	128.2,	6.1);
(599730.6,	4174460.1,	120.6,	120.6,	6.1);	(599750.6,	4174460.1,	121.5,	123.3,	6.1);
(599770.6,	4174460.1,	121.9,	121.9,	6.1);	(599790.6,	4174460.1,	121.8,	121.8,	6.1);
(599810.6,	4174460.1,	121.4,	121.4,	6.1);	(599830.6,	4174460.1,	120.8,	122.4,	6.1);
(599850.6,	4174460.1,	120.8,	122.8,	6.1);	(599870.6,	4174460.1,	121.0,	123.3,	6.1);
(599890.6,	4174460.1,	121.9,	124.2,	6.1);	(599910.6,	4174460.1,	123.1,	123.1,	6.1);
(599930.6,	4174460.1,	123.5,	123.5,	6.1);	(599950.6,	4174460.1,	123.4,	123.4,	6.1);
(599970.6,	4174460.1,	123.1,	123.1,	6.1);	(599990.6,	4174460.1,	122.7,	122.7,	6.1);
(600010.6,	4174460.1,	122.7,	122.7,	6.1);	(600030.6,	4174460.1,	123.1,	123.1,	6.1);
(600050.6,	4174460.1,	123.7,	123.7,	6.1);	(600070.6,	4174460.1,	123.7,	123.7,	6.1);
(600090.6,	4174460.1,	123.8,	123.8,	6.1);	(600110.6,	4174460.1,	123.9,	123.9,	6.1);
(600130.6,	4174460.1,	123.9,	123.9,	6.1);	(600150.6,	4174460.1,	124.1,	124.1,	6.1);
(600170.6,	4174460.1,	123.8,	123.8,	6.1);	(600190.6,	4174460.1,	124.6,	124.6,	6.1);
(600210.6,	4174460.1,	125.3,	125.3,	6.1);	(600230.6,	4174460.1,	125.5,	125.5,	6.1);
(600250.6,	4174460.1,	125.7,	125.7,	6.1);	(600270.6,	4174460.1,	126.0,	126.0,	6.1);
(600290.6,	4174460.1,	126.2,	126.2,	6.1);	(600310.6,	4174460.1,	126.4,	126.4,	6.1);
(600330.6,	4174460.1,	126.6,	126.6,	6.1);	(600350.6,	4174460.1,	126.9,	126.9,	6.1);

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	600370.6,	4174460.1,	127.1,	127.1,	6.1);	(600390.6,	4174460.1,	127.5,	127.5,	6.1);
(	600410.6,	4174460.1,	127.8,	127.8,	6.1);	(600430.6,	4174460.1,	128.0,	128.0,	6.1);
(	600450.6,	4174460.1,	128.2,	128.2,	6.1);	(600470.6,	4174460.1,	128.3,	128.3,	6.1);
(	600490.6,	4174460.1,	128.5,	128.5,	6.1);	(599730.6,	4174480.1,	121.4,	121.4,	6.1);
(	599750.6,	4174480.1,	122.7,	122.7,	6.1);	(599770.6,	4174480.1,	123.3,	123.3,	6.1);
(	599790.6,	4174480.1,	123.1,	123.1,	6.1);	(599810.6,	4174480.1,	122.8,	122.8,	6.1);
(	599830.6,	4174480.1,	122.6,	122.6,	6.1);	(599850.6,	4174480.1,	122.8,	122.8,	6.1);
(	599870.6,	4174480.1,	123.2,	123.2,	6.1);	(599890.6,	4174480.1,	123.7,	123.7,	6.1);
(	599910.6,	4174480.1,	124.2,	124.2,	6.1);	(599930.6,	4174480.1,	124.2,	124.2,	6.1);
(	599950.6,	4174480.1,	124.6,	124.6,	6.1);	(599970.6,	4174480.1,	124.2,	124.2,	6.1);
(	599990.6,	4174480.1,	123.8,	123.8,	6.1);	(600010.6,	4174480.1,	123.8,	123.8,	6.1);
(	600030.6,	4174480.1,	124.0,	124.0,	6.1);	(600050.6,	4174480.1,	124.8,	124.8,	6.1);
(	600070.6,	4174480.1,	125.1,	125.1,	6.1);	(600090.6,	4174480.1,	123.8,	123.8,	6.1);
(	600110.6,	4174480.1,	122.6,	122.6,	6.1);	(600130.6,	4174480.1,	123.0,	123.0,	6.1);
(	600150.6,	4174480.1,	124.8,	124.8,	6.1);	(600170.6,	4174480.1,	124.7,	124.7,	6.1);
(	600190.6,	4174480.1,	125.4,	125.4,	6.1);	(600210.6,	4174480.1,	125.8,	125.8,	6.1);
(	600230.6,	4174480.1,	125.9,	125.9,	6.1);	(600250.6,	4174480.1,	126.1,	126.1,	6.1);
(	600270.6,	4174480.1,	126.4,	126.4,	6.1);	(600290.6,	4174480.1,	126.7,	126.7,	6.1);
(	600310.6,	4174480.1,	126.9,	126.9,	6.1);	(600330.6,	4174480.1,	127.1,	127.1,	6.1);
(	600350.6,	4174480.1,	127.3,	127.3,	6.1);	(600370.6,	4174480.1,	127.5,	127.5,	6.1);
(	600390.6,	4174480.1,	128.0,	128.0,	6.1);	(600410.6,	4174480.1,	128.3,	128.3,	6.1);
(	600430.6,	4174480.1,	128.5,	128.5,	6.1);	(600450.6,	4174480.1,	128.6,	128.6,	6.1);
(	600470.6,	4174480.1,	128.7,	128.7,	6.1);	(600490.6,	4174480.1,	128.2,	128.2,	6.1);
(	599730.6,	4174500.1,	122.2,	122.2,	6.1);	(599750.6,	4174500.1,	122.9,	122.9,	6.1);
(	599770.6,	4174500.1,	123.3,	123.3,	6.1);	(599790.6,	4174500.1,	123.4,	123.4,	6.1);
(	599810.6,	4174500.1,	123.5,	123.5,	6.1);	(599830.6,	4174500.1,	123.0,	123.0,	6.1);
(	599850.6,	4174500.1,	123.4,	123.4,	6.1);	(599870.6,	4174500.1,	123.6,	123.6,	6.1);
(	599890.6,	4174500.1,	123.8,	123.8,	6.1);	(599910.6,	4174500.1,	124.1,	124.1,	6.1);
(	599930.6,	4174500.1,	124.1,	124.1,	6.1);	(599950.6,	4174500.1,	124.4,	124.4,	6.1);
(	599970.6,	4174500.1,	124.8,	124.8,	6.1);	(599990.6,	4174500.1,	124.9,	124.9,	6.1);
(	600010.6,	4174500.1,	124.7,	124.7,	6.1);	(600030.6,	4174500.1,	124.6,	124.6,	6.1);
(	600050.6,	4174500.1,	125.0,	125.0,	6.1);	(600070.6,	4174500.1,	125.2,	125.2,	6.1);
(	600090.6,	4174500.1,	124.9,	124.9,	6.1);	(600110.6,	4174500.1,	124.6,	124.6,	6.1);
(	600130.6,	4174500.1,	125.0,	125.0,	6.1);	(600150.6,	4174500.1,	125.7,	125.7,	6.1);
(	600170.6,	4174500.1,	125.5,	125.5,	6.1);	(600190.6,	4174500.1,	125.9,	125.9,	6.1);
(	600210.6,	4174500.1,	126.3,	126.3,	6.1);	(600230.6,	4174500.1,	126.4,	126.4,	6.1);
(	600250.6,	4174500.1,	126.6,	126.6,	6.1);	(600270.6,	4174500.1,	126.8,	126.8,	6.1);
(	600290.6,	4174500.1,	127.1,	127.1,	6.1);	(600310.6,	4174500.1,	127.3,	127.3,	6.1);
(	600330.6,	4174500.1,	127.6,	127.6,	6.1);	(600350.6,	4174500.1,	127.8,	127.8,	6.1);
(	600370.6,	4174500.1,	128.0,	128.0,	6.1);	(600390.6,	4174500.1,	128.4,	128.4,	6.1);
(	600410.6,	4174500.1,	128.7,	128.7,	6.1);	(600430.6,	4174500.1,	128.4,	128.4,	6.1);
(	600450.6,	4174500.1,	127.7,	127.7,	6.1);	(600470.6,	4174500.1,	127.3,	127.3,	6.1);

(600490.6, 4174500.1, 127.0, 127.0, 6.1); (599730.6, 4174520.1, 122.7, 122.7, 6.1);
(599750.6, 4174520.1, 123.2, 123.2, 6.1); (599770.6, 4174520.1, 123.5, 123.5, 6.1);
(599790.6, 4174520.1, 123.7, 123.7, 6.1); (599810.6, 4174520.1, 124.0, 124.0, 6.1);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(599830.6,	4174520.1,	123.7,	123.7,	6.1);	(599850.6,	4174520.1,	124.0,	124.0,	6.1);
(599870.6,	4174520.1,	124.3,	124.3,	6.1);	(599890.6,	4174520.1,	124.5,	124.5,	6.1);
(599910.6,	4174520.1,	124.5,	124.5,	6.1);	(599930.6,	4174520.1,	124.4,	124.4,	6.1);
(599950.6,	4174520.1,	124.5,	124.5,	6.1);	(599970.6,	4174520.1,	124.9,	124.9,	6.1);
(599990.6,	4174520.1,	125.1,	125.1,	6.1);	(600010.6,	4174520.1,	125.1,	125.1,	6.1);
(600030.6,	4174520.1,	125.2,	125.2,	6.1);	(600050.6,	4174520.1,	125.4,	125.4,	6.1);
(600070.6,	4174520.1,	125.8,	125.8,	6.1);	(600090.6,	4174520.1,	125.9,	125.9,	6.1);
(600110.6,	4174520.1,	126.1,	126.1,	6.1);	(600130.6,	4174520.1,	126.3,	126.3,	6.1);
(600150.6,	4174520.1,	126.3,	126.3,	6.1);	(600170.6,	4174520.1,	126.3,	126.3,	6.1);
(600190.6,	4174520.1,	126.6,	126.6,	6.1);	(600210.6,	4174520.1,	126.8,	126.8,	6.1);
(600230.6,	4174520.1,	126.9,	126.9,	6.1);	(600250.6,	4174520.1,	127.1,	127.1,	6.1);
(600270.6,	4174520.1,	127.3,	127.3,	6.1);	(600290.6,	4174520.1,	127.6,	127.6,	6.1);
(600310.6,	4174520.1,	127.8,	127.8,	6.1);	(600330.6,	4174520.1,	128.1,	128.1,	6.1);
(600350.6,	4174520.1,	128.4,	128.4,	6.1);	(600370.6,	4174520.1,	128.6,	128.6,	6.1);
(600390.6,	4174520.1,	128.9,	128.9,	6.1);	(600410.6,	4174520.1,	129.2,	129.2,	6.1);
(600430.6,	4174520.1,	128.6,	128.6,	6.1);	(600450.6,	4174520.1,	127.6,	127.6,	6.1);
(600470.6,	4174520.1,	126.9,	131.5,	6.1);	(600490.6,	4174520.1,	127.3,	131.5,	6.1);
(600010.6,	4173500.1,	107.2,	107.2,	9.1);	(600030.6,	4173500.1,	106.4,	106.4,	9.1);
(600050.6,	4173500.1,	105.3,	105.3,	9.1);	(600070.6,	4173500.1,	104.7,	104.7,	9.1);
(600090.6,	4173500.1,	104.7,	104.7,	9.1);	(600110.6,	4173500.1,	104.7,	104.7,	9.1);
(600130.6,	4173500.1,	104.7,	104.7,	9.1);	(600150.6,	4173500.1,	104.7,	104.7,	9.1);
(600170.6,	4173500.1,	104.7,	104.7,	9.1);	(600190.6,	4173500.1,	104.8,	104.8,	9.1);
(600210.6,	4173500.1,	104.8,	104.8,	9.1);	(600230.6,	4173500.1,	104.8,	104.8,	9.1);
(600250.6,	4173500.1,	104.9,	104.9,	9.1);	(600270.6,	4173500.1,	106.0,	106.0,	9.1);
(600290.6,	4173500.1,	107.4,	107.4,	9.1);	(600310.6,	4173500.1,	107.6,	107.6,	9.1);
(600330.6,	4173500.1,	107.5,	107.5,	9.1);	(600350.6,	4173500.1,	107.5,	107.5,	9.1);
(600370.6,	4173500.1,	107.5,	107.5,	9.1);	(600390.6,	4173500.1,	107.5,	107.5,	9.1);
(600410.6,	4173500.1,	107.5,	107.5,	9.1);	(600430.6,	4173500.1,	107.5,	107.5,	9.1);
(600450.6,	4173500.1,	107.4,	107.4,	9.1);	(600470.6,	4173500.1,	107.5,	107.5,	9.1);
(600490.6,	4173500.1,	107.5,	107.5,	9.1);	(600010.6,	4173520.1,	107.3,	107.3,	9.1);
(600030.6,	4173520.1,	106.4,	106.4,	9.1);	(600050.6,	4173520.1,	105.3,	105.3,	9.1);
(600070.6,	4173520.1,	104.6,	104.6,	9.1);	(600090.6,	4173520.1,	104.6,	104.6,	9.1);
(600110.6,	4173520.1,	104.6,	104.6,	9.1);	(600130.6,	4173520.1,	104.7,	104.7,	9.1);
(600150.6,	4173520.1,	104.7,	104.7,	9.1);	(600170.6,	4173520.1,	104.7,	104.7,	9.1);
(600190.6,	4173520.1,	104.8,	104.8,	9.1);	(600210.6,	4173520.1,	104.8,	104.8,	9.1);
(600230.6,	4173520.1,	104.8,	104.8,	9.1);	(600250.6,	4173520.1,	104.8,	104.8,	9.1);
(600270.6,	4173520.1,	106.0,	107.4,	9.1);	(600290.6,	4173520.1,	107.5,	107.5,	9.1);
(600310.6,	4173520.1,	107.6,	107.6,	9.1);	(600330.6,	4173520.1,	107.6,	107.6,	9.1);
(600350.6,	4173520.1,	107.6,	107.6,	9.1);	(600370.6,	4173520.1,	107.6,	107.6,	9.1);

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    ( 600390.6, 4173520.1,     107.6,     107.6,       9.1);         ( 600410.6, 4173520.1,     107.6,     107.6,       9.1);
    ( 600430.6, 4173520.1,     107.6,     107.6,       9.1);         ( 600450.6, 4173520.1,     107.6,     107.6,       9.1);
    ( 600470.6, 4173520.1,     107.6,     107.6,       9.1);         ( 600490.6, 4173520.1,     107.5,     107.5,       9.1);
    ( 600010.6, 4173540.1,     107.3,     107.3,       9.1);         ( 600030.6, 4173540.1,     106.4,     106.4,       9.1);
    ( 600050.6, 4173540.1,     105.3,     105.3,       9.1);         ( 600070.6, 4173540.1,     104.6,     104.6,       9.1);
    ( 600090.6, 4173540.1,     104.6,     104.6,       9.1);         ( 600110.6, 4173540.1,     104.6,     104.6,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  57
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600130.6, 4173540.1,     104.7,     104.7,       9.1);         ( 600150.6, 4173540.1,     104.7,     104.7,       9.1);
    ( 600170.6, 4173540.1,     104.7,     104.7,       9.1);         ( 600190.6, 4173540.1,     104.8,     104.8,       9.1);
    ( 600210.6, 4173540.1,     104.8,     104.8,       9.1);         ( 600230.6, 4173540.1,     104.9,     104.9,       9.1);
    ( 600250.6, 4173540.1,     104.9,     104.9,       9.1);         ( 600270.6, 4173540.1,     106.1,     106.1,       9.1);
    ( 600290.6, 4173540.1,     107.5,     107.5,       9.1);         ( 600310.6, 4173540.1,     107.7,     107.7,       9.1);
    ( 600330.6, 4173540.1,     107.7,     107.7,       9.1);         ( 600350.6, 4173540.1,     107.7,     107.7,       9.1);
    ( 600370.6, 4173540.1,     107.6,     107.6,       9.1);         ( 600390.6, 4173540.1,     107.6,     107.6,       9.1);
    ( 600410.6, 4173540.1,     107.6,     107.6,       9.1);         ( 600430.6, 4173540.1,     107.6,     107.6,       9.1);
    ( 600450.6, 4173540.1,     107.6,     107.6,       9.1);         ( 600470.6, 4173540.1,     107.6,     107.6,       9.1);
    ( 600490.6, 4173540.1,     107.6,     107.6,       9.1);         ( 600010.6, 4173560.1,     107.3,     107.3,       9.1);
    ( 600030.6, 4173560.1,     106.4,     106.4,       9.1);         ( 600050.6, 4173560.1,     105.5,     105.5,       9.1);
    ( 600070.6, 4173560.1,     105.0,     105.0,       9.1);         ( 600090.6, 4173560.1,     105.1,     105.1,       9.1);
    ( 600110.6, 4173560.1,     105.0,     105.0,       9.1);         ( 600130.6, 4173560.1,     105.2,     105.2,       9.1);
    ( 600150.6, 4173560.1,     105.1,     105.1,       9.1);         ( 600170.6, 4173560.1,     105.1,     105.1,       9.1);
    ( 600190.6, 4173560.1,     105.2,     105.2,       9.1);         ( 600210.6, 4173560.1,     105.3,     105.3,       9.1);
    ( 600230.6, 4173560.1,     105.4,     105.4,       9.1);         ( 600250.6, 4173560.1,     105.5,     105.5,       9.1);
    ( 600270.6, 4173560.1,     106.5,     106.5,       9.1);         ( 600290.6, 4173560.1,     107.6,     107.6,       9.1);
    ( 600310.6, 4173560.1,     107.7,     107.7,       9.1);         ( 600330.6, 4173560.1,     107.8,     107.8,       9.1);
    ( 600350.6, 4173560.1,     107.8,     107.8,       9.1);         ( 600370.6, 4173560.1,     107.7,     107.7,       9.1);
    ( 600390.6, 4173560.1,     107.7,     107.7,       9.1);         ( 600410.6, 4173560.1,     107.7,     107.7,       9.1);
    ( 600430.6, 4173560.1,     107.7,     107.7,       9.1);         ( 600450.6, 4173560.1,     107.7,     107.7,       9.1);
    ( 600470.6, 4173560.1,     107.7,     107.7,       9.1);         ( 600490.6, 4173560.1,     107.7,     107.7,       9.1);
    ( 600030.6, 4173580.1,     106.5,     106.5,       9.1);         ( 600050.6, 4173580.1,     106.0,     106.0,       9.1);
    ( 600070.6, 4173580.1,     106.0,     106.0,       9.1);         ( 600090.6, 4173580.1,     106.4,     106.4,       9.1);
    ( 600110.6, 4173580.1,     106.4,     106.4,       9.1);         ( 600130.6, 4173580.1,     106.3,     106.3,       9.1);
    ( 600150.6, 4173580.1,     106.4,     106.4,       9.1);         ( 600170.6, 4173580.1,     106.5,     106.5,       9.1);
    ( 600190.6, 4173580.1,     106.6,     106.6,       9.1);         ( 600210.6, 4173580.1,     106.8,     106.8,       9.1);
    ( 600230.6, 4173580.1,     106.8,     106.8,       9.1);         ( 600250.6, 4173580.1,     107.0,     107.0,       9.1);
    ( 600270.6, 4173580.1,     107.3,     107.3,       9.1);         ( 600290.6, 4173580.1,     107.7,     107.7,       9.1);
    ( 600310.6, 4173580.1,     107.8,     107.8,       9.1);         ( 600330.6, 4173580.1,     108.0,     108.0,       9.1);
    ( 600350.6, 4173580.1,     108.0,     108.0,       9.1);         ( 600370.6, 4173580.1,     107.9,     107.9,       9.1);
    ( 600390.6, 4173580.1,     107.9,     107.9,       9.1);         ( 600410.6, 4173580.1,     107.9,     107.9,       9.1);
    ( 600430.6, 4173580.1,     107.8,     107.8,       9.1);         ( 600450.6, 4173580.1,     107.8,     107.8,       9.1);
    ( 600470.6, 4173580.1,     107.8,     107.8,       9.1);         ( 600490.6, 4173580.1,     107.8,     107.8,       9.1);
    ( 600030.6, 4173600.1,     106.4,     106.4,       9.1);         ( 600050.6, 4173600.1,     106.1,     106.1,       9.1);
    ( 600070.6, 4173600.1,     106.3,     106.3,       9.1);         ( 600090.6, 4173600.1,     106.7,     106.7,       9.1);
```

```
    ( 600110.6, 4173600.1,     106.8,     106.8,       9.1);         ( 600130.6, 4173600.1,     106.7,     106.7,       9.1);
    ( 600150.6, 4173600.1,     106.8,     106.8,       9.1);         ( 600170.6, 4173600.1,     106.9,     106.9,       9.1);
    ( 600190.6, 4173600.1,     106.9,     106.9,       9.1);         ( 600210.6, 4173600.1,     107.1,     107.1,       9.1);
    ( 600230.6, 4173600.1,     107.3,     107.3,       9.1);         ( 600250.6, 4173600.1,     107.5,     107.5,       9.1);
    ( 600270.6, 4173600.1,     107.6,     107.6,       9.1);         ( 600290.6, 4173600.1,     107.8,     107.8,       9.1);
    ( 600310.6, 4173600.1,     107.8,     107.8,       9.1);         ( 600330.6, 4173600.1,     107.9,     107.9,       9.1);
    ( 600350.6, 4173600.1,     108.0,     108.0,       9.1);         ( 600370.6, 4173600.1,     108.0,     108.0,       9.1);
    ( 600390.6, 4173600.1,     108.0,     108.0,       9.1);         ( 600410.6, 4173600.1,     107.9,     107.9,       9.1);
    ( 600430.6, 4173600.1,     107.8,     107.8,       9.1);         ( 600450.6, 4173600.1,     107.8,     107.8,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600470.6, 4173600.1,     107.8,     107.8,       9.1);         ( 600490.6, 4173600.1,     107.8,     107.8,       9.1);
    ( 600030.6, 4173620.1,     106.3,     106.3,       9.1);         ( 600050.6, 4173620.1,     106.2,     106.2,       9.1);
    ( 600070.6, 4173620.1,     106.5,     106.5,       9.1);         ( 600090.6, 4173620.1,     106.7,     106.7,       9.1);
    ( 600110.6, 4173620.1,     106.9,     106.9,       9.1);         ( 600130.6, 4173620.1,     106.9,     106.9,       9.1);
    ( 600150.6, 4173620.1,     107.0,     107.0,       9.1);         ( 600170.6, 4173620.1,     107.0,     107.0,       9.1);
    ( 600190.6, 4173620.1,     107.0,     107.0,       9.1);         ( 600210.6, 4173620.1,     107.1,     107.1,       9.1);
    ( 600230.6, 4173620.1,     107.4,     107.4,       9.1);         ( 600250.6, 4173620.1,     107.6,     107.6,       9.1);
    ( 600270.6, 4173620.1,     107.7,     107.7,       9.1);         ( 600290.6, 4173620.1,     107.8,     107.8,       9.1);
    ( 600310.6, 4173620.1,     107.7,     107.7,       9.1);         ( 600330.6, 4173620.1,     107.8,     107.8,       9.1);
    ( 600350.6, 4173620.1,     107.9,     107.9,       9.1);         ( 600370.6, 4173620.1,     107.9,     107.9,       9.1);
    ( 600390.6, 4173620.1,     107.9,     107.9,       9.1);         ( 600410.6, 4173620.1,     107.8,     107.8,       9.1);
    ( 600430.6, 4173620.1,     107.8,     107.8,       9.1);         ( 600450.6, 4173620.1,     107.7,     107.7,       9.1);
    ( 600470.6, 4173620.1,     107.7,     107.7,       9.1);         ( 600490.6, 4173620.1,     107.7,     107.7,       9.1);
    ( 600030.6, 4173640.1,     106.3,     106.3,       9.1);         ( 600050.6, 4173640.1,     106.2,     106.2,       9.1);
    ( 600070.6, 4173640.1,     106.5,     106.5,       9.1);         ( 600090.6, 4173640.1,     106.7,     106.7,       9.1);
    ( 600110.6, 4173640.1,     107.0,     107.0,       9.1);         ( 600130.6, 4173640.1,     107.1,     107.1,       9.1);
    ( 600150.6, 4173640.1,     107.2,     107.2,       9.1);         ( 600170.6, 4173640.1,     107.3,     107.3,       9.1);
    ( 600190.6, 4173640.1,     107.3,     107.3,       9.1);         ( 600210.6, 4173640.1,     107.4,     107.4,       9.1);
    ( 600230.6, 4173640.1,     107.5,     107.5,       9.1);         ( 600250.6, 4173640.1,     107.6,     107.6,       9.1);
    ( 600270.6, 4173640.1,     107.7,     107.7,       9.1);         ( 600290.6, 4173640.1,     107.8,     107.8,       9.1);
    ( 600310.6, 4173640.1,     107.7,     107.7,       9.1);         ( 600330.6, 4173640.1,     107.7,     107.7,       9.1);
    ( 600350.6, 4173640.1,     107.7,     107.7,       9.1);         ( 600370.6, 4173640.1,     107.7,     107.7,       9.1);
    ( 600390.6, 4173640.1,     107.6,     107.6,       9.1);         ( 600410.6, 4173640.1,     107.5,     107.5,       9.1);
    ( 600430.6, 4173640.1,     107.4,     107.4,       9.1);         ( 600450.6, 4173640.1,     107.3,     107.3,       9.1);
    ( 600470.6, 4173640.1,     107.2,     107.2,       9.1);         ( 600490.6, 4173640.1,     107.2,     107.2,       9.1);
    ( 600030.6, 4173660.1,     106.6,     106.6,       9.1);         ( 600050.6, 4173660.1,     106.5,     106.5,       9.1);
    ( 600070.6, 4173660.1,     106.6,     106.6,       9.1);         ( 600090.6, 4173660.1,     106.8,     106.8,       9.1);
    ( 600110.6, 4173660.1,     107.1,     107.1,       9.1);         ( 600130.6, 4173660.1,     107.3,     107.3,       9.1);
    ( 600150.6, 4173660.1,     107.5,     107.5,       9.1);         ( 600170.6, 4173660.1,     107.6,     107.6,       9.1);
    ( 600190.6, 4173660.1,     107.6,     107.6,       9.1);         ( 600210.6, 4173660.1,     107.7,     107.7,       9.1);
    ( 600230.6, 4173660.1,     107.7,     107.7,       9.1);         ( 600250.6, 4173660.1,     107.8,     107.8,       9.1);
    ( 600270.6, 4173660.1,     107.8,     107.8,       9.1);         ( 600290.6, 4173660.1,     107.8,     107.8,       9.1);
    ( 600310.6, 4173660.1,     107.7,     107.7,       9.1);         ( 600330.6, 4173660.1,     107.7,     107.7,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600350.6, 4173660.1,     107.7,     107.7,       9.1);         ( 600370.6, 4173660.1,     107.6,     107.6,       9.1);
    ( 600390.6, 4173660.1,     107.5,     107.5,       9.1);         ( 600410.6, 4173660.1,     107.4,     107.4,       9.1);
    ( 600430.6, 4173660.1,     107.4,     107.4,       9.1);         ( 600450.6, 4173660.1,     107.6,     107.6,       9.1);
    ( 600470.6, 4173660.1,     107.3,     107.3,       9.1);         ( 600490.6, 4173660.1,     107.1,     107.1,       9.1);
    ( 600030.6, 4173680.1,     107.0,     107.0,       9.1);         ( 600050.6, 4173680.1,     106.8,     106.8,       9.1);
    ( 600070.6, 4173680.1,     106.8,     106.8,       9.1);         ( 600150.6, 4173680.1,     107.7,     107.7,       9.1);
    ( 600170.6, 4173680.1,     107.9,     107.9,       9.1);         ( 600190.6, 4173680.1,     108.0,     108.0,       9.1);
    ( 600210.6, 4173680.1,     108.1,     108.1,       9.1);         ( 600230.6, 4173680.1,     108.1,     108.1,       9.1);
    ( 600250.6, 4173680.1,     108.1,     108.1,       9.1);         ( 600270.6, 4173680.1,     108.0,     108.0,       9.1);
    ( 600290.6, 4173680.1,     107.9,     107.9,       9.1);         ( 600310.6, 4173680.1,     107.7,     107.7,       9.1);
    ( 600330.6, 4173680.1,     107.7,     107.7,       9.1);         ( 600350.6, 4173680.1,     107.8,     107.8,       9.1);
    ( 600370.6, 4173680.1,     107.8,     107.8,       9.1);         ( 600390.6, 4173680.1,     107.7,     107.7,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***       03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***       11:54:32
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600410.6, 4173680.1,     107.5,     107.5,       9.1);         ( 600430.6, 4173680.1,     107.7,     107.7,       9.1);
    ( 600450.6, 4173680.1,     108.6,     108.6,       9.1);         ( 600470.6, 4173680.1,     107.9,     107.9,       9.1);
    ( 600490.6, 4173680.1,     107.3,     107.3,       9.1);         ( 600150.6, 4173700.1,     107.6,     107.6,       9.1);
    ( 600170.6, 4173700.1,     108.0,     108.0,       9.1);         ( 600190.6, 4173700.1,     108.4,     108.4,       9.1);
    ( 600210.6, 4173700.1,     108.8,     108.8,       9.1);         ( 600230.6, 4173700.1,     109.4,     109.4,       9.1);
    ( 600250.6, 4173700.1,     109.2,     109.2,       9.1);         ( 600270.6, 4173700.1,     109.2,     109.2,       9.1);
    ( 600290.6, 4173700.1,     108.8,     108.8,       9.1);         ( 600310.6, 4173700.1,     107.8,     107.8,       9.1);
    ( 600330.6, 4173700.1,     107.7,     107.7,       9.1);         ( 600350.6, 4173700.1,     108.5,     108.5,       9.1);
    ( 600370.6, 4173700.1,     109.0,     109.0,       9.1);         ( 600390.6, 4173700.1,     109.2,     109.2,       9.1);
    ( 600410.6, 4173700.1,     109.2,     109.2,       9.1);         ( 600430.6, 4173700.1,     109.1,     109.1,       9.1);
    ( 600450.6, 4173700.1,     109.4,     109.4,       9.1);         ( 600470.6, 4173700.1,     108.6,     108.6,       9.1);
    ( 600490.6, 4173700.1,     107.7,     107.7,       9.1);         ( 600150.6, 4173720.1,     107.7,     107.7,       9.1);
    ( 600170.6, 4173720.1,     108.2,     108.2,       9.1);         ( 600190.6, 4173720.1,     109.0,     109.0,       9.1);
    ( 600210.6, 4173720.1,     109.3,     109.3,       9.1);         ( 600230.6, 4173720.1,     109.9,     109.9,       9.1);
    ( 600250.6, 4173720.1,     109.8,     109.8,       9.1);         ( 600270.6, 4173720.1,     109.8,     109.8,       9.1);
    ( 600290.6, 4173720.1,     109.4,     109.4,       9.1);         ( 600310.6, 4173720.1,     108.5,     108.5,       9.1);
    ( 600330.6, 4173720.1,     107.8,     107.8,       9.1);         ( 600350.6, 4173720.1,     109.1,     109.1,       9.1);
    ( 600370.6, 4173720.1,     109.7,     109.7,       9.1);         ( 600390.6, 4173720.1,     110.0,     110.0,       9.1);
    ( 600410.6, 4173720.1,     110.1,     110.1,       9.1);         ( 600430.6, 4173720.1,     109.9,     109.9,       9.1);
    ( 600450.6, 4173720.1,     110.0,     110.0,       9.1);         ( 600470.6, 4173720.1,     109.3,     109.3,       9.1);
    ( 600490.6, 4173720.1,     108.1,     108.1,       9.1);         ( 600170.6, 4173740.1,     108.7,     108.7,       9.1);
    ( 600190.6, 4173740.1,     109.6,     109.6,       9.1);         ( 600210.6, 4173740.1,     109.9,     109.9,       9.1);
    ( 600230.6, 4173740.1,     110.0,     110.0,       9.1);         ( 600250.6, 4173740.1,     110.0,     110.0,       9.1);
    ( 600270.6, 4173740.1,     110.0,     110.0,       9.1);         ( 600290.6, 4173740.1,     109.9,     109.9,       9.1);
    ( 600310.6, 4173740.1,     109.5,     109.5,       9.1);         ( 600330.6, 4173740.1,     108.0,     108.0,       9.1);
    ( 600350.6, 4173740.1,     109.6,     109.6,       9.1);         ( 600370.6, 4173740.1,     110.0,     110.0,       9.1);
    ( 600390.6, 4173740.1,     110.0,     110.0,       9.1);         ( 600410.6, 4173740.1,     110.0,     110.0,       9.1);
    ( 600430.6, 4173740.1,     110.0,     110.0,       9.1);         ( 600450.6, 4173740.1,     110.1,     110.1,       9.1);
    ( 600470.6, 4173740.1,     110.0,     110.0,       9.1);         ( 600490.6, 4173740.1,     108.5,     110.0,       9.1);
    ( 599870.6, 4173760.1,     107.4,     107.4,       9.1);         ( 599890.6, 4173760.1,     107.4,     107.4,       9.1);
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Model Output
Unit Emission Rates (1 g/s)

```
    ( 599910.6, 4173760.1,     107.4,     107.4,       9.1);         ( 600170.6, 4173760.1,     108.4,     108.4,       9.1);
    ( 600190.6, 4173760.1,     109.6,     109.6,       9.1);         ( 600210.6, 4173760.1,     109.9,     109.9,       9.1);
    ( 600230.6, 4173760.1,     109.9,     109.9,       9.1);         ( 600250.6, 4173760.1,     110.0,     110.0,       9.1);
    ( 600270.6, 4173760.1,     110.0,     110.0,       9.1);         ( 600290.6, 4173760.1,     109.8,     109.8,       9.1);
    ( 600310.6, 4173760.1,     109.2,     109.2,       9.1);         ( 600330.6, 4173760.1,     108.0,     108.0,       9.1);
    ( 600350.6, 4173760.1,     109.4,     109.4,       9.1);         ( 600370.6, 4173760.1,     109.6,     109.6,       9.1);
    ( 600390.6, 4173760.1,     109.7,     109.7,       9.1);         ( 600410.6, 4173760.1,     109.8,     109.8,       9.1);
    ( 600430.6, 4173760.1,     109.8,     109.8,       9.1);         ( 600450.6, 4173760.1,     109.8,     109.8,       9.1);
    ( 600470.6, 4173760.1,     109.5,     109.5,       9.1);         ( 600490.6, 4173760.1,     108.3,     108.3,       9.1);
    ( 599730.6, 4173780.1,     107.2,     107.2,       9.1);         ( 599750.6, 4173780.1,     107.5,     107.5,       9.1);
    ( 599770.6, 4173780.1,     107.6,     107.6,       9.1);         ( 599790.6, 4173780.1,     107.7,     107.7,       9.1);
    ( 599810.6, 4173780.1,     107.7,     107.7,       9.1);         ( 599830.6, 4173780.1,     107.6,     107.6,       9.1);
    ( 599850.6, 4173780.1,     107.5,     107.5,       9.1);         ( 599870.6, 4173780.1,     107.5,     107.5,       9.1);
    ( 599890.6, 4173780.1,     107.7,     107.7,       9.1);         ( 599910.6, 4173780.1,     107.7,     107.7,       9.1);
    ( 600170.6, 4173780.1,     108.1,     108.1,       9.1);         ( 600190.6, 4173780.1,     109.3,     109.3,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600210.6, 4173780.1,     109.9,     109.9,       9.1);         ( 600230.6, 4173780.1,     109.9,     109.9,       9.1);
    ( 600250.6, 4173780.1,     110.0,     110.0,       9.1);         ( 600270.6, 4173780.1,     110.0,     110.0,       9.1);
    ( 600290.6, 4173780.1,     109.7,     109.7,       9.1);         ( 600310.6, 4173780.1,     109.1,     109.1,       9.1);
    ( 600330.6, 4173780.1,     108.1,     108.1,       9.1);         ( 600350.6, 4173780.1,     109.1,     109.1,       9.1);
    ( 600370.6, 4173780.1,     109.2,     109.2,       9.1);         ( 600390.6, 4173780.1,     109.2,     109.2,       9.1);
    ( 600410.6, 4173780.1,     109.3,     109.3,       9.1);         ( 600430.6, 4173780.1,     109.2,     109.2,       9.1);
    ( 600450.6, 4173780.1,     109.1,     109.1,       9.1);         ( 600470.6, 4173780.1,     108.8,     108.8,       9.1);
    ( 600490.6, 4173780.1,     108.0,     108.0,       9.1);         ( 599730.6, 4173800.1,     107.1,     107.1,       9.1);
    ( 599750.6, 4173800.1,     107.6,     107.6,       9.1);         ( 599770.6, 4173800.1,     107.8,     107.8,       9.1);
    ( 599790.6, 4173800.1,     107.8,     107.8,       9.1);         ( 599810.6, 4173800.1,     107.8,     107.8,       9.1);
    ( 599830.6, 4173800.1,     107.5,     107.5,       9.1);         ( 599850.6, 4173800.1,     107.4,     107.4,       9.1);
    ( 599870.6, 4173800.1,     107.6,     107.6,       9.1);         ( 599890.6, 4173800.1,     108.1,     108.1,       9.1);
    ( 599910.6, 4173800.1,     108.1,     108.1,       9.1);         ( 599923.0, 4173805.1,     108.1,     108.1,       9.1);
    ( 600170.6, 4173800.1,     107.8,     107.8,       9.1);         ( 600190.6, 4173800.1,     108.8,     108.8,       9.1);
    ( 600210.6, 4173800.1,     110.0,     110.0,       9.1);         ( 600230.6, 4173800.1,     110.1,     110.1,       9.1);
    ( 600250.6, 4173800.1,     109.9,     109.9,       9.1);         ( 600270.6, 4173800.1,     110.0,     110.0,       9.1);
    ( 600290.6, 4173800.1,     109.8,     109.8,       9.1);         ( 600310.6, 4173800.1,     109.3,     109.3,       9.1);
    ( 600330.6, 4173800.1,     108.4,     108.4,       9.1);         ( 600350.6, 4173800.1,     108.6,     108.6,       9.1);
    ( 600370.6, 4173800.1,     108.6,     108.6,       9.1);         ( 600390.6, 4173800.1,     108.4,     108.4,       9.1);
    ( 600410.6, 4173800.1,     108.2,     108.2,       9.1);         ( 600430.6, 4173800.1,     108.1,     108.1,       9.1);
    ( 600450.6, 4173800.1,     107.9,     107.9,       9.1);         ( 600470.6, 4173800.1,     107.8,     107.8,       9.1);
    ( 600490.6, 4173800.1,     107.7,     107.7,       9.1);         ( 599730.6, 4173820.1,     107.3,     107.3,       9.1);
    ( 599750.6, 4173820.1,     107.8,     107.8,       9.1);         ( 599770.6, 4173820.1,     108.1,     108.1,       9.1);
    ( 599790.6, 4173820.1,     107.9,     107.9,       9.1);         ( 599810.6, 4173820.1,     108.0,     108.0,       9.1);
    ( 599830.6, 4173820.1,     107.7,     107.7,       9.1);         ( 599850.6, 4173820.1,     107.5,     107.5,       9.1);
    ( 599870.6, 4173820.1,     107.5,     107.5,       9.1);         ( 599890.6, 4173820.1,     108.0,     108.0,       9.1);
    ( 599910.6, 4173820.1,     108.2,     108.2,       9.1);         ( 599930.6, 4173820.1,     108.2,     108.2,       9.1);
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    ( 600190.6, 4173820.1,     108.4,     108.4,       9.1);         ( 600210.6, 4173820.1,     108.8,     108.8,       9.1);
    ( 600230.6, 4173820.1,     108.8,     108.8,       9.1);         ( 600250.6, 4173820.1,     108.8,     108.8,       9.1);
    ( 600270.6, 4173820.1,     108.9,     108.9,       9.1);         ( 600290.6, 4173820.1,     108.9,     108.9,       9.1);
    ( 600310.6, 4173820.1,     108.8,     108.8,       9.1);         ( 600330.6, 4173820.1,     108.6,     108.6,       9.1);
    ( 600350.6, 4173820.1,     108.8,     108.8,       9.1);         ( 600370.6, 4173820.1,     108.7,     108.7,       9.1);
    ( 600390.6, 4173820.1,     108.6,     108.6,       9.1);         ( 600410.6, 4173820.1,     108.4,     108.4,       9.1);
    ( 600430.6, 4173820.1,     108.1,     108.1,       9.1);         ( 600450.6, 4173820.1,     108.0,     108.0,       9.1);
    ( 600470.6, 4173820.1,     107.9,     107.9,       9.1);         ( 600490.6, 4173820.1,     107.9,     107.9,       9.1);
    ( 599730.6, 4173840.1,     107.5,     107.5,       9.1);         ( 599750.6, 4173840.1,     108.0,     108.0,       9.1);
    ( 599770.6, 4173840.1,     108.2,     108.2,       9.1);         ( 599790.6, 4173840.1,     108.0,     108.0,       9.1);
    ( 599810.6, 4173840.1,     108.0,     108.0,       9.1);         ( 599830.6, 4173840.1,     107.9,     107.9,       9.1);
    ( 599850.6, 4173840.1,     107.7,     107.7,       9.1);         ( 599870.6, 4173840.1,     107.7,     107.7,       9.1);
    ( 599890.6, 4173840.1,     108.1,     108.1,       9.1);         ( 599910.6, 4173840.1,     108.2,     108.2,       9.1);
    ( 599930.6, 4173840.1,     108.2,     108.2,       9.1);         ( 600190.6, 4173840.1,     108.2,     108.2,       9.1);
    ( 600210.6, 4173840.1,     108.0,     108.0,       9.1);         ( 600230.6, 4173840.1,     108.0,     108.0,       9.1);
    ( 600250.6, 4173840.1,     108.1,     108.1,       9.1);         ( 600270.6, 4173840.1,     108.2,     108.2,       9.1);
    ( 600290.6, 4173840.1,     108.3,     108.3,       9.1);         ( 600310.6, 4173840.1,     108.5,     108.5,       9.1);
    ( 600330.6, 4173840.1,     108.8,     108.8,       9.1);         ( 600350.6, 4173840.1,     109.0,     109.0,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  61
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                   (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600370.6, 4173840.1,     109.0,     109.0,       9.1);         ( 600390.6, 4173840.1,     109.0,     109.0,       9.1);
    ( 600410.6, 4173840.1,     108.9,     108.9,       9.1);         ( 600430.6, 4173840.1,     108.5,     108.5,       9.1);
    ( 600450.6, 4173840.1,     108.5,     108.5,       9.1);         ( 600470.6, 4173840.1,     108.3,     108.3,       9.1);
    ( 600490.6, 4173840.1,     108.2,     108.2,       9.1);         ( 599730.6, 4173860.1,     107.8,     107.8,       9.1);
    ( 599750.6, 4173860.1,     108.2,     108.2,       9.1);         ( 599770.6, 4173860.1,     108.3,     108.3,       9.1);
    ( 599790.6, 4173860.1,     108.1,     108.1,       9.1);         ( 599810.6, 4173860.1,     108.1,     108.1,       9.1);
    ( 599830.6, 4173860.1,     108.0,     108.0,       9.1);         ( 599850.6, 4173860.1,     107.9,     107.9,       9.1);
    ( 599870.6, 4173860.1,     107.9,     107.9,       9.1);         ( 599890.6, 4173860.1,     108.2,     108.2,       9.1);
    ( 599910.6, 4173860.1,     108.1,     108.1,       9.1);         ( 599930.6, 4173860.1,     108.2,     108.2,       9.1);
    ( 600159.2, 4173869.6,     108.1,     108.1,       9.1);         ( 600170.6, 4173860.1,     108.1,     108.1,       9.1);
    ( 600190.6, 4173860.1,     108.2,     108.2,       9.1);         ( 600210.6, 4173860.1,     108.2,     108.2,       9.1);
    ( 600230.6, 4173860.1,     108.2,     108.2,       9.1);         ( 600250.6, 4173860.1,     108.5,     108.5,       9.1);
    ( 600270.6, 4173860.1,     108.4,     108.4,       9.1);         ( 600290.6, 4173860.1,     108.4,     108.4,       9.1);
    ( 600310.6, 4173860.1,     108.6,     108.6,       9.1);         ( 600330.6, 4173860.1,     109.2,     109.2,       9.1);
    ( 600350.6, 4173860.1,     109.1,     109.1,       9.1);         ( 600370.6, 4173860.1,     109.3,     109.3,       9.1);
    ( 600390.6, 4173860.1,     109.4,     109.4,       9.1);         ( 600410.6, 4173860.1,     109.4,     109.4,       9.1);
    ( 600430.6, 4173860.1,     109.2,     109.2,       9.1);         ( 600450.6, 4173860.1,     109.2,     109.2,       9.1);
    ( 600470.6, 4173860.1,     108.9,     108.9,       9.1);         ( 600490.6, 4173860.1,     108.8,     108.8,       9.1);
    ( 599730.6, 4173880.1,     108.0,     108.0,       9.1);         ( 599750.6, 4173880.1,     108.4,     108.4,       9.1);
    ( 599770.6, 4173880.1,     108.5,     108.5,       9.1);         ( 599790.6, 4173880.1,     108.3,     108.3,       9.1);
    ( 599810.6, 4173880.1,     108.1,     108.1,       9.1);         ( 599830.6, 4173880.1,     108.2,     108.2,       9.1);
    ( 599850.6, 4173880.1,     108.2,     108.2,       9.1);         ( 599870.6, 4173880.1,     108.3,     108.3,       9.1);
    ( 599890.6, 4173880.1,     108.3,     108.3,       9.1);         ( 599910.6, 4173880.1,     108.2,     108.2,       9.1);
    ( 599930.6, 4173880.1,     108.4,     108.4,       9.1);         ( 599950.6, 4173880.1,     108.2,     108.2,       9.1);
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    ( 600170.6, 4173880.1,     108.2,     108.2,       9.1);         ( 600190.6, 4173880.1,     108.3,     108.3,       9.1);
    ( 600210.6, 4173880.1,     108.3,     108.3,       9.1);         ( 600230.6, 4173880.1,     108.3,     108.3,       9.1);
    ( 600250.6, 4173880.1,     108.5,     108.5,       9.1);         ( 600270.6, 4173880.1,     108.6,     108.6,       9.1);
    ( 600290.6, 4173880.1,     108.6,     108.6,       9.1);         ( 600310.6, 4173880.1,     108.7,     108.7,       9.1);
    ( 600330.6, 4173880.1,     109.0,     109.0,       9.1);         ( 600350.6, 4173880.1,     109.1,     109.1,       9.1);
    ( 600370.6, 4173880.1,     109.4,     109.4,       9.1);         ( 600390.6, 4173880.1,     109.8,     109.8,       9.1);
    ( 600410.6, 4173880.1,     109.9,     109.9,       9.1);         ( 600430.6, 4173880.1,     109.8,     109.8,       9.1);
    ( 600450.6, 4173880.1,     109.8,     109.8,       9.1);         ( 600470.6, 4173880.1,     109.5,     109.5,       9.1);
    ( 600490.6, 4173880.1,     109.4,     109.4,       9.1);         ( 599730.6, 4173900.1,     108.2,     108.2,       9.1);
    ( 599750.6, 4173900.1,     108.5,     108.5,       9.1);         ( 599770.6, 4173900.1,     108.5,     108.5,       9.1);
    ( 599790.6, 4173900.1,     108.4,     108.4,       9.1);         ( 599810.6, 4173900.1,     108.3,     108.3,       9.1);
    ( 599830.6, 4173900.1,     108.4,     108.4,       9.1);         ( 599850.6, 4173900.1,     108.5,     108.5,       9.1);
    ( 599870.6, 4173900.1,     108.6,     108.6,       9.1);         ( 599890.6, 4173900.1,     108.4,     108.4,       9.1);
    ( 599910.6, 4173900.1,     108.3,     108.3,       9.1);         ( 599930.6, 4173900.1,     108.4,     108.4,       9.1);
    ( 599950.6, 4173900.1,     108.3,     108.3,       9.1);         ( 600170.6, 4173900.1,     108.2,     108.2,       9.1);
    ( 600190.6, 4173900.1,     108.4,     108.4,       9.1);         ( 600210.6, 4173900.1,     108.4,     108.4,       9.1);
    ( 600230.6, 4173900.1,     108.4,     108.4,       9.1);         ( 600250.6, 4173900.1,     108.6,     108.6,       9.1);
    ( 600270.6, 4173900.1,     108.8,     108.8,       9.1);         ( 600290.6, 4173900.1,     108.9,     108.9,       9.1);
    ( 600310.6, 4173900.1,     108.9,     108.9,       9.1);         ( 600330.6, 4173900.1,     108.9,     108.9,       9.1);
    ( 600350.6, 4173900.1,     109.1,     109.1,       9.1);         ( 600370.6, 4173900.1,     109.5,     109.5,       9.1);
    ( 600390.6, 4173900.1,     110.0,     110.0,       9.1);         ( 600410.6, 4173900.1,     110.4,     110.4,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  62

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 600430.6, 4173900.1,     110.4,     110.4,       9.1);         ( 600450.6, 4173900.1,     110.3,     110.3,       9.1);
    ( 600470.6, 4173900.1,     110.1,     110.1,       9.1);         ( 600490.6, 4173900.1,     110.1,     110.1,       9.1);
    ( 599730.6, 4173920.1,     108.4,     108.4,       9.1);         ( 599750.6, 4173920.1,     108.5,     108.5,       9.1);
    ( 599770.6, 4173920.1,     108.4,     108.4,       9.1);         ( 599790.6, 4173920.1,     108.4,     108.4,       9.1);
    ( 599810.6, 4173920.1,     108.5,     108.5,       9.1);         ( 599830.6, 4173920.1,     108.6,     108.6,       9.1);
    ( 599850.6, 4173920.1,     108.8,     108.8,       9.1);         ( 599870.6, 4173920.1,     108.8,     108.8,       9.1);
    ( 599890.6, 4173920.1,     108.6,     108.6,       9.1);         ( 599910.6, 4173920.1,     108.3,     108.3,       9.1);
    ( 600170.6, 4173920.1,     108.3,     108.3,       9.1);         ( 600190.6, 4173920.1,     108.7,     108.7,       9.1);
    ( 600210.6, 4173920.1,     108.7,     108.7,       9.1);         ( 600230.6, 4173920.1,     108.7,     108.7,       9.1);
    ( 600250.6, 4173920.1,     108.8,     108.8,       9.1);         ( 600270.6, 4173920.1,     109.1,     109.1,       9.1);
    ( 600290.6, 4173920.1,     109.3,     109.3,       9.1);         ( 600310.6, 4173920.1,     109.3,     109.3,       9.1);
    ( 600330.6, 4173920.1,     109.3,     109.3,       9.1);         ( 600350.6, 4173920.1,     109.3,     109.3,       9.1);
    ( 600370.6, 4173920.1,     109.7,     109.7,       9.1);         ( 600390.6, 4173920.1,     110.2,     110.2,       9.1);
    ( 600410.6, 4173920.1,     110.6,     110.6,       9.1);         ( 600430.6, 4173920.1,     110.8,     110.8,       9.1);
    ( 600450.6, 4173920.1,     110.8,     110.8,       9.1);         ( 600470.6, 4173920.1,     110.7,     110.7,       9.1);
    ( 600490.6, 4173920.1,     110.7,     110.7,       9.1);         ( 599730.6, 4173940.1,     108.7,     108.7,       9.1);
    ( 599750.6, 4173940.1,     108.8,     108.8,       9.1);         ( 599770.6, 4173940.1,     108.8,     108.8,       9.1);
    ( 599790.6, 4173940.1,     108.8,     108.8,       9.1);         ( 599810.6, 4173940.1,     108.9,     108.9,       9.1);
    ( 599830.6, 4173940.1,     108.8,     108.8,       9.1);         ( 599850.6, 4173940.1,     108.8,     108.8,       9.1);
    ( 599870.6, 4173940.1,     108.8,     108.8,       9.1);         ( 600190.6, 4173940.1,     108.6,     108.6,       9.1);
    ( 600210.6, 4173940.1,     108.7,     108.7,       9.1);         ( 600230.6, 4173940.1,     108.7,     108.7,       9.1);
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    ( 600250.6, 4173940.1,     108.8,     108.8,       9.1);         ( 600270.6, 4173940.1,     109.2,     109.2,       9.1);
    ( 600290.6, 4173940.1,     109.5,     109.5,       9.1);         ( 600310.6, 4173940.1,     109.5,     109.5,       9.1);
    ( 600330.6, 4173940.1,     109.5,     109.5,       9.1);         ( 600350.6, 4173940.1,     109.9,     109.9,       9.1);
    ( 600370.6, 4173940.1,     110.0,     110.0,       9.1);         ( 600390.6, 4173940.1,     110.2,     110.2,       9.1);
    ( 600410.6, 4173940.1,     110.6,     110.6,       9.1);         ( 600430.6, 4173940.1,     111.0,     111.0,       9.1);
    ( 600450.6, 4173940.1,     111.1,     111.1,       9.1);         ( 600470.6, 4173940.1,     111.2,     111.2,       9.1);
    ( 600490.6, 4173940.1,     111.2,     111.2,       9.1);         ( 599730.6, 4173960.1,     108.9,     108.9,       9.1);
    ( 599750.6, 4173960.1,     109.0,     109.0,       9.1);         ( 599770.6, 4173960.1,     109.0,     109.0,       9.1);
    ( 599790.6, 4173960.1,     109.0,     109.0,       9.1);         ( 599810.6, 4173960.1,     109.1,     109.1,       9.1);
    ( 599830.6, 4173960.1,     109.0,     109.0,       9.1);         ( 599850.6, 4173960.1,     108.9,     108.9,       9.1);
    ( 600190.6, 4173960.1,     108.6,     108.6,       9.1);         ( 600210.6, 4173960.1,     108.8,     108.8,       9.1);
    ( 600230.6, 4173960.1,     108.8,     108.8,       9.1);         ( 600250.6, 4173960.1,     108.9,     108.9,       9.1);
    ( 600270.6, 4173960.1,     109.3,     109.3,       9.1);         ( 600290.6, 4173960.1,     109.5,     109.5,       9.1);
    ( 600310.6, 4173960.1,     109.6,     109.6,       9.1);         ( 600330.6, 4173960.1,     109.7,     109.7,       9.1);
    ( 600350.6, 4173960.1,     110.5,     110.5,       9.1);         ( 600370.6, 4173960.1,     110.3,     110.3,       9.1);
    ( 600390.6, 4173960.1,     110.3,     110.3,       9.1);         ( 600410.6, 4173960.1,     110.6,     110.6,       9.1);
    ( 600430.6, 4173960.1,     111.0,     111.0,       9.1);         ( 600450.6, 4173960.1,     111.2,     111.2,       9.1);
    ( 600470.6, 4173960.1,     111.6,     111.6,       9.1);         ( 600490.6, 4173960.1,     111.6,     111.6,       9.1);
    ( 599730.6, 4173980.1,     109.0,     109.0,       9.1);         ( 599750.6, 4173980.1,     109.0,     109.0,       9.1);
    ( 599770.6, 4173980.1,     109.0,     109.0,       9.1);         ( 599790.6, 4173980.1,     109.1,     109.1,       9.1);
    ( 599810.6, 4173980.1,     109.1,     109.1,       9.1);         ( 599830.6, 4173980.1,     109.0,     109.0,       9.1);
    ( 599850.6, 4173980.1,     109.0,     109.0,       9.1);         ( 599870.6, 4173980.1,     108.9,     108.9,       9.1);
    ( 600190.6, 4173980.1,     108.8,     108.8,       9.1);         ( 600210.6, 4173980.1,     109.2,     109.2,       9.1);
    ( 600230.6, 4173980.1,     109.2,     109.2,       9.1);         ( 600250.6, 4173980.1,     109.1,     109.1,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  63
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600270.6, 4173980.1,     109.4,     109.4,       9.1);         ( 600290.6, 4173980.1,     109.8,     109.8,       9.1);
    ( 600310.6, 4173980.1,     110.0,     110.0,       9.1);         ( 600330.6, 4173980.1,     110.1,     110.1,       9.1);
    ( 600350.6, 4173980.1,     110.5,     110.5,       9.1);         ( 600370.6, 4173980.1,     110.8,     110.8,       9.1);
    ( 600390.6, 4173980.1,     111.0,     111.0,       9.1);         ( 600410.6, 4173980.1,     111.1,     111.1,       9.1);
    ( 600430.6, 4173980.1,     111.3,     111.3,       9.1);         ( 600450.6, 4173980.1,     112.1,     112.1,       9.1);
    ( 600470.6, 4173980.1,     112.2,     112.2,       9.1);         ( 600490.6, 4173980.1,     112.1,     112.1,       9.1);
    ( 599730.6, 4174000.1,     109.3,     109.3,       9.1);         ( 599750.6, 4174000.1,     109.3,     109.3,       9.1);
    ( 599770.6, 4174000.1,     109.3,     109.3,       9.1);         ( 599790.6, 4174000.1,     109.3,     109.3,       9.1);
    ( 599810.6, 4174000.1,     109.4,     109.4,       9.1);         ( 599830.6, 4174000.1,     109.2,     109.2,       9.1);
    ( 599850.6, 4174000.1,     109.1,     109.1,       9.1);         ( 599870.6, 4174000.1,     109.0,     109.0,       9.1);
    ( 600195.1, 4174004.1,     109.1,     109.1,       9.1);         ( 600210.6, 4174000.1,     109.4,     109.4,       9.1);
    ( 600230.6, 4174000.1,     109.4,     109.4,       9.1);         ( 600250.6, 4174000.1,     109.3,     109.3,       9.1);
    ( 600270.6, 4174000.1,     109.4,     109.4,       9.1);         ( 600290.6, 4174000.1,     109.8,     109.8,       9.1);
    ( 600310.6, 4174000.1,     110.2,     110.2,       9.1);         ( 600330.6, 4174000.1,     110.2,     110.2,       9.1);
    ( 600350.6, 4174000.1,     110.6,     110.6,       9.1);         ( 600370.6, 4174000.1,     111.0,     111.0,       9.1);
    ( 600390.6, 4174000.1,     111.3,     111.3,       9.1);         ( 600410.6, 4174000.1,     111.4,     111.4,       9.1);
    ( 600430.6, 4174000.1,     111.6,     111.6,       9.1);         ( 600450.6, 4174000.1,     112.3,     112.3,       9.1);
    ( 600470.6, 4174000.1,     112.4,     112.4,       9.1);         ( 600490.6, 4174000.1,     112.4,     112.4,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 599730.6, 4174020.1,     109.5,     109.5,       9.1);         ( 599750.6, 4174020.1,     109.5,     109.5,       9.1);
    ( 599770.6, 4174020.1,     109.5,     109.5,       9.1);         ( 599790.6, 4174020.1,     109.4,     109.4,       9.1);
    ( 599810.6, 4174020.1,     109.5,     109.5,       9.1);         ( 599830.6, 4174020.1,     109.3,     109.3,       9.1);
    ( 599850.6, 4174020.1,     109.2,     109.2,       9.1);         ( 599870.6, 4174020.1,     109.1,     109.1,       9.1);
    ( 599890.6, 4174020.1,     109.0,     109.0,       9.1);         ( 600210.6, 4174020.1,     109.4,     109.4,       9.1);
    ( 600230.6, 4174020.1,     109.6,     109.6,       9.1);         ( 600250.6, 4174020.1,     109.6,     109.6,       9.1);
    ( 600270.6, 4174020.1,     109.5,     109.5,       9.1);         ( 600290.6, 4174020.1,     109.8,     109.8,       9.1);
    ( 600310.6, 4174020.1,     110.1,     110.1,       9.1);         ( 600330.6, 4174020.1,     110.3,     110.3,       9.1);
    ( 600350.6, 4174020.1,     110.7,     110.7,       9.1);         ( 600370.6, 4174020.1,     110.8,     110.8,       9.1);
    ( 600390.6, 4174020.1,     111.2,     111.2,       9.1);         ( 600410.6, 4174020.1,     111.6,     111.6,       9.1);
    ( 600430.6, 4174020.1,     111.8,     111.8,       9.1);         ( 600450.6, 4174020.1,     112.1,     112.1,       9.1);
    ( 600470.6, 4174020.1,     112.4,     112.4,       9.1);         ( 600490.6, 4174020.1,     112.5,     112.5,       9.1);
    ( 599730.6, 4174040.1,     109.7,     109.7,       9.1);         ( 599750.6, 4174040.1,     109.7,     109.7,       9.1);
    ( 599770.6, 4174040.1,     109.7,     109.7,       9.1);         ( 599790.6, 4174040.1,     109.5,     109.5,       9.1);
    ( 599810.6, 4174040.1,     109.4,     109.4,       9.1);         ( 599830.6, 4174040.1,     109.4,     109.4,       9.1);
    ( 599850.6, 4174040.1,     109.3,     109.3,       9.1);         ( 599870.6, 4174040.1,     109.3,     109.3,       9.1);
    ( 599890.6, 4174040.1,     109.4,     109.4,       9.1);         ( 600210.6, 4174040.1,     109.5,     109.5,       9.1);
    ( 600230.6, 4174040.1,     109.6,     109.6,       9.1);         ( 600250.6, 4174040.1,     109.8,     109.8,       9.1);
    ( 600270.6, 4174040.1,     110.0,     110.0,       9.1);         ( 600290.6, 4174040.1,     110.2,     110.2,       9.1);
    ( 600310.6, 4174040.1,     110.4,     110.4,       9.1);         ( 600330.6, 4174040.1,     110.8,     110.8,       9.1);
    ( 600350.6, 4174040.1,     111.0,     111.0,       9.1);         ( 600370.6, 4174040.1,     111.1,     111.1,       9.1);
    ( 600390.6, 4174040.1,     111.4,     111.4,       9.1);         ( 600410.6, 4174040.1,     111.7,     111.7,       9.1);
    ( 600430.6, 4174040.1,     112.0,     112.0,       9.1);         ( 600450.6, 4174040.1,     112.2,     112.2,       9.1);
    ( 600470.6, 4174040.1,     112.4,     112.4,       9.1);         ( 600490.6, 4174040.1,     112.7,     112.7,       9.1);
    ( 599730.6, 4174060.1,     109.9,     109.9,       9.1);         ( 599750.6, 4174060.1,     109.8,     109.8,       9.1);
    ( 599770.6, 4174060.1,     109.8,     109.8,       9.1);         ( 599790.6, 4174060.1,     109.6,     109.6,       9.1);
    ( 599810.6, 4174060.1,     109.8,     109.8,       9.1);         ( 599830.6, 4174060.1,     109.6,     109.6,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***         03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***         11:54:32
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 599850.6, 4174060.1,     109.4,     109.4,       9.1);         ( 599870.6, 4174060.1,     109.4,     109.4,       9.1);
    ( 599890.6, 4174060.1,     109.5,     109.5,       9.1);         ( 599910.6, 4174060.1,     109.2,     109.2,       9.1);
    ( 600210.6, 4174060.1,     109.7,     109.7,       9.1);         ( 600230.6, 4174060.1,     109.7,     109.7,       9.1);
    ( 600250.6, 4174060.1,     109.8,     109.8,       9.1);         ( 600270.6, 4174060.1,     110.2,     110.2,       9.1);
    ( 600290.6, 4174060.1,     110.3,     110.3,       9.1);         ( 600310.6, 4174060.1,     110.4,     110.4,       9.1);
    ( 600330.6, 4174060.1,     110.7,     110.7,       9.1);         ( 600350.6, 4174060.1,     110.9,     110.9,       9.1);
    ( 600370.6, 4174060.1,     111.1,     111.1,       9.1);         ( 600390.6, 4174060.1,     111.4,     111.4,       9.1);
    ( 600410.6, 4174060.1,     111.8,     111.8,       9.1);         ( 600430.6, 4174060.1,     112.1,     112.1,       9.1);
    ( 600450.6, 4174060.1,     112.4,     112.4,       9.1);         ( 600470.6, 4174060.1,     112.6,     112.6,       9.1);
    ( 600490.6, 4174060.1,     113.0,     113.0,       9.1);         ( 599730.6, 4174080.1,     110.1,     110.1,       9.1);
    ( 599750.6, 4174080.1,     110.0,     110.0,       9.1);         ( 599770.6, 4174080.1,     110.1,     110.1,       9.1);
    ( 599790.6, 4174080.1,     109.9,     109.9,       9.1);         ( 599810.6, 4174080.1,     110.2,     110.2,       9.1);
    ( 599830.6, 4174080.1,     109.8,     109.8,       9.1);         ( 599850.6, 4174080.1,     109.6,     109.6,       9.1);
    ( 599870.6, 4174080.1,     109.5,     109.5,       9.1);         ( 599890.6, 4174080.1,     109.5,     109.5,       9.1);
    ( 599910.6, 4174080.1,     109.2,     109.2,       9.1);         ( 600230.6, 4174080.1,     109.8,     109.8,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600250.6, 4174080.1,     109.8,     109.8,       9.1);        ( 600270.6, 4174080.1,     110.1,     110.1,       9.1);
    ( 600290.6, 4174080.1,     110.2,     110.2,       9.1);        ( 600310.6, 4174080.1,     110.3,     110.3,       9.1);
    ( 600330.6, 4174080.1,     110.2,     110.2,       9.1);        ( 599730.6, 4174100.1,     110.3,     110.3,       9.1);
    ( 599750.6, 4174100.1,     110.4,     110.4,       9.1);        ( 599770.6, 4174100.1,     110.7,     110.7,       9.1);
    ( 599790.6, 4174100.1,     110.5,     110.5,       9.1);        ( 599810.6, 4174100.1,     110.3,     110.3,       9.1);
    ( 599830.6, 4174100.1,     110.2,     110.2,       9.1);        ( 599850.6, 4174100.1,     109.9,     109.9,       9.1);
    ( 599870.6, 4174100.1,     109.6,     109.6,       9.1);        ( 599890.6, 4174100.1,     109.4,     109.4,       9.1);
    ( 599910.6, 4174100.1,     109.4,     109.4,       9.1);        ( 599730.6, 4174120.1,     110.5,     110.5,       9.1);
    ( 599750.6, 4174120.1,     110.6,     110.6,       9.1);        ( 599770.6, 4174120.1,     110.8,     110.8,       9.1);
    ( 599790.6, 4174120.1,     110.6,     110.6,       9.1);        ( 599810.6, 4174120.1,     110.4,     110.4,       9.1);
    ( 599830.6, 4174120.1,     110.3,     110.3,       9.1);        ( 599850.6, 4174120.1,     110.1,     110.1,       9.1);
    ( 599870.6, 4174120.1,     109.9,     109.9,       9.1);        ( 599890.6, 4174120.1,     109.9,     109.9,       9.1);
    ( 599910.6, 4174120.1,     109.8,     109.8,       9.1);        ( 600270.6, 4174120.1,     109.8,     109.8,       9.1);
    ( 600290.6, 4174120.1,     110.0,     110.0,       9.1);        ( 600310.6, 4174120.1,     110.2,     110.2,       9.1);
    ( 600330.6, 4174120.1,     110.8,     110.8,       9.1);        ( 600350.6, 4174120.1,     111.5,     111.5,       9.1);
    ( 600370.6, 4174120.1,     112.2,     112.2,       9.1);        ( 600390.6, 4174120.1,     112.5,     112.5,       9.1);
    ( 600410.6, 4174120.1,     112.4,     112.4,       9.1);        ( 600430.6, 4174120.1,     112.5,     112.5,       9.1);
    ( 600450.6, 4174120.1,     112.8,     112.8,       9.1);        ( 600470.6, 4174120.1,     113.3,     113.3,       9.1);
    ( 600490.6, 4174120.1,     113.8,     113.8,       9.1);        ( 599730.6, 4174140.1,     110.7,     110.7,       9.1);
    ( 599750.6, 4174140.1,     110.7,     110.7,       9.1);        ( 599770.6, 4174140.1,     110.8,     110.8,       9.1);
    ( 599790.6, 4174140.1,     110.7,     110.7,       9.1);        ( 599810.6, 4174140.1,     110.6,     110.6,       9.1);
    ( 599830.6, 4174140.1,     110.4,     110.4,       9.1);        ( 599850.6, 4174140.1,     110.2,     110.2,       9.1);
    ( 599870.6, 4174140.1,     110.3,     110.3,       9.1);        ( 599890.6, 4174140.1,     110.5,     110.5,       9.1);
    ( 599910.6, 4174140.1,     110.4,     110.4,       9.1);        ( 600210.6, 4174140.1,     110.3,     110.3,       9.1);
    ( 600230.6, 4174140.1,     111.5,     111.5,       9.1);        ( 600250.6, 4174140.1,     110.5,     110.5,       9.1);
    ( 600270.6, 4174140.1,     110.5,     110.5,       9.1);        ( 600290.6, 4174140.1,     110.8,     110.8,       9.1);
    ( 600310.6, 4174140.1,     111.2,     111.2,       9.1);        ( 600330.6, 4174140.1,     111.5,     111.5,       9.1);
    ( 600350.6, 4174140.1,     111.9,     111.9,       9.1);        ( 600370.6, 4174140.1,     112.1,     112.1,       9.1);
    ( 600390.6, 4174140.1,     112.3,     112.3,       9.1);        ( 600410.6, 4174140.1,     112.6,     112.6,       9.1);
    ( 600430.6, 4174140.1,     113.0,     113.0,       9.1);        ( 600450.6, 4174140.1,     113.4,     113.4,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
 *** AERMET - VERSION  14134 ***   *** Dublin, CA                                                      ***        11:54:32
                                                                                                                PAGE  65

 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

    ( 600470.6, 4174140.1,     113.6,     113.6,       9.1);        ( 600490.6, 4174140.1,     114.1,     114.1,       9.1);
    ( 599730.6, 4174160.1,     110.9,     110.9,       9.1);        ( 599750.6, 4174160.1,     110.9,     110.9,       9.1);
    ( 599770.6, 4174160.1,     111.1,     111.1,       9.1);        ( 599790.6, 4174160.1,     111.1,     111.1,       9.1);
    ( 599810.6, 4174160.1,     111.2,     111.2,       9.1);        ( 599830.6, 4174160.1,     110.7,     110.7,       9.1);
    ( 599850.6, 4174160.1,     110.6,     110.6,       9.1);        ( 599870.6, 4174160.1,     110.6,     110.6,       9.1);
    ( 599890.6, 4174160.1,     110.5,     110.5,       9.1);        ( 599910.6, 4174160.1,     110.4,     110.4,       9.1);
    ( 599930.6, 4174160.1,     109.8,     109.8,       9.1);        ( 600130.6, 4174160.1,     109.7,     109.7,       9.1);
    ( 600150.6, 4174160.1,     109.2,     109.2,       9.1);        ( 600170.6, 4174160.1,     109.3,     109.3,       9.1);
    ( 600190.6, 4174160.1,     110.0,     110.0,       9.1);        ( 600210.6, 4174160.1,     110.8,     110.8,       9.1);
    ( 600230.6, 4174160.1,     111.5,     111.5,       9.1);        ( 600250.6, 4174160.1,     111.4,     111.4,       9.1);
    ( 600270.6, 4174160.1,     111.7,     111.7,       9.1);        ( 600290.6, 4174160.1,     112.1,     112.1,       9.1);
    ( 600310.6, 4174160.1,     112.3,     112.3,       9.1);        ( 600330.6, 4174160.1,     112.5,     112.5,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

(600350.6,	4174160.1,	112.7,	112.7,	9.1);	(600370.6,	4174160.1,	112.9,	112.9,	9.1);
(600390.6,	4174160.1,	113.1,	113.1,	9.1);	(600410.6,	4174160.1,	113.3,	113.3,	9.1);
(600430.6,	4174160.1,	113.6,	113.6,	9.1);	(600450.6,	4174160.1,	113.9,	113.9,	9.1);
(600470.6,	4174160.1,	114.1,	114.1,	9.1);	(600490.6,	4174160.1,	114.6,	114.6,	9.1);
(599730.6,	4174180.1,	111.1,	111.1,	9.1);	(599750.6,	4174180.1,	111.0,	111.0,	9.1);
(599770.6,	4174180.1,	111.1,	111.1,	9.1);	(599790.6,	4174180.1,	111.1,	111.1,	9.1);
(599810.6,	4174180.1,	111.2,	111.2,	9.1);	(599830.6,	4174180.1,	110.8,	110.8,	9.1);
(599850.6,	4174180.1,	110.6,	110.6,	9.1);	(599870.6,	4174180.1,	110.6,	110.6,	9.1);
(599890.6,	4174180.1,	110.5,	110.5,	9.1);	(599910.6,	4174180.1,	110.4,	110.4,	9.1);
(599930.6,	4174180.1,	110.0,	110.0,	9.1);	(600070.6,	4174180.1,	109.7,	109.7,	9.1);
(600090.6,	4174180.1,	109.7,	109.7,	9.1);	(600110.6,	4174180.1,	109.9,	109.9,	9.1);
(600130.6,	4174180.1,	110.0,	110.0,	9.1);	(600150.6,	4174180.1,	109.6,	109.6,	9.1);
(600170.6,	4174180.1,	109.8,	109.8,	9.1);	(600190.6,	4174180.1,	110.7,	110.7,	9.1);
(600210.6,	4174180.1,	111.6,	111.6,	9.1);	(600230.6,	4174180.1,	112.1,	112.1,	9.1);
(600250.6,	4174180.1,	112.5,	112.5,	9.1);	(600270.6,	4174180.1,	113.0,	113.0,	9.1);
(600290.6,	4174180.1,	113.2,	113.2,	9.1);	(600310.6,	4174180.1,	113.4,	113.4,	9.1);
(600330.6,	4174180.1,	113.5,	113.5,	9.1);	(600350.6,	4174180.1,	113.6,	113.6,	9.1);
(600370.6,	4174180.1,	113.8,	113.8,	9.1);	(600390.6,	4174180.1,	113.9,	113.9,	9.1);
(600410.6,	4174180.1,	114.0,	114.0,	9.1);	(600430.6,	4174180.1,	114.3,	114.3,	9.1);
(600450.6,	4174180.1,	114.5,	114.5,	9.1);	(600470.6,	4174180.1,	114.8,	114.8,	9.1);
(600490.6,	4174180.1,	115.3,	115.3,	9.1);	(599730.6,	4174200.1,	111.2,	111.2,	9.1);
(599750.6,	4174200.1,	111.1,	111.1,	9.1);	(599770.6,	4174200.1,	111.1,	111.1,	9.1);
(599790.6,	4174200.1,	111.0,	111.0,	9.1);	(599810.6,	4174200.1,	110.8,	110.8,	9.1);
(599830.6,	4174200.1,	110.7,	110.7,	9.1);	(599850.6,	4174200.1,	110.6,	110.6,	9.1);
(599870.6,	4174200.1,	110.5,	110.5,	9.1);	(599890.6,	4174200.1,	110.5,	110.5,	9.1);
(599910.6,	4174200.1,	110.5,	110.5,	9.1);	(599930.6,	4174200.1,	110.3,	110.3,	9.1);
(599990.6,	4174200.1,	110.2,	110.2,	9.1);	(600010.6,	4174200.1,	110.8,	110.8,	9.1);
(600030.6,	4174200.1,	110.7,	110.7,	9.1);	(600050.6,	4174200.1,	110.6,	110.6,	9.1);
(600070.6,	4174200.1,	110.5,	110.5,	9.1);	(600090.6,	4174200.1,	110.3,	113.6,	9.1);
(600110.6,	4174200.1,	110.0,	113.6,	9.1);	(600130.6,	4174200.1,	110.0,	113.6,	9.1);
(600150.6,	4174200.1,	110.2,	113.6,	9.1);	(600170.6,	4174200.1,	110.3,	110.3,	9.1);
(600190.6,	4174200.1,	111.4,	111.4,	9.1);	(600210.6,	4174200.1,	112.7,	112.7,	9.1);
(600230.6,	4174200.1,	113.6,	113.6,	9.1);	(600250.6,	4174200.1,	114.0,	114.0,	9.1);

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(	600270.6,	4174200.1,	114.2,	114.2,	9.1);	(	600290.6,	4174200.1,	114.3,	114.3,	9.1);
(	600310.6,	4174200.1,	114.4,	114.4,	9.1);	(	600330.6,	4174200.1,	114.5,	114.5,	9.1);
(	600350.6,	4174200.1,	114.5,	114.5,	9.1);	(	600370.6,	4174200.1,	114.8,	114.8,	9.1);
(	600390.6,	4174200.1,	114.7,	114.7,	9.1);	(	600410.6,	4174200.1,	114.8,	114.8,	9.1);
(	600430.6,	4174200.1,	115.1,	115.1,	9.1);	(	600450.6,	4174200.1,	115.3,	115.3,	9.1);
(	600470.6,	4174200.1,	115.6,	115.6,	9.1);	(	600490.6,	4174200.1,	116.3,	116.3,	9.1);
(	599730.6,	4174220.1,	111.1,	111.1,	9.1);	(	599750.6,	4174220.1,	111.0,	111.0,	9.1);
(	599770.6,	4174220.1,	110.9,	110.9,	9.1);	(	599790.6,	4174220.1,	110.8,	110.8,	9.1);
(	599810.6,	4174220.1,	110.7,	110.7,	9.1);	(	599830.6,	4174220.1,	110.7,	110.7,	9.1);
(	599850.6,	4174220.1,	110.9,	110.9,	9.1);	(	599870.6,	4174220.1,	111.1,	111.1,	9.1);
(	599890.6,	4174220.1,	111.2,	111.2,	9.1);	(	599910.6,	4174220.1,	111.1,	111.1,	9.1);
(	599930.6,	4174220.1,	111.0,	111.0,	9.1);	(	599950.6,	4174220.1,	110.6,	110.6,	9.1);
(	599970.6,	4174220.1,	110.6,	110.6,	9.1);	(	599990.6,	4174220.1,	110.7,	110.7,	9.1);
(	600010.6,	4174220.1,	110.8,	110.8,	9.1);	(	600030.6,	4174220.1,	110.6,	110.6,	9.1);
(	600050.6,	4174220.1,	110.7,	110.7,	9.1);	(	600070.6,	4174220.1,	111.8,	113.6,	9.1);
(	600090.6,	4174220.1,	112.0,	113.6,	9.1);	(	600110.6,	4174220.1,	111.6,	111.6,	9.1);
(	600130.6,	4174220.1,	112.3,	113.6,	9.1);	(	600150.6,	4174220.1,	112.3,	113.6,	9.1);
(	600170.6,	4174220.1,	111.7,	111.7,	9.1);	(	600190.6,	4174220.1,	112.6,	114.4,	9.1);
(	600210.6,	4174220.1,	114.0,	114.0,	9.1);	(	600230.6,	4174220.1,	114.6,	114.6,	9.1);
(	600250.6,	4174220.1,	115.0,	115.0,	9.1);	(	600270.6,	4174220.1,	115.2,	115.2,	9.1);
(	600290.6,	4174220.1,	115.3,	115.3,	9.1);	(	600310.6,	4174220.1,	115.5,	115.5,	9.1);
(	600330.6,	4174220.1,	115.5,	115.5,	9.1);	(	600350.6,	4174220.1,	115.6,	115.6,	9.1);
(	600370.6,	4174220.1,	115.8,	115.8,	9.1);	(	600390.6,	4174220.1,	115.7,	115.7,	9.1);
(	600410.6,	4174220.1,	115.8,	115.8,	9.1);	(	600430.6,	4174220.1,	116.1,	116.1,	9.1);
(	600450.6,	4174220.1,	116.5,	116.5,	9.1);	(	600470.6,	4174220.1,	116.9,	116.9,	9.1);
(	600490.6,	4174220.1,	117.5,	117.5,	9.1);	(	599730.6,	4174240.1,	111.6,	111.6,	9.1);
(	599750.6,	4174240.1,	111.5,	111.5,	9.1);	(	599770.6,	4174240.1,	111.4,	111.4,	9.1);
(	599790.6,	4174240.1,	111.3,	111.3,	9.1);	(	599810.6,	4174240.1,	111.2,	111.2,	9.1);
(	599830.6,	4174240.1,	111.1,	111.1,	9.1);	(	599850.6,	4174240.1,	111.2,	111.2,	9.1);
(	599870.6,	4174240.1,	111.4,	111.4,	9.1);	(	599890.6,	4174240.1,	111.5,	111.5,	9.1);
(	599910.6,	4174240.1,	111.4,	111.4,	9.1);	(	599930.6,	4174240.1,	111.3,	111.3,	9.1);
(	599950.6,	4174240.1,	111.4,	111.4,	9.1);	(	599970.6,	4174240.1,	111.8,	114.2,	9.1);
(	599990.6,	4174240.1,	112.1,	114.7,	9.1);	(	600010.6,	4174240.1,	112.0,	114.7,	9.1);
(	600030.6,	4174240.1,	111.8,	114.5,	9.1);	(	600050.6,	4174240.1,	111.9,	114.3,	9.1);
(	600070.6,	4174240.1,	113.0,	113.0,	9.1);	(	600090.6,	4174240.1,	113.2,	113.2,	9.1);
(	600110.6,	4174240.1,	113.0,	113.0,	9.1);	(	600130.6,	4174240.1,	113.7,	113.7,	9.1);
(	600150.6,	4174240.1,	113.6,	113.6,	9.1);	(	600170.6,	4174240.1,	112.9,	112.9,	9.1);
(	600190.6,	4174240.1,	113.8,	113.8,	9.1);	(	600210.6,	4174240.1,	115.0,	115.0,	9.1);
(	600230.6,	4174240.1,	115.7,	115.7,	9.1);	(	600250.6,	4174240.1,	116.1,	116.1,	9.1);
(	600270.6,	4174240.1,	116.3,	116.3,	9.1);	(	600290.6,	4174240.1,	116.4,	116.4,	9.1);
(	600310.6,	4174240.1,	116.5,	116.5,	9.1);	(	600330.6,	4174240.1,	116.6,	116.6,	9.1);
(	600350.6,	4174240.1,	116.6,	116.6,	9.1);	(	600370.6,	4174240.1,	116.8,	116.8,	9.1);

(600390.6, 4174240.1, 116.8, 116.8, 9.1); (600410.6, 4174240.1, 116.9, 116.9, 9.1);
(600430.6, 4174240.1, 117.2, 117.2, 9.1); (600450.6, 4174240.1, 117.8, 117.8, 9.1);
(600470.6, 4174240.1, 118.3, 118.3, 9.1); (600490.6, 4174240.1, 118.9, 118.9, 9.1);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(599730.6, 4174260.1, 112.4, 112.4, 9.1); (599750.6, 4174260.1, 112.4, 112.4, 9.1);
(599770.6, 4174260.1, 112.4, 112.4, 9.1); (599790.6, 4174260.1, 112.2, 115.2, 9.1);
(599810.6, 4174260.1, 112.0, 112.0, 9.1); (599830.6, 4174260.1, 111.8, 115.5, 9.1);
(599850.6, 4174260.1, 111.6, 115.5, 9.1); (599870.6, 4174260.1, 111.5, 115.4, 9.1);
(599890.6, 4174260.1, 111.6, 115.4, 9.1); (599910.6, 4174260.1, 111.5, 115.2, 9.1);
(599930.6, 4174260.1, 111.5, 118.3, 9.1); (599950.6, 4174260.1, 112.3, 112.3, 9.1);
(599970.6, 4174260.1, 113.5, 113.5, 9.1); (599990.6, 4174260.1, 114.3, 114.3, 9.1);
(600010.6, 4174260.1, 114.6, 114.6, 9.1); (600030.6, 4174260.1, 114.4, 114.5, 9.1);
(600050.6, 4174260.1, 114.2, 114.2, 9.1); (600070.6, 4174260.1, 114.0, 117.5, 9.1);
(600090.6, 4174260.1, 114.0, 117.5, 9.1); (600110.6, 4174260.1, 114.0, 114.0, 9.1);
(600130.6, 4174260.1, 113.9, 113.9, 9.1); (600150.6, 4174260.1, 113.8, 120.4, 9.1);
(600170.6, 4174260.1, 113.8, 113.8, 9.1); (600190.6, 4174260.1, 114.7, 114.7, 9.1);
(600210.6, 4174260.1, 115.9, 115.9, 9.1); (600230.6, 4174260.1, 116.7, 116.7, 9.1);
(600250.6, 4174260.1, 117.2, 117.2, 9.1); (600270.6, 4174260.1, 117.5, 117.5, 9.1);
(600290.6, 4174260.1, 117.6, 117.6, 9.1); (600310.6, 4174260.1, 117.6, 117.6, 9.1);
(600330.6, 4174260.1, 117.6, 117.6, 9.1); (600350.6, 4174260.1, 117.8, 117.8, 9.1);
(600370.6, 4174260.1, 118.0, 118.0, 9.1); (600390.6, 4174260.1, 118.2, 118.2, 9.1);
(600410.6, 4174260.1, 118.5, 118.5, 9.1); (600430.6, 4174260.1, 118.9, 118.9, 9.1);
(600450.6, 4174260.1, 119.4, 119.4, 9.1); (600470.6, 4174260.1, 120.0, 120.0, 9.1);
(600490.6, 4174260.1, 120.7, 120.7, 9.1); (599730.6, 4174280.1, 113.1, 113.1, 9.1);
(599750.6, 4174280.1, 113.9, 115.3, 9.1); (599770.6, 4174280.1, 114.4, 114.4, 9.1);
(599790.6, 4174280.1, 114.2, 114.2, 9.1); (599810.6, 4174280.1, 113.8, 113.8, 9.1);
(599830.6, 4174280.1, 114.2, 115.5, 9.1); (599850.6, 4174280.1, 114.2, 114.2, 9.1);
(599870.6, 4174280.1, 114.1, 114.1, 9.1); (599890.6, 4174280.1, 114.1, 115.4, 9.1);
(599910.6, 4174280.1, 114.0, 115.2, 9.1); (599930.6, 4174280.1, 113.8, 115.0, 9.1);
(599950.6, 4174280.1, 114.0, 114.0, 9.1); (599970.6, 4174280.1, 114.4, 114.4, 9.1);
(599990.6, 4174280.1, 114.6, 114.6, 9.1); (600010.6, 4174280.1, 114.7, 114.7, 9.1);
(600030.6, 4174280.1, 114.5, 114.5, 9.1); (600050.6, 4174280.1, 115.3, 115.3, 9.1);
(600070.6, 4174280.1, 115.9, 117.5, 9.1); (600090.6, 4174280.1, 116.0, 116.0, 9.1);
(600110.6, 4174280.1, 115.7, 115.7, 9.1); (600130.6, 4174280.1, 115.3, 120.4, 9.1);
(600150.6, 4174280.1, 115.1, 120.4, 9.1); (600170.6, 4174280.1, 114.9, 120.4, 9.1);
(600190.6, 4174280.1, 115.9, 115.9, 9.1); (600210.6, 4174280.1, 117.0, 117.0, 9.1);
(600230.6, 4174280.1, 117.7, 117.7, 9.1); (600250.6, 4174280.1, 118.4, 118.4, 9.1);
(600270.6, 4174280.1, 118.6, 118.6, 9.1); (600290.6, 4174280.1, 118.7, 118.7, 9.1);
(600310.6, 4174280.1, 118.8, 118.8, 9.1); (600330.6, 4174280.1, 118.8, 118.8, 9.1);
(600350.6, 4174280.1, 119.0, 119.0, 9.1); (600370.6, 4174280.1, 119.3, 119.3, 9.1);
(600390.6, 4174280.1, 119.9, 121.8, 9.1); (600410.6, 4174280.1, 120.4, 120.4, 9.1);
(600430.6, 4174280.1, 120.8, 120.8, 9.1); (600450.6, 4174280.1, 121.2, 121.2, 9.1);
(600470.6, 4174280.1, 121.6, 121.6, 9.1); (600490.6, 4174280.1, 122.2, 122.2, 9.1);

```
    ( 599730.6, 4174300.1,     113.8,     113.8,       9.1);         ( 599750.6, 4174300.1,     114.7,     114.7,       9.1);
    ( 599770.6, 4174300.1,     115.2,     115.2,       9.1);         ( 599790.6, 4174300.1,     115.2,     115.2,       9.1);
    ( 599810.6, 4174300.1,     115.1,     115.1,       9.1);         ( 599830.6, 4174300.1,     115.5,     115.5,       9.1);
    ( 599850.6, 4174300.1,     115.6,     115.6,       9.1);         ( 599870.6, 4174300.1,     115.5,     115.5,       9.1);
    ( 599890.6, 4174300.1,     115.4,     115.4,       9.1);         ( 599910.6, 4174300.1,     115.5,     115.5,       9.1);
    ( 599930.6, 4174300.1,     115.8,     115.8,       9.1);         ( 599950.6, 4174300.1,     115.9,     118.3,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  68
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 599970.6, 4174300.1,     115.8,     115.8,       9.1);         ( 599990.6, 4174300.1,     115.6,     115.6,       9.1);
    ( 600010.6, 4174300.1,     115.5,     121.4,       9.1);         ( 600030.6, 4174300.1,     115.5,     121.4,       9.1);
    ( 600050.6, 4174300.1,     116.6,     116.6,       9.1);         ( 600070.6, 4174300.1,     117.7,     117.7,       9.1);
    ( 600090.6, 4174300.1,     117.8,     117.8,       9.1);         ( 600110.6, 4174300.1,     117.2,     117.2,       9.1);
    ( 600130.6, 4174300.1,     116.8,     120.4,       9.1);         ( 600150.6, 4174300.1,     117.0,     120.4,       9.1);
    ( 600170.6, 4174300.1,     116.1,     122.1,       9.1);         ( 600190.6, 4174300.1,     117.0,     117.0,       9.1);
    ( 600210.6, 4174300.1,     118.2,     118.2,       9.1);         ( 600230.6, 4174300.1,     118.8,     118.8,       9.1);
    ( 600250.6, 4174300.1,     119.6,     119.6,       9.1);         ( 600270.6, 4174300.1,     119.8,     119.8,       9.1);
    ( 600290.6, 4174300.1,     120.0,     120.0,       9.1);         ( 600310.6, 4174300.1,     120.1,     120.1,       9.1);
    ( 600330.6, 4174300.1,     120.1,     120.1,       9.1);         ( 600350.6, 4174300.1,     120.4,     120.4,       9.1);
    ( 600370.6, 4174300.1,     120.8,     120.8,       9.1);         ( 600390.6, 4174300.1,     121.7,     121.7,       9.1);
    ( 600410.6, 4174300.1,     122.2,     122.2,       9.1);         ( 600430.6, 4174300.1,     122.5,     122.5,       9.1);
    ( 600450.6, 4174300.1,     122.8,     122.8,       9.1);         ( 600470.6, 4174300.1,     123.2,     123.2,       9.1);
    ( 600490.6, 4174300.1,     123.7,     123.7,       9.1);         ( 599730.6, 4174320.1,     114.5,     114.5,       9.1);
    ( 599750.6, 4174320.1,     115.0,     115.0,       9.1);         ( 599770.6, 4174320.1,     115.2,     115.2,       9.1);
    ( 599790.6, 4174320.1,     115.3,     115.3,       9.1);         ( 599810.6, 4174320.1,     115.8,     115.8,       9.1);
    ( 599830.6, 4174320.1,     115.8,     115.8,       9.1);         ( 599850.6, 4174320.1,     115.8,     115.8,       9.1);
    ( 599870.6, 4174320.1,     115.6,     115.6,       9.1);         ( 599890.6, 4174320.1,     115.5,     115.5,       9.1);
    ( 599910.6, 4174320.1,     116.0,     116.0,       9.1);         ( 599930.6, 4174320.1,     117.5,     117.7,       9.1);
    ( 599950.6, 4174320.1,     118.0,     118.0,       9.1);         ( 599970.6, 4174320.1,     117.9,     117.9,       9.1);
    ( 599990.6, 4174320.1,     117.7,     117.7,       9.1);         ( 600010.6, 4174320.1,     117.6,     117.6,       9.1);
    ( 600030.6, 4174320.1,     117.9,     121.4,       9.1);         ( 600050.6, 4174320.1,     118.3,     118.3,       9.1);
    ( 600070.6, 4174320.1,     119.3,     119.3,       9.1);         ( 600090.6, 4174320.1,     119.1,     119.1,       9.1);
    ( 600110.6, 4174320.1,     118.3,     122.3,       9.1);         ( 600130.6, 4174320.1,     118.4,     118.4,       9.1);
    ( 600150.6, 4174320.1,     119.7,     120.4,       9.1);         ( 600170.6, 4174320.1,     117.6,     122.1,       9.1);
    ( 600190.6, 4174320.1,     118.3,     119.7,       9.1);         ( 600210.6, 4174320.1,     119.7,     119.7,       9.1);
    ( 600230.6, 4174320.1,     120.4,     120.4,       9.1);         ( 600250.6, 4174320.1,     121.0,     121.0,       9.1);
    ( 600270.6, 4174320.1,     121.6,     121.6,       9.1);         ( 600290.6, 4174320.1,     121.9,     121.9,       9.1);
    ( 600310.6, 4174320.1,     122.0,     122.0,       9.1);         ( 600330.6, 4174320.1,     122.1,     122.1,       9.1);
    ( 600350.6, 4174320.1,     122.2,     122.2,       9.1);         ( 600370.6, 4174320.1,     122.5,     122.5,       9.1);
    ( 600390.6, 4174320.1,     122.8,     122.8,       9.1);         ( 600410.6, 4174320.1,     123.2,     123.2,       9.1);
    ( 600430.6, 4174320.1,     123.6,     123.6,       9.1);         ( 600450.6, 4174320.1,     124.0,     124.0,       9.1);
    ( 600470.6, 4174320.1,     124.3,     124.3,       9.1);         ( 600490.6, 4174320.1,     124.7,     124.7,       9.1);
    ( 599730.6, 4174340.1,     115.3,     115.3,       9.1);         ( 599750.6, 4174340.1,     116.5,     118.1,       9.1);
    ( 599770.6, 4174340.1,     117.0,     117.0,       9.1);         ( 599790.6, 4174340.1,     117.0,     117.0,       9.1);
    ( 599810.6, 4174340.1,     117.2,     117.2,       9.1);         ( 599830.6, 4174340.1,     117.5,     117.5,       9.1);
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```
    ( 599850.6, 4174340.1,     117.5,     117.5,       9.1);         ( 599870.6, 4174340.1,     117.4,     117.4,       9.1);
    ( 599890.6, 4174340.1,     117.3,     117.3,       9.1);         ( 599910.6, 4174340.1,     117.5,     117.5,       9.1);
    ( 599930.6, 4174340.1,     118.3,     118.3,       9.1);         ( 599950.6, 4174340.1,     118.8,     118.8,       9.1);
    ( 599970.6, 4174340.1,     119.0,     119.0,       9.1);         ( 599990.6, 4174340.1,     119.0,     119.0,       9.1);
    ( 600010.6, 4174340.1,     119.2,     119.2,       9.1);         ( 600030.6, 4174340.1,     120.0,     121.4,       9.1);
    ( 600050.6, 4174340.1,     119.4,     119.4,       9.1);         ( 600070.6, 4174340.1,     120.5,     120.5,       9.1);
    ( 600090.6, 4174340.1,     120.8,     120.8,       9.1);         ( 600110.6, 4174340.1,     120.4,     122.3,       9.1);
    ( 600130.6, 4174340.1,     120.2,     120.2,       9.1);         ( 600150.6, 4174340.1,     121.2,     121.2,       9.1);
    ( 600170.6, 4174340.1,     118.7,     122.1,       9.1);         ( 600190.6, 4174340.1,     119.3,     119.3,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                    ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                       ***        11:54:32
                                                                                                                PAGE  69

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600210.6, 4174340.1,     120.9,     120.9,       9.1);         ( 600230.6, 4174340.1,     121.9,     121.9,       9.1);
    ( 600250.6, 4174340.1,     122.6,     122.6,       9.1);         ( 600270.6, 4174340.1,     123.0,     123.0,       9.1);
    ( 600290.6, 4174340.1,     123.1,     123.1,       9.1);         ( 600310.6, 4174340.1,     123.2,     123.2,       9.1);
    ( 600330.6, 4174340.1,     123.3,     123.3,       9.1);         ( 600350.6, 4174340.1,     123.5,     123.5,       9.1);
    ( 600370.6, 4174340.1,     123.7,     123.7,       9.1);         ( 600390.6, 4174340.1,     123.8,     123.8,       9.1);
    ( 600410.6, 4174340.1,     124.1,     124.1,       9.1);         ( 600430.6, 4174340.1,     124.5,     124.5,       9.1);
    ( 600450.6, 4174340.1,     124.8,     124.8,       9.1);         ( 600470.6, 4174340.1,     125.1,     125.1,       9.1);
    ( 600490.6, 4174340.1,     125.4,     125.4,       9.1);         ( 599730.6, 4174360.1,     116.1,     116.1,       9.1);
    ( 599750.6, 4174360.1,     117.4,     117.4,       9.1);         ( 599770.6, 4174360.1,     118.0,     118.0,       9.1);
    ( 599790.6, 4174360.1,     117.9,     117.9,       9.1);         ( 599810.6, 4174360.1,     118.1,     118.1,       9.1);
    ( 599830.6, 4174360.1,     118.5,     118.5,       9.1);         ( 599850.6, 4174360.1,     118.8,     118.8,       9.1);
    ( 599870.6, 4174360.1,     118.8,     118.8,       9.1);         ( 599890.6, 4174360.1,     118.7,     118.7,       9.1);
    ( 599910.6, 4174360.1,     118.7,     118.7,       9.1);         ( 599930.6, 4174360.1,     119.0,     119.0,       9.1);
    ( 599950.6, 4174360.1,     119.3,     119.3,       9.1);         ( 599970.6, 4174360.1,     119.7,     119.7,       9.1);
    ( 599990.6, 4174360.1,     119.9,     119.9,       9.1);         ( 600010.6, 4174360.1,     120.2,     120.2,       9.1);
    ( 600030.6, 4174360.1,     121.3,     121.3,       9.1);         ( 600050.6, 4174360.1,     120.3,     120.3,       9.1);
    ( 600070.6, 4174360.1,     121.2,     121.2,       9.1);         ( 600090.6, 4174360.1,     122.0,     122.0,       9.1);
    ( 600110.6, 4174360.1,     122.1,     122.1,       9.1);         ( 600130.6, 4174360.1,     121.9,     121.9,       9.1);
    ( 600150.6, 4174360.1,     122.3,     122.3,       9.1);         ( 600170.6, 4174360.1,     119.7,     123.4,       9.1);
    ( 600190.6, 4174360.1,     120.2,     120.2,       9.1);         ( 600210.6, 4174360.1,     121.9,     121.9,       9.1);
    ( 600230.6, 4174360.1,     123.3,     123.3,       9.1);         ( 600250.6, 4174360.1,     123.9,     123.9,       9.1);
    ( 600270.6, 4174360.1,     124.0,     124.0,       9.1);         ( 600290.6, 4174360.1,     124.0,     124.0,       9.1);
    ( 600310.6, 4174360.1,     124.0,     124.0,       9.1);         ( 600330.6, 4174360.1,     124.2,     124.2,       9.1);
    ( 600350.6, 4174360.1,     124.4,     124.4,       9.1);         ( 600370.6, 4174360.1,     124.5,     124.5,       9.1);
    ( 600390.6, 4174360.1,     124.7,     124.7,       9.1);         ( 600410.6, 4174360.1,     125.0,     125.0,       9.1);
    ( 600430.6, 4174360.1,     125.2,     125.2,       9.1);         ( 600450.6, 4174360.1,     125.5,     125.5,       9.1);
    ( 600470.6, 4174360.1,     125.8,     125.8,       9.1);         ( 600490.6, 4174360.1,     126.0,     126.0,       9.1);
    ( 599730.6, 4174380.1,     117.0,     117.0,       9.1);         ( 599750.6, 4174380.1,     117.6,     117.6,       9.1);
    ( 599770.6, 4174380.1,     117.9,     117.9,       9.1);         ( 599790.6, 4174380.1,     118.0,     118.0,       9.1);
    ( 599810.6, 4174380.1,     118.3,     118.3,       9.1);         ( 599830.6, 4174380.1,     118.8,     118.8,       9.1);
    ( 599850.6, 4174380.1,     119.6,     119.6,       9.1);         ( 599870.6, 4174380.1,     119.7,     119.7,       9.1);
    ( 599890.6, 4174380.1,     119.3,     119.3,       9.1);         ( 599910.6, 4174380.1,     119.1,     119.1,       9.1);
    ( 599930.6, 4174380.1,     119.3,     119.3,       9.1);         ( 599950.6, 4174380.1,     119.5,     119.5,       9.1);
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    ( 599970.6, 4174380.1,     119.7,     119.7,       9.1);         ( 599990.6, 4174380.1,     119.9,     119.9,       9.1);
    ( 600010.6, 4174380.1,     120.3,     120.3,       9.1);         ( 600030.6, 4174380.1,     121.4,     121.4,       9.1);
    ( 600050.6, 4174380.1,     121.0,     121.0,       9.1);         ( 600070.6, 4174380.1,     121.3,     121.3,       9.1);
    ( 600090.6, 4174380.1,     121.8,     121.8,       9.1);         ( 600110.6, 4174380.1,     122.5,     122.5,       9.1);
    ( 600130.6, 4174380.1,     123.1,     123.1,       9.1);         ( 600150.6, 4174380.1,     123.2,     123.2,       9.1);
    ( 600170.6, 4174380.1,     120.6,     123.4,       9.1);         ( 600190.6, 4174380.1,     121.2,     122.4,       9.1);
    ( 600210.6, 4174380.1,     122.8,     122.8,       9.1);         ( 600230.6, 4174380.1,     123.8,     123.8,       9.1);
    ( 600250.6, 4174380.1,     124.1,     124.1,       9.1);         ( 600270.6, 4174380.1,     124.2,     124.2,       9.1);
    ( 600290.6, 4174380.1,     124.3,     124.3,       9.1);         ( 600310.6, 4174380.1,     124.5,     124.5,       9.1);
    ( 600330.6, 4174380.1,     124.7,     124.7,       9.1);         ( 600350.6, 4174380.1,     124.8,     124.8,       9.1);
    ( 600370.6, 4174380.1,     125.1,     125.1,       9.1);         ( 600390.6, 4174380.1,     125.3,     125.3,       9.1);
    ( 600410.6, 4174380.1,     125.6,     125.6,       9.1);         ( 600430.6, 4174380.1,     125.9,     125.9,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***       03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***       11:54:32
                                                                                                                      PAGE  70

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

    ( 600450.6, 4174380.1,     126.1,     126.1,       9.1);         ( 600470.6, 4174380.1,     126.3,     126.3,       9.1);
    ( 600490.6, 4174380.1,     126.6,     126.6,       9.1);         ( 599730.6, 4174400.1,     117.9,     117.9,       9.1);
    ( 599750.6, 4174400.1,     118.3,     118.3,       9.1);         ( 599770.6, 4174400.1,     118.4,     118.4,       9.1);
    ( 599790.6, 4174400.1,     118.4,     118.4,       9.1);         ( 599810.6, 4174400.1,     118.4,     118.4,       9.1);
    ( 599830.6, 4174400.1,     118.7,     118.7,       9.1);         ( 599850.6, 4174400.1,     119.1,     119.1,       9.1);
    ( 599870.6, 4174400.1,     119.1,     119.1,       9.1);         ( 599890.6, 4174400.1,     119.0,     119.0,       9.1);
    ( 599910.6, 4174400.1,     119.2,     119.2,       9.1);         ( 599930.6, 4174400.1,     120.2,     120.2,       9.1);
    ( 599950.6, 4174400.1,     120.1,     120.1,       9.1);         ( 599970.6, 4174400.1,     120.0,     120.0,       9.1);
    ( 599990.6, 4174400.1,     120.2,     120.2,       9.1);         ( 600010.6, 4174400.1,     120.6,     120.6,       9.1);
    ( 600030.6, 4174400.1,     121.4,     121.4,       9.1);         ( 600050.6, 4174400.1,     121.6,     121.6,       9.1);
    ( 600070.6, 4174400.1,     121.5,     121.5,       9.1);         ( 600090.6, 4174400.1,     121.7,     121.7,       9.1);
    ( 600110.6, 4174400.1,     122.1,     122.1,       9.1);         ( 600130.6, 4174400.1,     122.8,     122.8,       9.1);
    ( 600150.6, 4174400.1,     123.4,     123.4,       9.1);         ( 600170.6, 4174400.1,     121.3,     121.3,       9.1);
    ( 600190.6, 4174400.1,     122.2,     122.2,       9.1);         ( 600210.6, 4174400.1,     123.5,     123.5,       9.1);
    ( 600230.6, 4174400.1,     124.2,     124.2,       9.1);         ( 600250.6, 4174400.1,     124.4,     124.4,       9.1);
    ( 600270.6, 4174400.1,     124.6,     124.6,       9.1);         ( 600290.6, 4174400.1,     124.8,     124.8,       9.1);
    ( 600310.6, 4174400.1,     125.0,     125.0,       9.1);         ( 600330.6, 4174400.1,     125.1,     125.1,       9.1);
    ( 600350.6, 4174400.1,     125.3,     125.3,       9.1);         ( 600370.6, 4174400.1,     125.6,     125.6,       9.1);
    ( 600390.6, 4174400.1,     125.9,     125.9,       9.1);         ( 600410.6, 4174400.1,     126.2,     126.2,       9.1);
    ( 600430.6, 4174400.1,     126.5,     126.5,       9.1);         ( 600450.6, 4174400.1,     126.8,     126.8,       9.1);
    ( 600470.6, 4174400.1,     126.9,     126.9,       9.1);         ( 600490.6, 4174400.1,     127.2,     127.2,       9.1);
    ( 599730.6, 4174420.1,     118.8,     118.8,       9.1);         ( 599750.6, 4174420.1,     119.0,     119.0,       9.1);
    ( 599770.6, 4174420.1,     119.1,     119.1,       9.1);         ( 599790.6, 4174420.1,     119.0,     119.0,       9.1);
    ( 599810.6, 4174420.1,     118.9,     118.9,       9.1);         ( 599830.6, 4174420.1,     118.7,     118.7,       9.1);
    ( 599850.6, 4174420.1,     118.7,     118.7,       9.1);         ( 599870.6, 4174420.1,     118.7,     118.7,       9.1);
    ( 599890.6, 4174420.1,     119.0,     119.0,       9.1);         ( 599910.6, 4174420.1,     119.8,     119.8,       9.1);
    ( 599930.6, 4174420.1,     121.3,     121.3,       9.1);         ( 599950.6, 4174420.1,     120.8,     120.8,       9.1);
    ( 599970.6, 4174420.1,     120.6,     120.6,       9.1);         ( 599990.6, 4174420.1,     120.7,     120.7,       9.1);
    ( 600010.6, 4174420.1,     121.0,     121.0,       9.1);         ( 600030.6, 4174420.1,     121.6,     121.6,       9.1);
    ( 600050.6, 4174420.1,     122.2,     122.2,       9.1);         ( 600070.6, 4174420.1,     121.9,     121.9,       9.1);
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Model Output
Unit Emission Rates (1 g/s)

```
    ( 600090.6, 4174420.1,     121.9,     125.1,       9.1);         ( 600110.6, 4174420.1,     122.1,     125.1,       9.1);
    ( 600130.6, 4174420.1,     122.4,     122.4,       9.1);         ( 600150.6, 4174420.1,     123.3,     123.3,       9.1);
    ( 600170.6, 4174420.1,     122.0,     122.0,       9.1);         ( 600190.6, 4174420.1,     123.1,     123.1,       9.1);
    ( 600210.6, 4174420.1,     124.2,     124.2,       9.1);         ( 600230.6, 4174420.1,     124.6,     124.6,       9.1);
    ( 600250.6, 4174420.1,     124.8,     124.8,       9.1);         ( 600270.6, 4174420.1,     125.0,     125.0,       9.1);
    ( 600290.6, 4174420.1,     125.2,     125.2,       9.1);         ( 600310.6, 4174420.1,     125.4,     125.4,       9.1);
    ( 600330.6, 4174420.1,     125.6,     125.6,       9.1);         ( 600350.6, 4174420.1,     125.8,     125.8,       9.1);
    ( 600370.6, 4174420.1,     126.0,     126.0,       9.1);         ( 600390.6, 4174420.1,     126.5,     126.5,       9.1);
    ( 600410.6, 4174420.1,     126.9,     126.9,       9.1);         ( 600430.6, 4174420.1,     127.1,     127.1,       9.1);
    ( 600450.6, 4174420.1,     127.3,     127.3,       9.1);         ( 600470.6, 4174420.1,     127.5,     127.5,       9.1);
    ( 600490.6, 4174420.1,     127.7,     127.7,       9.1);         ( 599730.6, 4174440.1,     119.8,     119.8,       9.1);
    ( 599750.6, 4174440.1,     120.0,     120.0,       9.1);         ( 599770.6, 4174440.1,     120.0,     120.0,       9.1);
    ( 599790.6, 4174440.1,     120.0,     120.0,       9.1);         ( 599810.6, 4174440.1,     120.0,     120.0,       9.1);
    ( 599830.6, 4174440.1,     118.9,     122.4,       9.1);         ( 599850.6, 4174440.1,     118.7,     122.8,       9.1);
    ( 599870.6, 4174440.1,     118.7,     124.2,       9.1);         ( 599890.6, 4174440.1,     119.8,     124.2,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***       03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***       11:54:32
                                                                                                                      PAGE  71

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 599910.6, 4174440.1,     121.6,     121.6,       9.1);         ( 599930.6, 4174440.1,     122.5,     122.5,       9.1);
    ( 599950.6, 4174440.1,     122.0,     122.0,       9.1);         ( 599970.6, 4174440.1,     121.9,     121.9,       9.1);
    ( 599990.6, 4174440.1,     121.7,     121.7,       9.1);         ( 600010.6, 4174440.1,     121.6,     121.6,       9.1);
    ( 600030.6, 4174440.1,     122.2,     122.2,       9.1);         ( 600050.6, 4174440.1,     122.7,     122.7,       9.1);
    ( 600070.6, 4174440.1,     122.4,     122.4,       9.1);         ( 600090.6, 4174440.1,     123.4,     125.1,       9.1);
    ( 600110.6, 4174440.1,     124.3,     124.3,       9.1);         ( 600130.6, 4174440.1,     124.1,     125.0,       9.1);
    ( 600150.6, 4174440.1,     123.5,     123.5,       9.1);         ( 600170.6, 4174440.1,     122.8,     122.8,       9.1);
    ( 600190.6, 4174440.1,     123.9,     123.9,       9.1);         ( 600210.6, 4174440.1,     124.7,     124.7,       9.1);
    ( 600230.6, 4174440.1,     125.0,     125.0,       9.1);         ( 600250.6, 4174440.1,     125.3,     125.3,       9.1);
    ( 600270.6, 4174440.1,     125.5,     125.5,       9.1);         ( 600290.6, 4174440.1,     125.7,     125.7,       9.1);
    ( 600310.6, 4174440.1,     125.9,     125.9,       9.1);         ( 600330.6, 4174440.1,     126.1,     126.1,       9.1);
    ( 600350.6, 4174440.1,     126.4,     126.4,       9.1);         ( 600370.6, 4174440.1,     126.6,     126.6,       9.1);
    ( 600390.6, 4174440.1,     127.0,     127.0,       9.1);         ( 600410.6, 4174440.1,     127.3,     127.3,       9.1);
    ( 600430.6, 4174440.1,     127.5,     127.5,       9.1);         ( 600450.6, 4174440.1,     127.7,     127.7,       9.1);
    ( 600470.6, 4174440.1,     127.9,     127.9,       9.1);         ( 600490.6, 4174440.1,     128.2,     128.2,       9.1);
    ( 599730.6, 4174460.1,     120.6,     120.6,       9.1);         ( 599750.6, 4174460.1,     121.5,     123.3,       9.1);
    ( 599770.6, 4174460.1,     121.9,     121.9,       9.1);         ( 599790.6, 4174460.1,     121.8,     121.8,       9.1);
    ( 599810.6, 4174460.1,     121.4,     121.4,       9.1);         ( 599830.6, 4174460.1,     120.8,     122.4,       9.1);
    ( 599850.6, 4174460.1,     120.8,     122.8,       9.1);         ( 599870.6, 4174460.1,     121.0,     123.3,       9.1);
    ( 599890.6, 4174460.1,     121.9,     124.2,       9.1);         ( 599910.6, 4174460.1,     123.1,     123.1,       9.1);
    ( 599930.6, 4174460.1,     123.5,     123.5,       9.1);         ( 599950.6, 4174460.1,     123.4,     123.4,       9.1);
    ( 599970.6, 4174460.1,     123.1,     123.1,       9.1);         ( 599990.6, 4174460.1,     122.7,     122.7,       9.1);
    ( 600010.6, 4174460.1,     122.7,     122.7,       9.1);         ( 600030.6, 4174460.1,     123.1,     123.1,       9.1);
    ( 600050.6, 4174460.1,     123.7,     123.7,       9.1);         ( 600070.6, 4174460.1,     123.7,     123.7,       9.1);
    ( 600090.6, 4174460.1,     123.8,     123.8,       9.1);         ( 600110.6, 4174460.1,     123.9,     123.9,       9.1);
    ( 600130.6, 4174460.1,     123.9,     123.9,       9.1);         ( 600150.6, 4174460.1,     124.1,     124.1,       9.1);
    ( 600170.6, 4174460.1,     123.8,     123.8,       9.1);         ( 600190.6, 4174460.1,     124.6,     124.6,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 600210.6, 4174460.1,     125.3,     125.3,       9.1);         ( 600230.6, 4174460.1,     125.5,     125.5,       9.1);
    ( 600250.6, 4174460.1,     125.7,     125.7,       9.1);         ( 600270.6, 4174460.1,     126.0,     126.0,       9.1);
    ( 600290.6, 4174460.1,     126.2,     126.2,       9.1);         ( 600310.6, 4174460.1,     126.4,     126.4,       9.1);
    ( 600330.6, 4174460.1,     126.6,     126.6,       9.1);         ( 600350.6, 4174460.1,     126.9,     126.9,       9.1);
    ( 600370.6, 4174460.1,     127.1,     127.1,       9.1);         ( 600390.6, 4174460.1,     127.5,     127.5,       9.1);
    ( 600410.6, 4174460.1,     127.8,     127.8,       9.1);         ( 600430.6, 4174460.1,     128.0,     128.0,       9.1);
    ( 600450.6, 4174460.1,     128.2,     128.2,       9.1);         ( 600470.6, 4174460.1,     128.3,     128.3,       9.1);
    ( 600490.6, 4174460.1,     128.5,     128.5,       9.1);         ( 599730.6, 4174480.1,     121.4,     121.4,       9.1);
    ( 599750.6, 4174480.1,     122.7,     122.7,       9.1);         ( 599770.6, 4174480.1,     123.3,     123.3,       9.1);
    ( 599790.6, 4174480.1,     123.1,     123.1,       9.1);         ( 599810.6, 4174480.1,     122.8,     122.8,       9.1);
    ( 599830.6, 4174480.1,     122.6,     122.6,       9.1);         ( 599850.6, 4174480.1,     122.8,     122.8,       9.1);
    ( 599870.6, 4174480.1,     123.2,     123.2,       9.1);         ( 599890.6, 4174480.1,     123.7,     123.7,       9.1);
    ( 599910.6, 4174480.1,     124.2,     124.2,       9.1);         ( 599930.6, 4174480.1,     124.2,     124.2,       9.1);
    ( 599950.6, 4174480.1,     124.6,     124.6,       9.1);         ( 599970.6, 4174480.1,     124.2,     124.2,       9.1);
    ( 599990.6, 4174480.1,     123.8,     123.8,       9.1);         ( 600010.6, 4174480.1,     123.8,     123.8,       9.1);
    ( 600030.6, 4174480.1,     124.0,     124.0,       9.1);         ( 600050.6, 4174480.1,     124.8,     124.8,       9.1);
    ( 600070.6, 4174480.1,     125.1,     125.1,       9.1);         ( 600090.6, 4174480.1,     123.8,     123.8,       9.1);
    ( 600110.6, 4174480.1,     122.6,     122.6,       9.1);         ( 600130.6, 4174480.1,     123.0,     123.0,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  72
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600150.6, 4174480.1,     124.8,     124.8,       9.1);         ( 600170.6, 4174480.1,     124.7,     124.7,       9.1);
    ( 600190.6, 4174480.1,     125.4,     125.4,       9.1);         ( 600210.6, 4174480.1,     125.8,     125.8,       9.1);
    ( 600230.6, 4174480.1,     125.9,     125.9,       9.1);         ( 600250.6, 4174480.1,     126.1,     126.1,       9.1);
    ( 600270.6, 4174480.1,     126.4,     126.4,       9.1);         ( 600290.6, 4174480.1,     126.7,     126.7,       9.1);
    ( 600310.6, 4174480.1,     126.9,     126.9,       9.1);         ( 600330.6, 4174480.1,     127.1,     127.1,       9.1);
    ( 600350.6, 4174480.1,     127.3,     127.3,       9.1);         ( 600370.6, 4174480.1,     127.5,     127.5,       9.1);
    ( 600390.6, 4174480.1,     128.0,     128.0,       9.1);         ( 600410.6, 4174480.1,     128.3,     128.3,       9.1);
    ( 600430.6, 4174480.1,     128.5,     128.5,       9.1);         ( 600450.6, 4174480.1,     128.6,     128.6,       9.1);
    ( 600470.6, 4174480.1,     128.7,     128.7,       9.1);         ( 600490.6, 4174480.1,     128.2,     128.2,       9.1);
    ( 599730.6, 4174500.1,     122.2,     122.2,       9.1);         ( 599750.6, 4174500.1,     122.9,     122.9,       9.1);
    ( 599770.6, 4174500.1,     123.3,     123.3,       9.1);         ( 599790.6, 4174500.1,     123.4,     123.4,       9.1);
    ( 599810.6, 4174500.1,     123.5,     123.5,       9.1);         ( 599830.6, 4174500.1,     123.0,     123.0,       9.1);
    ( 599850.6, 4174500.1,     123.4,     123.4,       9.1);         ( 599870.6, 4174500.1,     123.6,     123.6,       9.1);
    ( 599890.6, 4174500.1,     123.8,     123.8,       9.1);         ( 599910.6, 4174500.1,     124.1,     124.1,       9.1);
    ( 599930.6, 4174500.1,     124.1,     124.1,       9.1);         ( 599950.6, 4174500.1,     124.4,     124.4,       9.1);
    ( 599970.6, 4174500.1,     124.8,     124.8,       9.1);         ( 599990.6, 4174500.1,     124.9,     124.9,       9.1);
    ( 600010.6, 4174500.1,     124.7,     124.7,       9.1);         ( 600030.6, 4174500.1,     124.6,     124.6,       9.1);
    ( 600050.6, 4174500.1,     125.0,     125.0,       9.1);         ( 600070.6, 4174500.1,     125.2,     125.2,       9.1);
    ( 600090.6, 4174500.1,     124.9,     124.9,       9.1);         ( 600110.6, 4174500.1,     124.6,     124.6,       9.1);
    ( 600130.6, 4174500.1,     125.0,     125.0,       9.1);         ( 600150.6, 4174500.1,     125.7,     125.7,       9.1);
    ( 600170.6, 4174500.1,     125.5,     125.5,       9.1);         ( 600190.6, 4174500.1,     125.9,     125.9,       9.1);
    ( 600210.6, 4174500.1,     126.3,     126.3,       9.1);         ( 600230.6, 4174500.1,     126.4,     126.4,       9.1);
    ( 600250.6, 4174500.1,     126.6,     126.6,       9.1);         ( 600270.6, 4174500.1,     126.8,     126.8,       9.1);
    ( 600290.6, 4174500.1,     127.1,     127.1,       9.1);         ( 600310.6, 4174500.1,     127.3,     127.3,       9.1);
```

```
    ( 600330.6, 4174500.1,     127.6,     127.6,       9.1);         ( 600350.6, 4174500.1,     127.8,     127.8,       9.1);
    ( 600370.6, 4174500.1,     128.0,     128.0,       9.1);         ( 600390.6, 4174500.1,     128.4,     128.4,       9.1);
    ( 600410.6, 4174500.1,     128.7,     128.7,       9.1);         ( 600430.6, 4174500.1,     128.4,     128.4,       9.1);
    ( 600450.6, 4174500.1,     127.7,     127.7,       9.1);         ( 600470.6, 4174500.1,     127.3,     127.3,       9.1);
    ( 600490.6, 4174500.1,     127.0,     127.0,       9.1);         ( 599730.6, 4174520.1,     122.7,     122.7,       9.1);
    ( 599750.6, 4174520.1,     123.2,     123.2,       9.1);         ( 599770.6, 4174520.1,     123.5,     123.5,       9.1);
    ( 599790.6, 4174520.1,     123.7,     123.7,       9.1);         ( 599810.6, 4174520.1,     124.0,     124.0,       9.1);
    ( 599830.6, 4174520.1,     123.7,     123.7,       9.1);         ( 599850.6, 4174520.1,     124.0,     124.0,       9.1);
    ( 599870.6, 4174520.1,     124.3,     124.3,       9.1);         ( 599890.6, 4174520.1,     124.5,     124.5,       9.1);
    ( 599910.6, 4174520.1,     124.5,     124.5,       9.1);         ( 599930.6, 4174520.1,     124.4,     124.4,       9.1);
    ( 599950.6, 4174520.1,     124.5,     124.5,       9.1);         ( 599970.6, 4174520.1,     124.9,     124.9,       9.1);
    ( 599990.6, 4174520.1,     125.1,     125.1,       9.1);         ( 600010.6, 4174520.1,     125.1,     125.1,       9.1);
    ( 600030.6, 4174520.1,     125.2,     125.2,       9.1);         ( 600050.6, 4174520.1,     125.4,     125.4,       9.1);
    ( 600070.6, 4174520.1,     125.8,     125.8,       9.1);         ( 600090.6, 4174520.1,     125.9,     125.9,       9.1);
    ( 600110.6, 4174520.1,     126.1,     126.1,       9.1);         ( 600130.6, 4174520.1,     126.3,     126.3,       9.1);
    ( 600150.6, 4174520.1,     126.3,     126.3,       9.1);         ( 600170.6, 4174520.1,     126.3,     126.3,       9.1);
    ( 600190.6, 4174520.1,     126.6,     126.6,       9.1);         ( 600210.6, 4174520.1,     126.8,     126.8,       9.1);
    ( 600230.6, 4174520.1,     126.9,     126.9,       9.1);         ( 600250.6, 4174520.1,     127.1,     127.1,       9.1);
    ( 600270.6, 4174520.1,     127.3,     127.3,       9.1);         ( 600290.6, 4174520.1,     127.6,     127.6,       9.1);
    ( 600310.6, 4174520.1,     127.8,     127.8,       9.1);         ( 600330.6, 4174520.1,     128.1,     128.1,       9.1);
    ( 600350.6, 4174520.1,     128.4,     128.4,       9.1);         ( 600370.6, 4174520.1,     128.6,     128.6,       9.1);
*** AERMOD - VERSION  19191 ***   *** Promenade HS Construction HRA                                          ***        03/26/20
*** AERMET - VERSION  14134 ***   *** Dublin, CA                                                             ***        11:54:32
                                                                                                                      PAGE  73

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 600390.6, 4174520.1,     128.9,     128.9,       9.1);         ( 600410.6, 4174520.1,     129.2,     129.2,       9.1);
    ( 600430.6, 4174520.1,     128.6,     128.6,       9.1);         ( 600450.6, 4174520.1,     127.6,     127.6,       9.1);
    ( 600470.6, 4174520.1,     126.9,     131.5,       9.1);         ( 600490.6, 4174520.1,     127.3,     131.5,       9.1);
```

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	600110.6	4173660.1	-4.47
L0000001	600130.6	4173660.1	0.15
L0000001	600110.6	4173660.1	-4.47
L0000001	600130.6	4173660.1	0.15
L0000001	600110.6	4173660.1	-4.47
L0000001	600130.6	4173660.1	0.15
L0000002	600050.6	4173680.1	-1.50
L0000002	600070.6	4173680.1	-14.67
L0000002	600050.6	4173680.1	-1.50
L0000002	600070.6	4173680.1	-14.67
L0000002	600050.6	4173680.1	-1.50
L0000002	600070.6	4173680.1	-14.67
L0000003	600030.6	4173680.1	-3.93
L0000003	600050.6	4173680.1	-6.46
L0000003	600030.6	4173680.1	-3.93
L0000003	600050.6	4173680.1	-6.46
L0000003	600030.6	4173680.1	-3.93
L0000003	600050.6	4173680.1	-6.46
L0000007	599890.6	4173760.1	-12.46
L0000007	599910.6	4173760.1	-20.14
L0000007	599910.6	4173780.1	-0.27
L0000007	599890.6	4173760.1	-12.46
L0000007	599910.6	4173760.1	-20.14
L0000007	599910.6	4173780.1	-0.27
L0000007	599890.6	4173760.1	-12.46
L0000007	599910.6	4173760.1	-20.14
L0000007	599910.6	4173780.1	-0.27
L0000008	599870.6	4173760.1	-25.37
L0000008	599890.6	4173760.1	-15.23
L0000008	599870.6	4173780.1	-5.56
L0000008	599890.6	4173780.1	-0.81
L0000008	599870.6	4173760.1	-25.37
L0000008	599890.6	4173760.1	-15.23
L0000008	599870.6	4173780.1	-5.56
L0000008	599890.6	4173780.1	-0.81
L0000008	599870.6	4173760.1	-25.37
L0000008	599890.6	4173760.1	-15.23
L0000008	599870.6	4173780.1	-5.56
L0000008	599890.6	4173780.1	-0.81
L0000009	599870.6	4173760.1	-2.12

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000009	599830.6	4173780.1	-8.69
L0000009	599850.6	4173780.1	-6.69
L0000009	599870.6	4173760.1	-2.12
L0000009	599830.6	4173780.1	-8.69
L0000009	599850.6	4173780.1	-6.69
L0000009	599870.6	4173760.1	-2.12
L0000009	599830.6	4173780.1	-8.69
L0000009	599850.6	4173780.1	-6.69
L0000010	599790.6	4173780.1	-8.14
L0000010	599810.6	4173780.1	-9.59
L0000010	599790.6	4173780.1	-8.14
L0000010	599810.6	4173780.1	-9.59
L0000010	599790.6	4173780.1	-8.14
L0000010	599810.6	4173780.1	-9.59
L0000011	599750.6	4173780.1	-6.39
L0000011	599770.6	4173780.1	-11.35
L0000011	599790.6	4173780.1	-1.99
L0000011	599750.6	4173780.1	-6.39
L0000011	599770.6	4173780.1	-11.35
L0000011	599790.6	4173780.1	-1.99
L0000011	599750.6	4173780.1	-6.39
L0000011	599770.6	4173780.1	-11.35
L0000011	599790.6	4173780.1	-1.99
L0000012	599730.6	4173780.1	-12.28
L0000012	599750.6	4173780.1	-5.63
L0000012	599730.6	4173780.1	-12.28
L0000012	599750.6	4173780.1	-5.63
L0000012	599730.6	4173780.1	-12.28
L0000012	599750.6	4173780.1	-5.63

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\met data\724927.SFC Met Version: 14134
Profile file: ..\met data\724927.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23285 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-12.6	0.221	-9.000	-9.000	-999.	250.	77.5	0.11	0.90	1.00	2.86	51.	10.0	279.2	2.0
09	01	01	1	02	-23.5	0.413	-9.000	-9.000	-999.	637.	269.8	0.11	0.90	1.00	4.86	48.	10.0	279.2	2.0
09	01	01	1	03	-11.1	0.195	-9.000	-9.000	-999.	254.	59.8	0.07	0.90	1.00	2.86	94.	10.0	278.8	2.0
09	01	01	1	04	-9.5	0.166	-9.000	-9.000	-999.	164.	43.7	0.11	0.90	1.00	2.36	53.	10.0	278.1	2.0
09	01	01	1	05	-11.1	0.195	-9.000	-9.000	-999.	206.	59.6	0.07	0.90	1.00	2.86	63.	10.0	278.1	2.0
09	01	01	1	06	-8.2	0.143	-9.000	-9.000	-999.	131.	32.3	0.07	0.90	1.00	2.36	72.	10.0	278.1	2.0
09	01	01	1	07	-8.2	0.143	-9.000	-9.000	-999.	130.	32.3	0.07	0.90	1.00	2.36	75.	10.0	278.1	2.0
09	01	01	1	08	-4.1	0.078	-9.000	-9.000	-999.	53.	10.3	0.11	0.90	0.75	1.76	13.	10.0	277.5	2.0
09	01	01	1	09	-6.3	0.246	-9.000	-9.000	-999.	292.	211.6	0.12	0.90	0.40	2.86	347.	10.0	278.1	2.0
09	01	01	1	10	6.6	0.303	0.261	0.016	96.	401.	-378.3	0.11	0.90	0.27	3.36	51.	10.0	278.8	2.0
09	01	01	1	11	15.4	0.317	0.422	0.017	176.	429.	-186.8	0.07	0.90	0.23	3.86	94.	10.0	279.9	2.0
09	01	01	1	12	47.5	0.448	0.742	0.017	309.	720.	-170.5	0.11	0.90	0.22	4.86	56.	10.0	280.9	2.0
09	01	01	1	13	49.0	0.405	0.820	0.014	403.	621.	-122.0	0.07	0.90	0.21	4.86	63.	10.0	281.4	2.0
09	01	01	1	14	42.7	0.405	0.809	0.014	444.	619.	-139.5	0.11	0.90	0.22	4.36	59.	10.0	282.0	2.0
09	01	01	1	15	60.8	0.372	0.922	0.014	463.	545.	-75.6	0.07	0.90	0.25	4.36	72.	10.0	281.4	2.0
09	01	01	1	16	14.1	0.309	0.569	0.016	467.	414.	-187.5	0.11	0.90	0.34	3.36	54.	10.0	282.0	2.0
09	01	01	1	17	-30.4	0.311	-9.000	-9.000	-999.	417.	89.1	0.07	0.90	0.58	4.36	61.	10.0	280.4	2.0
09	01	01	1	18	-27.0	0.239	-9.000	-9.000	-999.	282.	45.2	0.11	0.90	1.00	3.36	47.	10.0	279.9	2.0
09	01	01	1	19	-14.9	0.131	-9.000	-9.000	-999.	120.	13.7	0.07	0.90	1.00	2.86	64.	10.0	279.2	2.0
09	01	01	1	20	-5.8	0.078	-9.000	-9.000	-999.	53.	7.3	0.11	0.90	1.00	1.76	47.	10.0	278.8	2.0
09	01	01	1	21	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	0.90	1.00	0.00	0.	10.0	277.5	2.0
09	01	01	1	22	-4.9	0.070	-9.000	-9.000	-999.	44.	6.2	0.07	0.90	1.00	1.76	82.	10.0	276.4	2.0
09	01	01	1	23	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	0.90	1.00	0.00	0.	10.0	277.0	2.0
09	01	01	1	24	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	0.90	1.00	0.00	0.	10.0	277.0	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
09	01	01	01	10.0	1	51.	2.86	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: OFFSITE ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC		X-COORD (M)	Y-COORD (M)	CONC
600490.59	4173880.08	0.28144		599730.59	4173900.08	1.07731
599750.59	4173900.08	1.12758		599770.59	4173900.08	1.17410
599790.59	4173900.08	1.21466		599810.59	4173900.08	1.24926
599830.59	4173900.08	1.27149		599850.59	4173900.08	1.28526
599870.59	4173900.08	1.29447		599890.59	4173900.08	1.30112
599910.59	4173900.08	1.29931		599930.59	4173900.08	1.28666
599950.59	4173900.08	1.27261		600170.59	4173900.08	0.84300
600190.59	4173900.08	0.78825		600210.59	4173900.08	0.73485
600230.59	4173900.08	0.68301		600250.59	4173900.08	0.63227
600270.59	4173900.08	0.58505		600290.59	4173900.08	0.54160
600310.59	4173900.08	0.50178		600330.59	4173900.08	0.46531
600350.59	4173900.08	0.43134		600370.59	4173900.08	0.40015
600390.59	4173900.08	0.37169		600410.59	4173900.08	0.34618
600430.59	4173900.08	0.32349		600450.59	4173900.08	0.30295
600470.59	4173900.08	0.28450		600490.59	4173900.08	0.26744
599730.59	4173920.08	0.85880		599750.59	4173920.08	0.90540
599770.59	4173920.08	0.94877		599790.59	4173920.08	0.98296
599810.59	4173920.08	1.01137		599830.59	4173920.08	1.03256
599850.59	4173920.08	1.04821		599870.59	4173920.08	1.06027
599890.59	4173920.08	1.06955		599910.59	4173920.08	1.07506
600170.59	**4173920.08**	**0.74408**	**OFFSITE MER 1.5m**	600190.59	4173920.08	0.69960
600210.59	4173920.08	0.65675		600230.59	4173920.08	0.61454
600250.59	4173920.08	0.57312		600270.59	4173920.08	0.53326
600290.59	4173920.08	0.49641		600310.59	4173920.08	0.46256
600330.59	4173920.08	0.43119		600350.59	4173920.08	0.40205
600370.59	4173920.08	0.37459		600390.59	4173920.08	0.34919
600410.59	4173920.08	0.32612		600430.59	4173920.08	0.30541
600450.59	4173920.08	0.28677		600470.59	4173920.08	0.26976
600490.59	4173920.08	0.25411		599730.59	4173940.08	0.69891
599750.59	4173940.08	0.73821		599770.59	4173940.08	0.77441
599790.59	4173940.08	0.80621		599810.59	4173940.08	0.83106
599830.59	4173940.08	0.85412		599850.59	4173940.08	0.87163
599870.59	4173940.08	0.88526		600190.59	4173940.08	0.62557
600210.59	4173940.08	0.59038		600230.59	4173940.08	0.55588
600250.59	4173940.08	0.52154		600270.59	4173940.08	0.48783

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
		MER LOCATION		
ONSITE	**1ST HIGHEST VALUE IS**	**7.68405 AT (600170.59, 4173920.08,** 108.28, 108.28, 1.50)	DC	
	2ND HIGHEST VALUE IS	7.61355 AT (600195.12, 4174004.11, 109.15, 109.15, 1.50)	DC	
	3RD HIGHEST VALUE IS	7.47120 AT (600159.15, 4173869.65, 108.06, 108.06, 1.50)	DC	
	4TH HIGHEST VALUE IS	7.42161 AT (600190.59, 4173980.08, 108.75, 108.75, 1.50)	DC	
	5TH HIGHEST VALUE IS	7.09386 AT (600210.59, 4174060.08, 109.66, 109.66, 1.50)	DC	
	6TH HIGHEST VALUE IS	7.08434 AT (600170.59, 4173900.08, 108.23, 108.23, 1.50)	DC	
	7TH HIGHEST VALUE IS	6.96030 AT (600170.59, 4173800.08, 107.79, 107.79, 1.50)	DC	
	8TH HIGHEST VALUE IS	6.79777 AT (600190.59, 4173960.08, 108.59, 108.59, 1.50)	DC	
	9TH HIGHEST VALUE IS	6.72556 AT (600210.59, 4174040.08, 109.54, 109.54, 1.50)	DC	
	10TH HIGHEST VALUE IS	6.59090 AT (600170.59, 4173880.08, 108.18, 108.18, 1.50)	DC	
OFFSITE	1ST HIGHEST VALUE IS	9.22428 AT (599910.59, 4173760.08, 107.38, 107.38, 1.50)	DC	
	2ND HIGHEST VALUE IS	8.19880 AT (599830.59, 4173780.08, 107.56, 107.56, 1.50)	DC	
	3RD HIGHEST VALUE IS	8.06758 AT (600070.59, 4173680.08, 106.75, 106.75, 1.50)	DC	
	4TH HIGHEST VALUE IS	7.71689 AT (599730.59, 4173780.08, 107.24, 107.24, 1.50)	DC	
	5TH HIGHEST VALUE IS	7.64181 AT (600150.59, 4173700.08, 107.62, 107.62, 1.50)	DC	
	6TH HIGHEST VALUE IS	7.46295 AT (599770.59, 4173780.08, 107.61, 107.61, 1.50)	DC	
	7TH HIGHEST VALUE IS	7.41094 AT (599870.59, 4173780.08, 107.54, 107.54, 1.50)	DC	
	8TH HIGHEST VALUE IS	7.23070 AT (599910.59, 4173760.08, 107.38, 107.38, 6.10)	DC	
	9TH HIGHEST VALUE IS	7.21635 AT (600150.59, 4173680.08, 107.68, 107.68, 1.50)	DC	
	10TH HIGHEST VALUE IS	7.16741 AT (599810.59, 4173780.08, 107.74, 107.74, 1.50)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   0 Warning Message(s)
A Total of   15235 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13448 Calm Hours Identified

A Total of   1787 Missing Hours Identified (4.07 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
              *** NONE ***

   ****
   *** AERMOD Finishes Successfully ***
   ****

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Appendix C. Construction Risk Calculations

Table C1
Residential MER Concentrations for Risk Calculations

Contaminant		Source	Model Output [1] ($\mu g/m^3$)	Emission Rates [2] (g/s)	MER Conc. ($\mu g/m^3$)	Total MER Conc. Annual Average ($\mu g/m^3$)
(a)		(b)	(c)	(d)	(e)	(f)
Residential Receptors - Unmitigated						
DPM	2020	On-Site Emissions	7.68	2.60E-02	2.00E-01	2.00E-01
		Truck Route	0.74	1.22E-05	9.04E-06	
	2021	On-Site Emissions	7.68	1.83E-02	1.40E-01	1.40E-01
		Truck Route	0.74	1.72E-05	1.28E-05	
	2022	On-Site Emissions	7.68	1.44E-02	1.10E-01	1.10E-01
		Truck Route	0.74	1.58E-05	1.18E-05	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						
$PM_{2.5}$	2020	On-Site Emissions	7.68	2.39E-02	1.84E-01	1.84E-01
		Truck Route	0.74	1.15E-05	8.59E-06	
	2021	On-Site Emissions	7.68	1.71E-02	1.31E-01	1.31E-01
		Truck Route	0.74	1.62E-05	1.21E-05	
	2022	On-Site Emissions	7.68	1.35E-02	1.04E-01	1.04E-01
		Truck Route	0.74	1.49E-05	1.11E-05	
				Maximum Annual $PM_{2.5}$ Concentration		**0.18**
Residential Receptors - Mitigated Run: Tier 4 Final Engines for eq. > 50 HP						
DPM	2020	On-Site Emissions	7.68	1.36E-03	1.04E-02	1.04E-02
		Truck Route	0.74	1.22E-05	9.04E-06	
	2021	On-Site Emissions	7.68	1.95E-03	1.50E-02	1.50E-02
		Truck Route	0.74	1.72E-05	1.28E-05	
	2022	On-Site Emissions	7.68	1.71E-03	1.31E-02	1.31E-02
		Truck Route	0.74	1.58E-05	1.18E-05	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						
$PM_{2.5}$	2020	On-Site Emissions	7.68	1.36E-03	1.04E-02	1.04E-02
		Truck Route	0.74	1.15E-05	8.59E-06	
	2021	On-Site Emissions	7.68	1.95E-03	1.50E-02	1.50E-02
		Truck Route	0.74	1.62E-05	1.21E-05	
	2022	On-Site Emissions	7.68	1.71E-03	1.31E-02	1.31E-02
		Truck Route	0.74	1.49E-05	1.11E-05	
				Maximum Annual $PM_{2.5}$ Concentration		**0.02**

Maximum Exposed Receptor (MER) UTM coordinates: 600170.59E, 4173920.08N

[1] Model Output at the MER based on unit emission rates for sources (1 g/s).

[2] Emission Rates from Emission Rate Calculations (Appendix A - Construction Emissions).

Table C2
Quantification of Health Risks for Off-site Residents

Source		MER Conc. ($\mu g/m^3$)	Weight Fraction	Contaminant	URF $(\mu g/m^3)^{-1}$	CPF $(mg/kg/day)^{-1}$	Dose (by age bin) 3rd Trimester (mg/kg-day)	Dose (by age bin) 0 < 2 years (mg/kg-day)	Carcinogenic Risks (by age bin) 3rd Trimester per million	Carcinogenic Risks (by age bin) 0 < 2 years per million	**Total Cancer Risk** per million	**Chronic Hazards** [3] REL ($\mu g/m^3$)	**Chronic Hazards** [3] RESP
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(m)	(n)	(o)
Residential Receptors - Unmitigated													
2020	On & Off-Site Emission	2.00E-01	1.00E+00	DPM	3.0E-04	1.1E+00	6.92E-05	2.09E-04	2.20E+00	7.98E+00	10.2	5.0E+00	4.00E-02
2021		1.40E-01						1.47E-04		1.87E+01	18.7		2.81E-02
2022		1.10E-01						1.15E-04		7.35E+00	7.4		2.21E-02
										Total	**36.2**		**0.090**
Residential Receptors - Mitigated Run: Tier 4 Final Engines for eq. > 50 HP													
2020	On & Off-Site Emission	1.04E-02	1.00E+00	DPM	3.0E-04	1.1E+00	3.62E-06	1.09E-05	1.15E-01	4.17E-01	0.5	5.0E+00	2.09E-03
2021		1.50E-02						1.57E-05		2.00E+00	2.0		3.00E-03
2022		1.31E-02						1.37E-05		8.74E-01	0.9		2.62E-03
										Total	**3.4**		**0.008**

Maximum Exposed Receptor (MER) UTM coordinates: 600170.59E, 4173920.08N

		OEHHA age bin	3rd Trimester	0 < 2 years
		exposure year(s)	2020	2020-2022
Dose Exposure Factors:		exposure frequency (days/year)	350	350
		inhalation rate (L/kg-day) [1]	361	1090
		inhalation absorption factor	1	1
		conversion factor (mg/µg; m^3/L)	1.0E-06	1.0E-06
Risk Calculation Factors:		age sensitivity factor	10	10
		averaging time (years)	70	70
		per million	1.0E+06	1.0E+06
		fraction of time at home	0.85	0.85

exposure durations per age bin		exposure durations (year)	
Construction Year	Risk Scalar [2]	3rd Trimester	0 < 2 years
2020	0.55	0.25	0.30
2021	1.00		1.00
2022	0.50		0.50
Total	2.05	0.25	1.80

[1] Inhalation rate taken as the 95th percentile breathing rates (OEHHA, 2015).

[2] Risk scalar determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App A - Construction Emissions).

[3] Chronic Hazards for DPM using the chronic reference exposure level (REL) for the Respiratory Toxicological Endpoint.

Appendix D:
Energy and Fuel Use Modeling

Energy

Construction and Operations Model

Construction-Related Fuel/Energy Usage

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2020	97,315	3,588	693	16	1,306	436
2021	1,248,843	44,809	9,201	213	18,762	6,219
2022	959,357	32,409	8,520	186	20,617	6,780
Total	**2,305,515**	**80,805**	**18,415**	**416**	**40,686**	**13,435**

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2020	970	206	20,559	2,755
2021	14,662	3,075	317,388	41,789
2022	7,174	1,482	157,500	20,192
Total	**22,806**	**4,763**	**495,447**	**64,736**

CONSTRUCTION TRUCK HAUL TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2020	54	14	91,452	14,431
Total	**54**	**14**	**91,452**	**14,431**

CONSTRUCTION OFF-ROAD EQUIPMENT

Year	Gasoline gallons	Diesel gallons
2020	626	33,612
2021	10,884	33,181
2022	6,027	14,374
Total	**17,538**	**81,167**

Operation-Related Vehicle Fuel/Energy Usage

Proposed Project -- Passenger Vehicles

PROPOSED COMMUTE

Vehicle Type	Gas		Diesel		CNG		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
Passenger Vehicles	5,637,192	192,719	104,263	7,200	235	96	131,638	43,286
Total	**5,637,192**	**192,719**	**104,263**	**7,200**	**235**	**96**	**131,638**	**43,286**

Construction Worker Trips Fuel Usage Worksheet

Note: Worker vehicles are "LD_Mix", which is 50% LDA, 25% LDT1, and 25% LDT2

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
2020				
Rough Grading	20	10.8	55	11,880
Rough Grading Soil Haul	0	10.8	10	0
Utilities Relocation	3	10.8	44	1,426
Fine Grading	20	10.8	29	6,264
Offsite Paving 2020	15	10.8	44	7,128
Building Construction 2020	449	10.8	15	72,738
2021				
Offsite Paving 2021	15	10.8	64	10,368
Building Construction 2021	449	10.8	261	1,265,641
Offsite Landscaping	3	10.8	87	2,819
2022				
Building Construction 2022	449	10.8	130	630,396
Paving	15	10.8	18	2,916
Architectural Coating	90	10.8	27	26,244
Finishing and Landscaping	3	10.8	10	324

[1] *Based on information provided.*
[2] *Based on CalEEMod defaults.*

Year	LDA VMT	LDT1 VMT	LDT2 VMT	Gasoline[1]						Diesel[1]						Electricity[1]			
				LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA m/kWh	LDA kWh	LDT1 m/kWh	LDT1 kWh
2020	49,718	24,859	24,859	30.11	1,593	25.99	953	23.59	1,042	45.90	12	23.77	0	34.08	5	2.99	406	2.99	30
2021	639,414	319,707	319,707	30.90	19,918	26.63	11,939	24.36	12,952	47.00	148	24.01	4	35.02	61	3.02	5,645	3.02	574
2022	659,880	164,970	164,970	31.73	19,959	27.29	5,997	25.18	6,453	48.15	151	24.31	2	35.97	33	3.04	6,365	3.04	414

Gasoline		Diesel		Electricity	
VMT	Gallons	VMT	Gallons	VMT	kWh
97,315	3,588	693	16	1,306	436
1,248,843	44,809	9,201	213	18,762	6,219
959,357	32,409	8,520	186	20,617	6,780
2,305,515	**80,805**	**18,415**	**416**	**40,686**	**13,435**

[1] *EMFAC2017 v1.0.2.*

Year	VMT from gasoline			VMT from diesel			VMT from electricity	
	LDA	LDT1	LDT2	LDA	LDT1	LDT2	LDA	LDT1
2020	96.49%	99.60%	98.89%	1.07%	0.03%	0.62%	2.45%	0.36%
2021	96.25%	99.43%	98.70%	1.09%	0.03%	0.67%	2.66%	0.54%
2022	95.96%	99.21%	98.48%	1.10%	0.03%	0.72%	2.93%	0.76%

Appendix C: Evidence Used to Define the Average Number of KWH Required to Displace a Gallong of Gasoline

Table A 3: Evidence from U.S. Department of Energy and U.S. Environmental Protection Agency's fuel economy website[32]

Vehicle	Model year	Electric consumption	Gasoline fuel economy	Number of kWh that are equivalent to 1 gallon
Ford Fusion Energi & Ford C-Max Energi	2013	0.34 kWh per mile	43 mpg	14.6
Chevrolet Volt	2013	0.35 kWh per mile	37 mpg	12.9
Chevrolet Volt	2012	0.36 kWh per mile	37 mpg	13.3
Fisker Karma	2012	0.62 kWh per mile	20 mpg	12.4
Toyota Prius	2013	0.29 kWh per mile & 0.2 gal	50 mpg	13.1
Average for five models	-	-	-	13.3 +/- 0.8

Table A 5: Average power consumption per mile traveled over time for different PEV categories

Year range	2012- 2020	2020-2030	2030-2040	2040-2050	2050
Efficiency improvement per year	0.3%	0.8%	0.9%	0.9%	
Year	2012	2020	2030	2040	2050
Relative energy efficiency	1.000	0.976	0.901	0.823	0.752

https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications_and_tools/ev_deployment/page08.cfm

0.34	14.6
0.35	12.9
0.36	13.3
0.34	13.3

Year	Estimated Electric Consumption
2013	0.34
2014	0.34
2015	0.34
2016	0.34
2017	0.34
2018	0.34
2019	0.34
2020	0.33
2021	0.33
2022	0.33
2023	0.33
2024	0.32
2025	0.32
2026	0.32
2027	0.32
2028	0.31
2029	0.31
2030	0.31
2031	0.31
2032	0.30
2033	0.30
2034	0.30
2035	0.29

Vendor Trips Fuel Usage Worksheet

Note: Hauling vehicles are "HDT_Mix", which is 50% HHDT (T7), and 50% MHDT (T6)

Activity[1]	Daily trips[1,2]	Trip miles[2]	Trip days[1]	Annual VMT
2020				
Rough Grading	4	7.3	55	1,606
Rough Grading Soil Haul	0	7.3	10	0
Utilities Relocation	0	7.3	44	0
Fine Grading	4	7.3	29	847
Offsite Paving 2020	0	7.3	44	0
Building Construction 2020	175	7.3	15	19,163
2021				
Offsite Paving 2021	0	7.3	64	0
Building Construction 2021	175	7.3	261	333,428
Offsite Landscaping	0	7.3	87	0
2022				
Building Construction 2022	175	7.3	130	166,075
Paving	0	7.3	18	0
Architectural Coating	0	7.3	27	0
Finishing and Landscaping	0	7.3	10	0

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	HHDT (T7) VMT	MHDT (T6) VMT	Gasoline[1]				Diesel[1]			
			HHDT (T7) mpg	HHDT (T7) gallons	MHDT (T6) mpg	MHDT (T6) gallons	HHDT (T7) mpg	HHDT (T7) gallons	MHDT (T6) mpg	MHDT (T6) gallons
2020	10,808	10,808	3.85	2	4.71	205	6.34	1,691	9.25	1,064
2021	166,714	166,714	3.92	23	4.78	3,052	6.44	25,656	9.43	16,133
2022	83,038	83,038	4.00	11	4.85	1,472	6.59	12,373	9.71	7,818

[1] *EMFAC2017 v1.0.2.*

VENDOR

Gasoline		Diesel	
VMT	Gallons	VMT	Gallons
970	206	20,559	2,755
14,662	3,075	317,388	41,789
7,174	1,482	157,500	20,192
22,806	**4,763**	**495,447**	**64,736**

Year	VMT from gasoline		VMT from diesel	
	HHDT (T7)	MHDT (T6)	HHDT (T7)	MHDT (T6)
2020	0.06%	8.92%	99.15%	91.08%
2021	0.05%	8.74%	99.12%	91.26%
2022	0.05%	8.59%	98.26%	91.41%

Truck Haul Trips Fuel Usage Worksheet

Note: Hauling vehicles are HHDT (T7)

Activity	Total Trips[1]	Mi/Trip[1]	Annual VMT
2020			
Rough Grading	4,612	20	92,240

[1] *Based on information provided.*

[2] *Based on CalEEMod defaults.*

Year	VMT	Gasoline[1]		Diesel[1]	
		HHDT (T7) mpg	HHDT (T7) gallons	HHDT (T7) mpg	HHDT (T7) gallons
2020	92,240	3.85	14	6.34	14,431
2021	0	3.92	0	6.44	0
2022	0	4.00	0	6.59	0

[1] *EMFAC2017 v1.0.2.*

Gasoline		Diesel	
VMT	Gallons	VMT	Gallons
54	14	91,452	14,431
0	0	0	0
0	0	0	0
54	**14**	**91,452**	**14,431**

Year	VMT from gasoline	VMT from diesel
2020	0.06%	99.15%
2021	0.05%	99.12%
2022	0.05%	99.10%

Off-Road Construction Equipment Fuel Usage Worksheet

Year	Total Gasoline	Total Diesel Gallons	Total Natural Gas
2020	626	33,612	0
2021	10,884	33,181	0
2022	6,027	14,374	0
Total	**17,538**	**81,167**	**0**

Equipment Type[1]	Number of Equipment[1]	Horsepower	OFFROAD2017 Horsepower Category	Fuel Type	Working days[1]	Hours Per Day	Total Hours of Operation	Gasoline Gal/Hr[2]	Total Gasoline gallons	Diesel Gal/Hr[2]	Total Diesel gallons	Natural Gas Gal/Hr[2]	Total Natural Gas gallons
2020													
Rough Grading													
Graders	1	187	*300*	*Diesel*	55	8	440	0.00	0	4.58	2,017	0.00	0
Rubber Tired Dozers	1	247	*300*	*Diesel*	55	8	440	0.00	0	4.46	1,965	0.00	0
Excavators	2	158	*175*	*Diesel*	55	8	880	0.00	0	2.89	2,539	0.00	0
Scrapers	2	367	*600*	*Diesel*	55	8	880	0.00	0	10.54	9,275	0.00	0
Tractors/Loaders/Backhoes	2	97	*100*	*Diesel*	55	8	880	0.00	0	1.59	1,398	0.00	0
Utilities Relocation													
Excavators	1	158	*100*	*Diesel*	44	8	352	0.00	0	1.61	565	0.00	0
Fine Grading													
Graders	1	187	*300*	*Diesel*	29	8	232	0.00	0	4.58	1,064	0.00	0
Rubber Tired Dozers	1	247	*300*	*Diesel*	29	8	232	0.00	0	4.46	1,036	0.00	0
Excavators	2	158	*175*	*Diesel*	29	8	464	0.00	0	2.89	1,339	0.00	0
Scrapers	2	367	*600*	*Diesel*	29	8	464	0.00	0	10.54	4,890	0.00	0
Tractors/Loaders/Backhoes	2	97	*100*	*Diesel*	29	8	464	0.00	0	1.59	737	0.00	0
Offsite Paving													
Pavers	2	130	*175*	*Diesel*	44	8	704	0.00	0	3.40	2,390	0.00	0
Paving Equipment	2	132	*175*	*Diesel*	44	8	704	0.00	0	2.65	1,869	0.00	0
Rollers	2	80	*100*	*Diesel*	44	8	704	0.00	0	1.69	1,192	0.00	0
Building Construction													
Cranes	1	231	*300*	*Diesel*	15	7	105	0.00	0	3.31	348	0.00	0
Generator Sets	1	84	*100*	*Gasoline*	15	8	120	5.22	626	0.00	0	0.00	0
Welders	1	46	*50*	*Diesel*	15	8	120	0.00	0	1.19	143	0.00	0
Forklifts	3	89	*100*	*Diesel*	15	8	360	0.00	0	0.96	345	0.00	0
Tractors/Loaders/Backhoes	3	97	*100*	*Diesel*	15	7	315	0.00	0	1.59	500	0.00	0
							TOTAL		**626**		**33,612**		**0**
2021													
Offsite Paving													
Pavers	2	130	*175*	*Diesel*	64	8	1,024	0.00	0	3.40	3,477	0.00	0
Paving Equipment	2	132	*175*	*Diesel*	64	8	1,024	0.00	0	2.67	2,739	0.00	0
Rollers	2	80	*100*	*Diesel*	64	8	1,024	0.00	0	1.69	1,734	0.00	0
Building Construction													
Cranes	1	231	*300*	*Diesel*	261	7	1,827	0.00	0	3.29	6,009	0.00	0
Generator Sets	1	84	*100*	*Gasoline*	261	8	2,088	5.21	10,884	0.00	0	0.00	0
Welders	1	46	*50*	*Diesel*	261	8	2,088	0.00	0	1.19	2,483	0.00	0
Forklifts	3	89	*100*	*Diesel*	261	8	6,264	0.00	0	0.96	6,021	0.00	0
Tractors/Loaders/Backhoes	3	97	*100*	*Diesel*	261	7	5,481	0.00	0	1.59	8,709	0.00	0
Offsite Landscaping													
Excavators	1	158	*175*	*Diesel*	87	8	696	0.00	0	2.89	2,009	0.00	0
							TOTAL		**10,884**		**33,181**		**0**
2022													
Building Construction													
Cranes	1	231	*300*	*Diesel*	130	7	910	0.00	0	3.28	2,988	0.00	0
Generator Sets	1	84	*100*	*Gasoline*	130	8	1,040	5.21	5,416	0.00	0	0.00	0
Welders	1	46	*50*	*Diesel*	130	8	1,040	0.00	0	1.19	1,236	0.00	0
Forklifts	3	89	*100*	*Diesel*	130	8	3,120	0.00	0	0.96	3,011	0.00	0
Tractors/Loaders/Backhoes	3	97	*100*	*Diesel*	130	7	2,730	0.00	0	1.59	4,343	0.00	0
Paving													
Pavers	2	130	*175*	*Diesel*	18	8	288	0.00	0	3.40	979	0.00	0
Paving Equipment	2	132	*175*	*Diesel*	18	8	288	0.00	0	2.66	767	0.00	0
Rollers	2	80	*100*	*Diesel*	18	8	288	0.00	0	1.69	488	0.00	0
Architectural Coating													
Air Compressors	1	78	*100*	*Gasoline*	27	6	162	3.77	611	0.00	0	0.00	0
Finishing/Landscaping													
Excavators	1	158	*100*	*Diesel*	44	8	352	0.00	0	1.60	563	0.00	0
							TOTAL		**6,027**		**14,374**		**0**

[1] Based on information provided.

[2] OFFROAD2017 v.1.0.1

OFFROAD 2020

	Equipment Type	Horsepower HP	Gas Fuel (Gal/Yr)	Gas Population	Gas Hrs/Yr	Gas Gal/Hr	Diesel Fuel (Gal/Yr)	Diesel Population	Diesel Hrs/Yr	Diesel Gal/Hr	Natural Gas Fuel (Gal/Yr)	Natural Gas Population	Natural Gas Hrs/Yr	Natural Gas Gal/Hr
Air Compressors25	Air Compressors	25	89231.55	591.12	285743.9	0.312278057	4106.25	9.18	7497.1	0.547711782	0	0	0	0
Air Compressors50	Air Compressors	50	26623.1	24.51	11836.95	2.24915202	46285.65	55.61	45263.65	1.022578824	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	144875.8	79.42	38394.35	3.773362487	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	17749.95	5.34	2580.55	6.878359264	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	12968.45	38.47	14439.4	0.898129424	10453.6	57	22757.75	0.459342422	19180.75	43.22	16224.25	1.182227222
Aerial Lifts50	Aerial Lifts	50	26590.25	45.93	16589.25	1.602860286	45497.22647	188.3140123	55647.94658	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	52536.52866	154.8991616	45621.98433	1.151561674	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	47417.15	45.93	16589.25	2.858305831	26850.75013	73.22828983	21641.73273	1.240693177	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	4851.831275	7.909366256	2333.661619	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	289.9346863	0.266607851	79.10381326	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	205.8956468	0.088869284	26.36793775	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	1890.7	11.25	1390.65	1.359580052	1357.8	2.52	2047.65	0.663101604	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	273.75	0.97	105.85	2.586206897	943.4391463	2.349365141	816.6478607	1.155258211	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	1643.532853	1.97841275	871.7622815	1.885299339	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	3149.95	4.57	485.45	6.488721805	4223.69466	5.193333469	1927.07379	2.191765921	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	1084.05	1.13	109.5	9.9	6820.909957	5.663206497	1750.531101	3.896480305	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	9632.09178	5.663206497	1805.148995	5.33589848	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	18428.7115	4.896571557	1709.650434	10.77922781	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	6955.518817	0.939746056	410.2410736	16.95471093	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	5100.671621	0.148380956	105.6773503	48.26646021	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	62707	1699.17	156446.3	0.40082124	3474.8	35.01	10522.95	0.330211585	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	56060.35	239.17	67963	0.824865736	105.85	0.26	146	0.725	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	6325.45	3.71	2266.65	2.790660225	1766.6	2.21	1273.85	1.386819484	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	6139.3	2.13	1299.4	4.724719101	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	18.04207443	0.093177112	43.5824339	0.413975834	0	0	0	0
Cranes50	Cranes	50	927.1	1.13	459.9	2.015873016	292.3435609	0.993889195	423.9413702	0.689584885	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	131.4327699	0.341649411	125.1002932	1.050619199	0	0	0	0
Cranes100	Cranes	100	3124.4	2.27	934.4	3.34375	6784.817193	11.98878842	5175.881723	1.310852441	0	0	0	0
Cranes175	Cranes	175	200.75	0.09	32.85	6.111111111	20032.94729	20.43684658	9141.224968	2.191494833	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	36080.97704	23.51169128	10894.11877	3.311968392	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	59905.87754	22.61097919	10883.86408	5.504100113	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	959.7076034	0.248472299	100.2603845	9.572151633	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	3359.421503	0.496944598	240.4655594	13.97048921	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	945.8724027	2.756573762	918.494937	1.029806877	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	312.2050226	0.937235079	193.279967	1.615299441	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	41497.91004	46.33800493	21330.93185	1.94543353	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	45595.09285	31.20441498	13789.84612	3.306425065	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	48740.9245	24.83672959	10631.59734	4.58453447	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	164979.7914	41.21077774	19314.83669	8.541609442	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	3544.672845	0.57888049	258.0653457	13.73556312	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	9717.605103	0.826972129	447.0098887	21.73912781	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	835.85	2.83	817.6	1.022321429	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	2427.25	1.28	313.9	7.73255814	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	6011.55	113.23	16877.6	0.356185121	346.75	1.52	1000.1	0.346715328	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	251.85	0.85	105.85	2.379310345	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	2442.878034	2.357620859	3264.334141	0.74835416	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	37856.24274	67.4501372	48169.77061	0.785892112	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	1195.48436	1.215317787	823.4983567	1.451714324	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	47991.48925	47.36977285	29895.27947	1.605319973	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	103720.496	62.22979489	35942.84264	2.885706537	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	131911.3607	53.52922436	30555.73569	4.317073627	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	233877.6157	56.15320595	35135.36505	6.656473196	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	4148.380178	0.607658894	335.9124016	12.34958923	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	6537.143397	0.414312882	274.6021495	23.80587118	0	0	0	0
Forklifts25	Forklifts	25	558.45	0.88	795.7	0.701834862	5.758726999	0.031996749	9.957559306	0.578327161	507.35	0.42	514.65	0.985815603
Forklifts50	Forklifts	50	448161.6	153.63	276118.85	1.623074991	31771.33346	90.98442258	63537.519	0.500040511	675469	280.87	505999.5	1.334920291
Forklifts75	Forklifts	75	0	0	0	0	3081.591325	8.03826538	3947.675325	0.780609111	0	0	0	0
Forklifts100	Forklifts	100	2058384.65	543.93	970947.45	2.11997534	449696.4238	726.526404	469494.8474	0.957830371	4226860.6	985.76	1775892.9	2.380132608
Forklifts175	Forklifts	175	143729.7	19.89	35481.65	4.050817817	136239.7428	137.1779194	87004.61203	1.565891045	317258	36.07	64991.9	4.881500618
Forklifts300	Forklifts	300	0	0	0	0	26781.40545	17.15226302	11937.83766	2.243405063	0	0	0	0
Forklifts600	Forklifts	600	0	0	0	0	6901.367478	2.708980191	1794.175638	3.846539508	0	0	0	0
Forklifts750	Forklifts	750	0	0	0	0	87.57970549	0.031996749	6.745443401	12.98353574	0	0	0	0
Forklifts9999	Forklifts	9999	0	0	0	0	507.7766026	0.072147241	55.52795353	9.144522179	0	0	0	0
Generator Sets25	Generator Sets	25	1303761.75	15525.49	1783831.65	0.730877126	107397.6	523.11	176594.3	0.60816006	0	0	0	0
Generator Sets50	Generator Sets	50	207371.1	805.93	92567.65	2.240211348	127458	269.88	91100.35	1.399094515	0	0	0	0
Generator Sets75	Generator Sets	75	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets100	Generator Sets	100	93239.25	155.65	17870.4	5.21752451	0	0	0	0	8332.95	11.59	1321.3	6.306629834
Generator Sets175	Generator Sets	175	15242.4	14.69	1689.95	9.019438445	0	0	0	0	12037.7	9.58	1102.3	10.9205298
Generator Sets300	Generator Sets	300	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets600	Generator Sets	600	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets750	Generator Sets	750	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets9999	Generator Sets	9999	0	0	0	0	0	0	0	0	0	0	0	0
Graders25	Graders	25	0	0	0	0	0	0	0	0	0	0	0	0
Graders50	Graders	50	0	0	0	0	235.4257413	0.804932107	276.7534466	0.850669591	0	0	0	0
Graders75	Graders	75	0	0	0	0	387.9959782	0.693906989	255.4528121	1.518855772	0	0	0	0
Graders100	Graders	100	0	0	0	0	5226.988922	7.716245712	2778.277663	1.881377441	0	0	0	0
Graders175	Graders	175	0	0	0	0	63338.90347	43.66062772	20130.64755	3.146391754	0	0	0	0
Graders300	Graders	300	0	0	0	0	133731.0286	39.30289183	29169.76373	4.584577023	0	0	0	0
Graders600	Graders	600	0	0	0	0	5832.456937	1.082494902	782.581594	7.452841955	0	0	0	0
Graders750	Graders	750	0	0	0	0	0	0	0	0	0	0	0	0
Graders9999	Graders	9999	0	0	0	0	4533.662791	0.166537677	118.5157393	38.25367684	0	0	0	0
Pavers25	Pavers	25	5117.3	11.05	4376.35	1.169307756	664.3	0.95	781.1	0.85046729	0	0	0	0
Pavers50	Pavers	50	2945.55	3.21	1262.9	2.332369942	1037.0257	3.234567051	1120.625389	0.925399076	0	0	0	0
Pavers75	Pavers	75	0	0	0	0	1698.525354	3.126748149	1097.775118	1.547243443	0	0	0	0
Pavers100	Pavers	100	2646.25	1.76	693.5	3.815789474	8275.003041	12.45308315	4773.481716	1.733536134	0	0	0	0
Pavers175	Pavers	175	0	0	0	0	13747.19993	10.75493544	4048.917667	3.395277716	0	0	0	0
Pavers300	Pavers	300	0	0	0	0	10722.89565	5.148352556	2256.614579	4.751762107	0	0	0	0
Pavers600	Pavers	600	0	0	0	0	1940.342012	0.566049234	245.3998827	7.906857944	0	0	0	0
Pavers750	Pavers	750	0	0	0	0	401.6086021	0.053909451	24.92483493	16.11278884	0	0	0	0
Pavers9999	Pavers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Paving Equipment25	Paving Equipment	25	108335.65	1208.03	228526.5	0.474061651	777.45	1.63	1354.15	0.574123989	0	0	0	0
Paving Equipment50	Paving Equipment	50	3460.2	8.79	1533	2.257142857	1291.504342	3.982883947	1832.526339	0.704767137	0	0	0	0
Paving Equipment75	Paving Equipment	75	0	0	0	0	157.5057194	0.349847914	128.0258949	1.230264545	0	0	0	0
Paving Equipment100	Paving Equipment	100	1412.55	2.27	397.85	3.550458716	5397.914469	7.319894822	3300.456541	1.635505392	0	0	0	0
Paving Equipment175	Paving Equipment	175	0	0	0	0	5846.92883	4.8978708	2202.885891	2.654213209	0	0	0	0
Paving Equipment300	Paving Equipment	300	0	0	0	0	4147.166496	2.099087486	964.741908	4.29873157	0	0	0	0
Paving Equipment600	Paving Equipment	600	0	0	0	0	4272.571126	1.237923389	562.683564	7.593204066	0	0	0	0
Paving Equipment750	Paving Equipment	750	0	0	0	0	509.6161984	0.080734134	40.58405861	12.55705358	0	0	0	0
Paving Equipment9999	Paving Equipment	9999	0	0	0	0	379.4117711	0.053822756	24.49452058	15.489659	0	0	0	0
Rollers25	Rollers	25	25283.55	130.7	32550.7	0.776743664	14362.434	53.99772627	37557.38535	0.382413043	0	0	0	0
Rollers50	Rollers	50	3858.05	2.27	1408.9	2.738341969	21309.79235	81.76477198	27643.81502	0.770870169	0	0	0	0
Rollers75	Rollers	75	0	0	0	0	191.8116069	0.637704224	142.4795444	1.346239614	0	0	0	0
Rollers100	Rollers	100	12052.3	4.24	2646.25	4.554482759	33108.30044	60.36009108	19550.28414	1.693494591	0	0	0	0
Rollers175	Rollers	175	0	0	0	0	34432.63041	35.26781619	12351.55696	2.787715793	0	0	0	0
Rollers300	Rollers	300	0	0	0	0	5701.382321	4.519382107	1358.890536	4.195615591	0	0	0	0
Rollers600	Rollers	600	0	0	0	0	3345.104041	1.635849965	490.5292063	6.819377923	0	0	0	0
Rollers750	Rollers	750	0	0	0	0	0	0	0	0	0	0	0	0
Rollers9999	Rollers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rough Terrain Forklifts25	Rough Terrain Forklifts	25	0	0	0	0	5.758726999	0.031996749	9.957559306	0.578327161	0	0	0	0
Rough Terrain Forklifts50	Rough Terrain Forklifts	50	616.85	0.48	200.75	3.072727273	968.0139556	3.295665116	884.5810301	1.094319144	0	0	0	0
Rough Terrain Forklifts75	Rough Terrain Forklifts	75	0	0	0	0	152.7538481	0.511947979	125.0583792	1.221460321	0	0	0	0
Rough Terrain Forklifts100	Rough Terrain Forklifts	100	13636.4	6.43	2653.55	5.138927098	83693.45126	151.2166343	41827.38813	2.000924633	0	0	0	0
Rough Terrain Forklifts175	Rough Terrain Forklifts	175	770.15	0.24	94.9	8.115384615	19735.50131	28.95705757	7655.97119	2.577792004	0	0	0	0
Rough Terrain Forklifts300	Rough Terrain Forklifts	300	0	0	0	0	1369.074361	1.279869948	313.1813008	4.371507359	0	0	0	0
Rough Terrain Forklifts600	Rough Terrain Forklifts	600	0	0	0	0	508.0290159	0.25597399	63.95679669	7.943315521	0	0	0	0
Rough Terrain Forklifts750	Rough Terrain Forklifts	750	0	0	0	0	87.57970549	0.031996749	6.745443401	12.98353574	0	0	0	0
Rough Terrain Forklifts9999	Rough Terrain Forklifts	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers25	Rubber Tired Dozers	25	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers50	Rubber Tired Dozers	50	0	0	0	0	945.681948	1.081535996	1002.795321	0.943045832	0	0	0	0
Rubber Tired Dozers75	Rubber Tired Dozers	75	0	0	0	0	736.8723054	0.764988875	509.297973	1.446839266	0	0	0	0
Rubber Tired Dozers100	Rubber Tired Dozers	100	0	0	0	0	3601.330637	2.374103406	2076.178536	1.734595833	0	0	0	0
Rubber Tired Dozers175	Rubber Tired Dozers	175	0	0	0	0	3873.936935	1.741009165	1280.968702	3.024224503	0	0	0	0
Rubber Tired Dozers300	Rubber Tired Dozers	300	0	0	0	0	4327.650774	1.450840971	969.2815199	4.464802728	0	0	0	0
Rubber Tired Dozers600	Rubber Tired Dozers	600	0	0	0	0	48100.63554	8.889698311	6330.989564	7.597648843	0	0	0	0
Rubber Tired Dozers750	Rubber Tired Dozers	750	0	0	0	0	1366.399421	0.105515707	102.7481958	13.29852471	0	0	0	0
Rubber Tired Dozers9999	Rubber Tired Dozers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers25	Scrapers	25	0	0	0	0	7.571508234	0.027185336	10.91641534	0.693589241	0	0	0	0
Scrapers50	Scrapers	50	0	0	0	0	60.26339854	0.163112015	57.03827017	1.056543236	0	0	0	0
Scrapers75	Scrapers	75	0	0	0	0	512.5838808	0.734004067	303.1731128	1.690730013	0	0	0	0
Scrapers100	Scrapers	100	0	0	0	0	2518.112533	1.95734418	1110.351057	2.267852601	0	0	0	0
Scrapers175	Scrapers	175	0	0	0	0	32735.44056	17.69765362	7795.472843	4.199288641	0	0	0	0
Scrapers300	Scrapers	300	0	0	0	0	37579.00535	17.12676157	6739.521922	5.575915589	0	0	0	0
Scrapers600	Scrapers	600	0	0	0	0	471343.8452	95.44771409	44720.15677	10.53985226	0	0	0	0
Scrapers750	Scrapers	750	0	0	0	0	7608.176955	1.277710784	487.7818256	15.59749986	0	0	0	0
Scrapers9999	Scrapers	9999	0	0	0	0	10913.51205	0.706818732	273.9717017	39.83444999	0	0	0	0
Skid Steer Loaders25	Skid Steer Loaders	25	82836.75	228.26	72872.25	1.136739294	63294.65	120.77	100813	0.627842143	0	0	0	0
Skid Steer Loaders50	Skid Steer Loaders	50	18465.35	30.87	9570.3	1.929443173	16130.28826	56.61310689	17404.87566	0.926768371	0	0	0	0
Skid Steer Loaders75	Skid Steer Loaders	75	0	0	0	0	83792.26696	179.0736846	62401.56021	1.342791217	0	0	0	0
Skid Steer Loaders100	Skid Steer Loaders	100	24520.7	18.46	5730.5	4.278980892	1753.579943	3.620768859	1219.035706	1.438497605	0	0	0	0
Skid Steer Loaders175	Skid Steer Loaders	175	0	0	0	0	578.2084	0.757835343	199.8696341	2.892927695	0	0	0	0
Skid Steer Loaders300	Skid Steer Loaders	300	0	0	0	0	537.0535667	0.477155586	137.5042972	3.905722059	0	0	0	0
Skid Steer Loaders600	Skid Steer Loaders	600	0	0	0	0	155.3643188	0.056135951	17.21934505	9.022661336	0	0	0	0
Skid Steer Loaders750	Skid Steer Loaders	750	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer Loaders9999	Skid Steer Loaders	9999	0	0	0	0	210.3070306	0.056135951	11.05168873	19.02940227	0	0	0	0
Surfacing Equipment25	Surfacing Equipment	25	52892.15	326.03	139488.4	0.379186728	0	0	0	0	0	0	0	0
Surfacing Equipment50	Surfacing Equipment	50	0	0	0	0	149.2805637	0.993074785	236.4527874	0.631333491	0	0	0	0
Surfacing Equipment75	Surfacing Equipment	75	0	0	0	0	113.7477698	0.432878752	109.378941	1.039942138	0	0	0	0
Surfacing Equipment100	Surfacing Equipment	100	0	0	0	0	857.1405511	2.317174497	611.7949597	1.401025846	0	0	0	0
Surfacing Equipment175	Surfacing Equipment	175	0	0	0	0	802.3469923	1.502343905	379.8014021	2.112543524	0	0	0	0
Surfacing Equipment300	Surfacing Equipment	300	0	0	0	0	1585.581876	1.858832289	445.8093634	3.556636549	0	0	0	0
Surfacing Equipment600	Surfacing Equipment	600	0	0	0	0	5026.979572	2.826443618	793.9133108	6.331899848	0	0	0	0
Surfacing Equipment750	Surfacing Equipment	750	0	0	0	0	2478.791387	0.891220961	249.9724903	9.916256721	0	0	0	0
Surfacing Equipment9999	Surfacing Equipment	9999	0	0	0	0	822.7765837	0.229171104	60.24220565	13.65780975	0	0	0	0
Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0	0	0	0	12070.55	17.73	16731.6	0.721422339	0	0	0	0
Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0	0	0	0	31914.30779	79.23178758	39995.55372	0.797946392	0	0	0	0
Tractors/Loaders/Backhoes75	Tractors/Loaders/Backhoes	75	0	0	0	0	5066.812294	16.84020572	3690.489289	1.372937813	0	0	0	0
Tractors/Loaders/Backhoes100	Tractors/Loaders/Backhoes	100	10198.1	3.97	3460.2	2.947257384	507136.4422	521.1353499	319283.5834	1.588357399	0	0	0	0
Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0	0	0	0	88642.1088	60.18303029	32621.56529	2.717285575	0	0	0	0
Tractors/Loaders/Backhoes300	Tractors/Loaders/Backhoes	300	0	0	0	0	54823.88256	25.20509479	13881.69142	3.949366175	0	0	0	0
Tractors/Loaders/Backhoes600	Tractors/Loaders/Backhoes	600	0	0	0	0	72931.52972	21.80944675	11474.00175	6.356241816	0	0	0	0
Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0	0	0	0	2466.710246	0.303675841	206.255505	11.95948804	0	0	0	0
Tractors/Loaders/Backhoes9999	Tractors/Loaders/Backhoes	9999	0	0	0	0	24925.34152	1.159489574	706.4358825	35.28323254	0	0	0	0
Trenchers25	Trenchers	25	50954	117.21	50906.55	1.0009321	5734.15	9.69	5993.3	0.956760049	0	0	0	0
Trenchers50	Trenchers	50	18469	20.6	8285.5	2.22907489	11285.96112	25.98085186	9774.510509	1.154631847	0	0	0	0
Trenchers75	Trenchers	75	0	0	0	0	753.2308921	1.564755851	409.0770236	1.841293567	0	0	0	0
Trenchers100	Trenchers	100	11464.65	6.84	2752.1	4.165782493	7424.979023	10.48091183	3399.929969	2.183862342	0	0	0	0
Trenchers175	Trenchers	175	0	0	0	0	1669.939348	1.594279546	450.6038411	3.706003358	0	0	0	0
Trenchers300	Trenchers	300	0	0	0	0	4054.38384	2.214277147	679.8410945	5.963722806	0	0	0	0
Trenchers600	Trenchers	600	0	0	0	0	5442.331431	1.50570846	537.0165049	10.13438392	0	0	0	0
Trenchers750	Trenchers	750	0	0	0	0	1776.497173	0.236189562	105.6118189	16.82100726	0	0	0	0
Trenchers9999	Trenchers	9999	0	0	0	0	147.2568325	0.029523695	6.586331084	22.35794566	0	0	0	0
Welders25	Welders	25	325547.15	1897.23	394141.6	0.825964958	48475.65	192.84	123873.7	0.391331251	0	0	0	0
Welders50	Welders	50	64572.15	127.99	26593.9	2.428081252	212430	277.88	178459.45	1.190354447	0	0	0	0
Welders75	Welders	75	0	0	0	0	0	0	0	0	0	0	0	0
Welders100	Welders	100	90498.1	130.61	27141.4	3.334319527	0	0	0	0	0	0	0	0
Welders175	Welders	175	11293.1	9.03	1872.45	6.031189084	0	0	0	0	0	0	0	0
Welders300	Welders	300	0	0	0	0	0	0	0	0	0	0	0	0
Welders600	Welders	600	0	0	0	0	0	0	0	0	0	0	0	0
Welders750	Welders	750	0	0	0	0	0	0	0	0	0	0	0	0
Welders9999	Welders	9999	0	0	0	0	0	0	0	0	0	0	0	0

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2020
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	50	Diesel	0.00249925	0.003024092	0.00359892	0.007623403	0.006981491	0.094805034	0.000670393	0.000616762	0.000670393	8.07421E-07	7.78976E-07	21965.26245	19690.58181	63.91777856	803964.2668
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	75	Diesel	0.0024574	0.002973454	0.003538656	0.009426395	0.018242341	0.178748282	0.00141282	0.001299794	0.00141282	1.58998E-06	1.46871E-06	41413.97104	23433.92235	68.39302179	1478212.266
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	100	Diesel	0.002802571	0.003391111	0.004035702	0.017434444	0.023798642	0.384626014	0.001883901	0.001733189	0.001883901	3.49583E-06	3.16032E-06	89113.53128	37242.01277	69.33612543	3190915.19
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	175	Diesel	0.001594641	0.001929515	0.002296283	0.009662401	0.015228106	0.206838628	0.000871306	0.000801602	0.000871306	1.87731E-06	1.69951E-06	47922.18894	15351.48922	24.16020743	1859872.682
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	300	Diesel	0.001244343	0.001505655	0.001791853	0.004564671	0.013609609	0.208960761	0.000576656	0.000530523	0.000576656	1.90757E-06	1.71695E-06	48413.86336	8773.061549	10.83951851	1901486.083
Alameda (SF)	2020	Agricultural - Agricultural Tractors	Aggregated	600	Diesel	0.000687153	0.000831455	0.0009895	0.002955104	0.006891274	0.178700173	0.000305198	0.000280782	0.000305198	1.64264E-06	1.46831E-06	41402.82473	4477.910615	3.98640131	1651122.882
Alameda (SF)	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	50	Diesel	7.33391E-07	8.87403E-07	1.05608E-06	4.32415E-06	4.62898E-06	7.43041E-05	2.73385E-07	2.51514E-07	2.73385E-07	6.69584E-10	6.10528E-10	17.21542753	16.87787044	0.026477925	590.7254653
Alameda (SF)	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	100	Diesel	7.40992E-06	8.966E-06	1.06703E-05	6.47055E-05	6.92517E-05	0.001493668	5.69504E-06	5.23944E-06	5.69504E-06	1.368E-08	1.22729E-08	346.0661171	141.5711436	0.2270998	11872.0886
Alameda (SF)	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	175	Diesel	1.6945E-05	2.05034E-05	2.44008E-05	0.000162714	0.000172799	0.003908384	1.03656E-05	9.53637E-06	1.03656E-05	3.5869E-08	3.21137E-08	905.5286111	270.6880103	0.432714716	34659.17384
Alameda (SF)	2020	Agricultural - Bale Wagons (Self Propelled)	Aggregated	300	Diesel	4.46671E-06	5.40472E-06	6.43206E-06	1.88359E-05	5.37805E-05	0.001251087	2.10529E-06	1.93687E-06	2.10529E-06	1.15105E-08	1.02797E-08	289.8628435	57.15574193	0.091884885	11057.43743
Alameda (SF)	2020	Agricultural - Balers (Self Propelled)	Aggregated	50	Diesel	1.5955E-05	1.93055E-05	2.29751E-05	6.88795E-05	7.81523E-05	0.001233081	5.27784E-06	4.85561E-06	5.27784E-06	1.09983E-08	1.01317E-08	285.6910286	212.3106369	0.651570768	9773.80736
Alameda (SF)	2020	Agricultural - Balers (Self Propelled)	Aggregated	75	Diesel	7.30229E-06	8.83577E-06	1.05153E-05	4.8171E-05	6.92299E-05	0.001120429	4.55454E-06	4.19017E-06	4.55454E-06	1.02093E-08	9.20613E-09	259.5908277	137.5637208	0.419496622	8933.799491
Alameda (SF)	2020	Agricultural - Balers (Self Propelled)	Aggregated	100	Diesel	1.81756E-06	2.19925E-06	2.61729E-06	1.20632E-05	1.67779E-05	0.000280583	1.22666E-06	1.12853E-06	1.22666E-06	2.557E-09	2.30544E-09	65.00793009	28.18642393	0.086352824	2235.326395
Alameda (SF)	2020	Agricultural - Balers (Self Propelled)	Aggregated	175	Diesel	4.92977E-07	5.96502E-07	7.09887E-07	3.8896E-06	5.58296E-06	9.51263E-05	2.86887E-07	2.63936E-07	2.86887E-07	8.706E-10	7.81616E-10	22.03969392	8.06980046	0.024802074	844.8283342
Alameda (SF)	2020	Agricultural - Combine Harvesters	Aggregated	75	Diesel	1.64371E-06	1.98889E-06	2.36694E-06	9.19715E-06	1.3889E-05	0.000206232	1.04637E-06	9.6266E-07	1.04637E-06	1.8702E-09	1.69453E-09	47.78164406	34.17473925	0.093548506	1847.480779
Alameda (SF)	2020	Agricultural - Combine Harvesters	Aggregated	100	Diesel	1.34571E-05	1.62831E-05	1.93783E-05	7.53158E-05	0.000113134	0.001686935	9.04046E-06	8.31722E-06	9.04046E-06	1.52974E-08	1.38609E-08	390.8438184	173.7091043	0.480744843	14720.50073
Alameda (SF)	2020	Agricultural - Combine Harvesters	Aggregated	175	Diesel	1.98448E-05	2.40122E-05	2.85765E-05	0.000133211	0.000209721	0.003204787	1.11284E-05	1.02381E-05	1.11284E-05	2.92332E-08	2.63325E-08	742.513082	233.4722856	0.653165607	32589.98648

Alameda (SF)	2020 ConstMin - Off-Highway Trucks	Aggregated	300	Diesel	0.000973822	0.001178324	0.001402303	0.005965339	0.010751997	2.255294833	0.000418918	0.000385405	0.000418918	2.08221E-05	1.84074E-05	73170.55709	17633.06746	14.1494595	3722340.846
Alameda (SF)	2020 ConstMin - Off-Highway Trucks	Aggregated	600	Diesel	0.003738412	0.004523479	0.005383314	0.026202943	0.043394262	9.676979248	0.001584315	0.00145757	0.001584315	8.93563E-05	7.89822E-05	313958.9344	42266.53787	31.80928108	15909573.15
Alameda (SF)	2020 ConstMin - Off-Highway Trucks	Aggregated	750	Diesel	0.001575244	0.001906045	0.002268351	0.012235107	0.018428218	3.25900384	0.000720836	0.00066317	0.000720836	3.00838E-05	2.65996E-05	105734.7904	8089.292283	6.804701896	5364175.974
Alameda (SF)	2020 ConstMin - Off-Highway Trucks	Aggregated	9999	Diesel	0.002556319	0.003093146	0.0036811	0.015261747	0.047108144	5.788374408	0.00119068	0.001095425	0.00119068	5.34397E-05	4.72439E-05	187797.4329	7497.378889	5.427559846	9476408.201
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	50	Diesel	0.000391621	0.000473861	0.000563934	0.002388469	0.002225747	0.260995986	0.00017908	0.000164754	0.00017908	2.40129E-06	2.13021E-06	8467.727323	9273.056057	19.96694911	353343.4958
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	75	Diesel	5.05511E-05	6.11669E-05	7.27936E-05	0.000268983	0.000515423	0.029267161	3.83787E-05	3.53084E-05	3.83787E-05	2.69073E-07	2.38875E-07	949.5408162	610.7798168	1.988632886	44613.60594
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	100	Diesel	0.000613813	0.000742714	0.000883891	0.00551684	0.006875361	0.789964647	0.000509554	0.00046879	0.000509554	7.2852E-06	6.44759E-06	25629.533	14556.37941	33.21554388	1193780.448
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	175	Diesel	0.000272955	0.000330276	0.000393056	0.002747215	0.003498102	0.44596771	0.000184852	0.000170064	0.000184852	4.115E-06	3.63993E-06	14468.93122	4437.565964	10.99122771	675900.1484
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	300	Diesel	0.00028859	0.000349194	0.00041557	0.001858077	0.00436962	0.595963216	0.0001663	0.000152996	0.0001663	5.50132E-06	4.86417E-06	19335.3702	4080.888056	10.34626569	895524.831
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	600	Diesel	0.000768817	0.000930268	0.001107096	0.00652279	0.011247228	2.271348467	0.000397363	0.000365574	0.000397363	2.09767E-05	1.85384E-05	73691.39957	8968.775241	20.58503771	3436365.634
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	750	Diesel	0.000117866	0.000142617	0.000169726	0.000884382	0.001702185	0.415405989	5.56297E-05	5.11793E-05	5.56297E-05	3.8371E-06	3.39049E-06	13477.38983	1016.497564	1.961759469	629316.9562
Alameda (SF)	2020 ConstMin - Other Construction Equipment	Aggregated	9999	Diesel	4.40875E-05	5.33459E-05	6.3486E-05	0.00030015	0.001027525	0.143343727	2.40707E-05	2.21451E-05	2.40707E-05	1.32396E-06	1.16995E-06	4650.629347	237.4655334	0.51059493	216637.2552
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	50	Diesel	5.91588E-05	7.15821E-05	8.51886E-05	0.000299949	0.000258708	0.031963659	2.18389E-05	2.00918E-05	2.18389E-05	2.93745E-07	2.60883E-07	1037.0257	1120.625389	3.234567051	43373.29025
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	75	Diesel	8.265E-05	0.000100007	0.000119016	0.000404142	0.000751385	0.052352689	7.17586E-05	6.60179E-05	7.17586E-05	4.81547E-07	4.27296E-07	1698.525354	1097.775118	3.126748149	79397.25592
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	100	Diesel	0.000140902	0.000170491	0.000202898	0.001698647	0.001807528	0.255055754	0.000115605	0.000106357	0.000115605	2.35389E-06	2.08173E-06	8275.003041	4773.481716	12.45308315	386676.3443
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	175	Diesel	0.000184875	0.000223698	0.00026622	0.002419556	0.002375984	0.423722194	0.000117186	0.000107811	0.000117186	3.91198E-06	3.45836E-06	13747.19993	4048.917667	10.75493544	638657.2222
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	300	Diesel	9.18997E-05	0.000111199	0.000132336	0.000641186	0.001713969	0.330505768	4.92843E-05	4.53416E-05	4.92843E-05	3.05293E-06	2.69754E-06	10722.89565	2256.614579	5.148352556	499700.6832
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	600	Diesel	1.37831E-05	1.66775E-05	1.98476E-05	0.000112142	0.000211627	0.059806068	7.25167E-06	6.67154E-06	7.25167E-06	5.52523E-07	4.88129E-07	1940.342012	245.3998827	0.566049234	90100.45206
Alameda (SF)	2020 ConstMin - Pavers	Aggregated	750	Diesel	2.24149E-06	2.71221E-06	3.22775E-06	2.26844E-05	2.78445E-05	0.012378556	1.22237E-06	1.12458E-06	1.22237E-06	1.14379E-07	1.01032E-07	401.6086021	24.92483493	0.053909451	18693.6262
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	50	Diesel	3.5138E-05	4.2517E-05	5.05987E-05	0.000288961	0.000270397	0.03980731	1.48412E-05	1.36539E-05	1.48412E-05	3.66984E-07	3.24902E-07	1291.504342	1832.526339	3.982883947	63566.11823
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	75	Diesel	6.42088E-06	7.76927E-06	9.24607E-06	4.06451E-05	6.67636E-05	0.00485471	5.13684E-06	4.72589E-06	5.13684E-06	4.46916E-08	3.96235E-08	157.5057194	128.0258949	0.349847914	8593.834505
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	100	Diesel	9.40275E-05	0.000113773	0.0001354	0.001107401	0.001111232	0.166376875	7.29098E-05	6.7077E-05	7.29098E-05	1.53542E-06	1.35795E-06	5397.914469	3300.456541	7.319894822	293395.324
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	175	Diesel	7.80272E-05	9.44129E-05	0.000112359	0.001055219	0.000941368	0.180216591	5.07347E-05	4.66759E-05	5.07347E-05	1.66385E-06	1.4709E-06	5846.92883	2202.885891	4.8978708	318919.0662
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	300	Diesel	4.6202E-05	5.59045E-05	6.65309E-05	0.00028628	0.000730987	0.127825775	2.59092E-05	2.38364E-05	2.59092E-05	1.18043E-06	1.0433E-06	4147.166496	964.741908	2.099087486	225533.5759
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	600	Diesel	4.27715E-05	5.17535E-05	6.1591E-05	0.00028297	0.00068645	0.131691051	2.10786E-05	1.93923E-05	2.10786E-05	1.21627E-06	1.07484E-06	4272.571126	562.683564	1.237923389	231596.2324
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	750	Diesel	5.4453E-06	6.58882E-06	7.84124E-06	3.06388E-05	9.23619E-05	0.015707613	2.35561E-06	2.16716E-06	2.35561E-06	1.45061E-07	1.28203E-07	509.6161984	40.58405861	0.080734134	27737.94331
Alameda (SF)	2020 ConstMin - Paving Equipment	Aggregated	9999	Diesel	1.63929E-06	1.98354E-06	2.36058E-06	2.14865E-05	5.12859E-05	0.011694395	8.26008E-07	7.59927E-07	8.26008E-07	1.08071E-07	9.54481E-08	379.4117711	24.49452058	0.053822756	20649.24106
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	25	Diesel	5.61704E-07	6.79662E-07	8.08854E-07	1.87518E-06	1.32997E-06	0.000102762	1.78449E-07	1.64174E-07	1.78449E-07	9.33236E-10	8.38731E-10	3.334004961	6.18535031	0.027726271	154.6337578
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	50	Diesel	0.000854158	0.001033531	0.001229987	0.005274949	0.005062436	0.656819717	0.000367085	0.000337718	0.000367085	6.047E-06	5.36087E-06	21309.79235	27643.81502	81.76477198	987461.9944
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	75	Diesel	1.70064E-05	2.05777E-05	2.44892E-05	6.80396E-05	0.000166878	0.005912101	1.17236E-05	1.07858E-05	1.17236E-05	5.41501E-08	4.82538E-08	191.8116069	142.4795444	0.637704224	9873.173687
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	100	Diesel	0.000604271	0.000731168	0.00087015	0.006770178	0.007349438	1.02047848	0.000467463	0.000430066	0.000467463	9.4167E-06	8.32901E-06	33108.30044	19550.28414	60.36009108	1705561.993
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	175	Diesel	0.000357606	0.000432704	0.000514953	0.005897539	0.004929335	1.061297556	0.000226431	0.000208317	0.000226431	9.80149E-06	8.66217E-06	34432.63041	12351.55696	35.26781619	1776095.551
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	300	Diesel	6.64851E-05	8.0447E-05	9.57386E-05	0.000522314	0.001028159	0.175730493	3.61296E-05	3.32392E-05	3.61296E-05	1.62272E-06	1.43429E-06	5701.382321	1358.890536	4.519382107	293688.9143
Alameda (SF)	2020 ConstMin - Rollers	Aggregated	600	Diesel	2.71623E-05	3.28664E-05	3.91137E-05	0.000302003	0.000409025	0.103104256	1.38354E-05	1.27286E-05	1.38354E-05	9.52435E-07	8.41523E-07	3345.104041	490.5292063	1.635849965	171492.4732
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	25	Diesel	4.99623E-08	6.04543E-08	7.19456E-08	1.09263E-06	1.46872E-06	0.000177498	4.81011E-08	4.4253E-08	4.81011E-08	1.63956E-09	1.44871E-09	5.758726999	9.957559306	0.031996749	248.9389827
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	50	Diesel	4.10978E-05	4.97283E-05	5.91808E-05	0.000236101	0.000222927	0.029836548	1.49748E-05	1.37769E-05	1.49748E-05	2.74621E-07	2.43522E-07	968.0139556	884.5810301	3.295665116	41857.79447
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	75	Diesel	9.26634E-06	1.12123E-05	1.33435E-05	4.35078E-05	6.58062E-05	0.004708246	5.31144E-06	4.88652E-06	5.31144E-06	4.32521E-08	3.84281E-08	152.7538481	125.0583792	0.511947979	6806.687744
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	100	Diesel	0.00060715	0.000734652	0.000874296	0.015724392	0.010899022	2.579636068	0.000362196	0.00033322	0.000362196	2.38318E-05	2.10546E-05	83693.45126	41827.38813	151.2166343	4021006.543
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	175	Diesel	0.000296571	0.00035885	0.000427062	0.00350968	0.003307108	0.608296232	0.000221885	0.000204135	0.000221885	5.6151E-06	4.96483E-06	19735.50131	7655.97119	28.95705757	948986.024
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	300	Diesel	7.24139E-06	8.76208E-06	1.04276E-05	7.80453E-05	0.000124559	0.042198207	2.84286E-06	2.61543E-06	2.84286E-06	3.89926E-07	3.44416E-07	1369.074361	313.1813008	1.279869948	65853.24777
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	600	Diesel	2.26677E-06	2.74279E-06	3.26415E-06	2.8309E-05	4.2192E-05	0.015658692	9.00249E-07	8.28229E-07	9.00249E-07	1.44704E-07	1.27804E-07	508.0290159	63.95679669	0.25597399	24586.96275
Alameda (SF)	2020 ConstMin - Rough Terrain Forklifts	Aggregated	750	Diesel	4.31486E-07	5.22098E-07	6.2134E-07	4.94343E-06	6.81007E-06	0.00269942	4.77719E-08	4.39502E-08	4.77719E-08	2.49445E-08	2.20323E-08	87.57970549	6.745443401	0.031996749	4215.902126
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	50	Diesel	5.06495E-05	6.12859E-05	7.29353E-05	0.000297149	0.000224094	0.029148222	1.85323E-05	1.70498E-05	1.85323E-05	2.6797E-07	2.37904E-07	945.681948	1002.795321	1.081535996	41587.30284
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	75	Diesel	4.6859E-05	5.66993E-05	6.74769E-05	0.000220861	0.000446057	0.0227122	3.55879E-05	3.27409E-05	3.55879E-05	2.0858E-07	1.85374E-07	736.8723054	509.297973	0.764988875	35779.43312
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	100	Diesel	0.000147951	0.00017902	0.000213049	0.000902994	0.001403422	0.111001784	0.000123198	0.000113342	0.000123198	1.02183E-06	9.05982E-07	3601.330637	2076.178536	2.374103406	174463.7918
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	175	Diesel	0.00013631	0.000164935	0.000196286	0.000885397	0.001620422	0.119404174	9.33479E-05	8.58801E-05	9.33479E-05	1.09986E-06	9.74561E-07	3873.936935	1280.968702	1.741009165	189531.5401
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	300	Diesel	0.000140755	0.000170314	0.000202687	0.000895109	0.00181414	0.13338874	8.83508E-05	8.12827E-05	8.83508E-05	1.22902E-06	1.0887E-06	4327.650774	969.2815199	1.450840971	211787.7983
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	600	Diesel	0.001208284	0.001462024	0.00173993	0.011664339	0.01570599	1.482578774	0.000706775	0.000650233	0.000706775	1.36709E-05	1.21006E-05	48100.63554	6330.989564	8.889698311	2339345.308
Alameda (SF)	2020 ConstMin - Rubber Tired Dozers	Aggregated	750	Diesel	1.58305E-05	1.91549E-05	2.27959E-05	8.53699E-05	0.000288201	0.042115759	8.06504E-06	7.41983E-06	8.06504E-06	3.88906E-07	3.43743E-07	1366.399421	102.7481958	0.105515707	66832.81703
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	50	Diesel	0.000190342	0.000230313	0.000274092	0.001052853	0.00081729	0.091302139	7.37596E-05	6.78589E-05	7.37596E-05	8.38423E-07	7.45196E-07	2962.197344	3414.764617	4.069235465	142093.0458
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	100	Diesel	0.001954632	0.002365105	0.00281467	0.016815474	0.019953122	2.218573151	0.001562573	0.001437567	0.001562573	2.04532E-05	1.81077E-05	71979.16258	45251.2742	50.56300014	3885677.027
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	175	Diesel	0.003132214	0.003789978	0.004510388	0.033698776	0.03519834	5.273291249	0.001937435	0.00178244	0.001937435	4.86602E-05	4.30399E-05	171086.1271	61047.29006	66.31754015	9160912.653
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	300	Diesel	0.003423789	0.004142784	0.004930256	0.019006781	0.048167994	7.883337782	0.001599091	0.001471164	0.001599091	7.27827E-05	6.43427E-05	255766.2124	65080.82436	61.86337701	13699907.18
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	600	Diesel	0.004649779	0.005626233	0.006695682	0.030122102	0.058707985	9.794268543	0.002208285	0.002031622	0.002208285	9.04134E-05	7.99395E-05	317764.2564	51267.38015	54.41227693	17077012.51
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	750	Diesel	0.000314591	0.000380656	0.000453012	0.00250339	0.004079336	0.725355299	0.000144748	0.000133168	0.000144748	6.69683E-06	5.92025E-06	23533.35384	1907.985622	2.227081572	1261666.063
Alameda (SF)	2020 ConstMin - Rubber Tired Loaders	Aggregated	9999	Diesel	0.000304675	0.000368657	0.000438733	0.001504526	0.006380687	0.680378224	0.000161323	0.000148417	0.000161323	6.28129E-06	5.55316E-06	22074.12217	1234.809849	1.072298535	1180175.473
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	25	Diesel	1.30527E-06	1.57937E-06	1.87959E-06	4.43518E-06	3.01256E-06	0.000233372	4.19861E-07	3.86272E-07	4.19861E-07	2.11848E-09	1.90475E-09	7.571508234	10.91641534	0.027185336	272.9103836
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	50	Diesel	8.75813E-06	1.05973E-05	1.26117E-05	2.99061E-05	2.14834E-05	0.001857465	2.96231E-06	2.72533E-06	2.96231E-06	1.69104E-08	1.51604E-08	60.26339854	57.03827017	0.163112015	2209.088261
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	75	Diesel	2.89532E-05	3.50333E-05	4.16926E-05	0.000136759	0.000267904	0.015799084	2.34118E-05	2.15388E-05	2.34118E-05	1.45202E-07	1.2895E-07	512.5838808	303.1731128	0.734004067	20506.22342
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	100	Diesel	7.27993E-05	8.80872E-05	0.000104831	0.000590933	0.000902532	0.077614363	6.64E-05	6.1088E-05	6.64E-05	7.15399E-07	6.33478E-07	2518.112533	1110.351057	1.95734418	100588.2257
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	175	Diesel	0.000742916	0.000898928	0.001069799	0.006598011	0.009164352	1.008986031	0.000492891	0.00045346	0.000492891	9.30629E-06	8.23521E-06	32735.44056	7795.472843	17.69765362	1307345.129
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	300	Diesel	0.000814232	0.00098522	0.001172494	0.004558742	0.011236268	1.158276498	0.000492858	0.00045343	0.000492858	1.06844E-05	9.4537E-06	37579.00535	6739.521922	17.12676157	1511492.517
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	600	Diesel	0.00671593	0.008126275	0.009670939	0.058316883	0.095812889	14.52796563	0.003653346	0.003361078	0.003653346	0.000134117	0.000118575	471343.8452	44720.15677	95.44771409	18865290.62
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	750	Diesel	0.000251681	0.000304533	0.00036242	0.002869749	0.0041761	0.234502549	0.000170061	0.000156456	0.000170061	2.16054E-06	1.91398E-06	7608.176955	487.7818256	1.277710784	303508.2063
Alameda (SF)	2020 ConstMin - Scrapers	Aggregated	9999	Diesel	0.000367573	0.000444763	0.000529305	0.004455512	0.005629528	0.33638103	0.000235238	0.000216419	0.000235238	3.09898E-06	2.7455E-06	10913.51205	273.9717017	0.706818732	437590.5737
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	50	Diesel	0.000305747	0.000369954	0.000440276	0.003170003	0.003108657	0.497174782	0.000121868	0.000112118	0.000121868	4.58746E-06	4.05787E-06	16130.28826	17404.87566	56.61310689	758469.364
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	75	Diesel	0.00076094	0.000920737	0.001095754	0.016021116	0.012196093	2.582681809	0.000521153	0.000479461	0.000521153	2.38553E-05	2.10795E-05	83792.26696	62401.56021	179.0736846	4396968.342
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	100	Diesel	1.67164E-05	2.02269E-05	2.40717E-05	0.00034849	0.00031474	0.054049606	2.04217E-05	1.8788E-05	2.04217E-05	4.99214E-07	4.41146E-07	1753.579943	1219.035706	3.620768859	93047.65974
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	175	Diesel	4.31934E-06	5.2264E-06	6.21985E-06	9.6103E-05	5.78065E-05	0.017821792	2.43137E-06	2.23686E-06	2.43137E-06	1.64642E-07	1.45459E-07	578.2084	199.8696341	0.757835343	30425.1895
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	300	Diesel	2.5157E-06	3.04399E-06	3.6226E-06	3.04146E-05	3.84312E-05	0.016553299	1.08991E-06	1.00271E-06	1.08991E-06	1.52968E-07	1.35106E-07	537.0535667	137.5042972	0.477155586	28185.78236
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	600	Diesel	1.14992E-06	1.3914E-06	1.65589E-06	8.93596E-06	1.87577E-05	0.004788707	8.05405E-07	7.40972E-07	8.05405E-07	4.42395E-08	3.90848E-08	155.3643188	17.21934505	0.056135951	8141.306338
Alameda (SF)	2020 ConstMin - Skid Steer Loaders	Aggregated	9999	Diesel	2.93775E-06	3.55468E-06	4.23036E-06	2.0342E-05	5.40351E-05	0.006482175	1.77307E-06	1.63123E-06	1.77307E-06	5.98428E-08	5.29066E-08	210.3070306	11.05168873	0.056135951	11051.68873
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	50	Diesel	3.40002E-06	4.11402E-06	4.89603E-06	3.02144E-05	3.2561E-05	0.004601191	1.66234E-06	1.52935E-06	1.66234E-06	4.24383E-08	3.75543E-08	149.2805637	236.4527874	0.993074785	8514.106759
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	75	Diesel	2.88097E-06	3.48597E-06	4.1486E-06	2.45859E-05	4.09614E-05	0.003505983	2.55771E-06	2.35309E-06	2.55771E-06	3.23281E-08	2.86154E-08	113.7477698	109.378941	0.432878752	7273.221466
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	100	Diesel	1.28067E-05	1.54961E-05	1.84417E-05	0.000171087	0.000168356	0.02641916	9.50529E-06	8.74487E-06	9.50529E-06	2.43874E-07	2.1563E-07	857.1405511	611.7949597	2.317174497	54940.59198
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	175	Diesel	1.18552E-05	1.43448E-05	1.70715E-05	0.000142215	0.000166551	0.024730289	8.15676E-06	7.50422E-06	8.15676E-06	2.28288E-07	2.01845E-07	802.3469923	379.8014021	1.502343905	51523.36154
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	300	Diesel	1.73568E-05	2.10017E-05	2.49938E-05	0.000132198	0.000317247	0.048871496	1.02445E-05	9.42492E-06	1.02445E-05	4.51321E-07	3.98883E-07	1585.581876	445.8093634	1.858832289	101654.1724
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	600	Diesel	3.11002E-05	3.76313E-05	4.47843E-05	0.000318481	0.000470678	0.154943757	1.69313E-05	1.55768E-05	1.69313E-05	1.4316E-06	1.26463E-06	5026.979572	793.9133108	2.826443618	322582.5182
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	750	Diesel	1.88567E-05	2.28166E-05	2.71537E-05	0.000147989	0.000347272	0.07640239	1.22447E-05	1.12651E-05	1.22447E-05	7.05812E-07	6.23586E-07	2478.791387	249.9724903	0.891220961	158984.8399
Alameda (SF)	2020 ConstMin - Surfacing Equipment	Aggregated	9999	Diesel	9.71575E-06	1.17561E-05	1.39907E-05	5.52745E-05	0.000230223	0.025359979	5.49645E-06	5.05673E-06	5.49645E-06	2.34174E-07	2.06985E-07	822.7765837	60.24220565	0.229171104	52779.15922
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	25	Diesel	4.55886E-06	5.51622E-06	6.56476E-06	1.51582E-05	1.04376E-05	0.000797599	1.43496E-06	1.32017E-06	1.43496E-06	7.23744E-09	6.5099E-09	25.87723155	39.49989764	0.053982039	987.4974409
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	50	Diesel	0.000567885	0.000687141	0.000817754	0.003157683	0.002615891	0.302091401	0.000237194	0.000218219	0.000237194	2.77595E-06	2.46563E-06	9801.022815	10487.70453	15.19594391	374247.5823
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	75	Diesel	8.86783E-05	0.000107301	0.000127697	0.000624497	0.000883607	0.082152069	7.1191E-05	6.54957E-05	7.1191E-05	7.56876E-07	6.70514E-07	2665.333414	1555.428896	2.726092958	112693.7648
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	100	Diesel	0.000290617	0.000351647	0.000418489	0.002754083	0.003072771	0.385972926	0.000246645	0.000226913	0.000246645	3.55979E-06	3.15026E-06	12522.4665	6719.558806	9.689775958	531628.077
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	175	Diesel	8.41649E-05	0.00010184	0.000121197	0.000741166	0.001016752	0.116769073	5.23091E-05	4.81243E-05	5.23091E-05	1.07706E-06	9.53053E-07	3788.443972	1005.561418	1.430524027	160721.2298
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	300	Diesel	2.44862E-05	2.96283E-05	3.52602E-05	0.000151141	0.000367192	0.070125142	1.1791E-05	1.08478E-05	1.1791E-05	6.47607E-07	5.72352E-07	2275.133	460.2701487	0.647784465	96520.4084
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	600	Diesel	7.62254E-06	9.22327E-06	1.09765E-05	0.000125489	0.000105841	0.009470319	5.34297E-06	4.91554E-06	5.34297E-06	8.73291E-08	7.72955E-08	307.2540699	39.49989764	0.053982039	13034.96622
Alameda (SF)	2020 ConstMin - Sweepers/Scrubbers	Aggregated	9999	Diesel	4.65241E-06	5.62942E-06	6.69948E-06	2.42272E-05	9.74868E-05	0.012167925	2.76623E-06	2.54493E-06	2.76623E-06	1.12359E-07	9.9313E-08	394.7749262	19.74994882	0.026991019	16747.9566
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	50	Diesel	0.001168732	0.001414166	0.001682974	0.00858301	0.007496993	0.983676718	0.000490694	0.000451439	0.000490694	9.05952E-06	8.02864E-06	31914.30779	39995.55372	79.23178758	1516192.143
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	75	Diesel	0.000393229	0.000475807	0.000566249	0.001584728	0.003735891	0.156171499	0.000299633	0.000275663	0.000299633	1.43209E-06	1.27465E-06	5066.812294	3690.489289	16.84020572	265860.3791
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Diesel	0.007731686	0.00935534	0.011133628	0.105392993	0.095050806	15.63118067	0.005947178	0.005471404	0.005947178	0.000144286	0.00012758	507136.4422	319283.5834	521.1353499	26544415.15
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	175	Diesel	0.001060049	0.001282659	0.001526471	0.016223289	0.012615669	2.73216575	0.000635625	0.000584775	0.000635625	2.52284E-05	2.22996E-05	88642.1088	32621.56529	60.18303029	4677325.533
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	0.000603223	0.0007299	0.000868642	0.003976076	0.008829638	1.689805626	0.000294768	0.000271186	0.000294768	1.5605E-05	1.3792E-05	54823.88256	13881.69142	25.20509479	2881874.53
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	600	Diesel	0.000718921	0.000869894	0.001035246	0.005914556	0.009484763	2.247927427	0.000335115	0.000308306	0.000335115	2.07616E-05	1.83473E-05	72931.52972	11474.00175	21.80944675	3862334.289
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	750	Diesel	1.63556E-05	1.97903E-05	2.35521E-05	0.000152839	0.000182149	0.076030019	5.02289E-06	4.62106E-06	5.02289E-06	7.02445E-07	6.20547E-07	2466.710246	206.255505	0.303675841	131009.8703
Alameda (SF)	2020 ConstMin - Tractors/Loaders/Backhoes	Aggregated	9999	Diesel	0.000211236	0.000255595	0.000304179	0.001506904	0.004949447	0.768259751	0.000100456	9.24195E-05	0.000100456	7.09661E-06	6.27043E-06	24925.34152	706.4358825	1.159489574	1307159.865
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	50	Diesel	0.000441238	0.000533898	0.000635383	0.00285155	0.002759159	0.347860817	0.000210083	0.000193277	0.000210083	3.20291E-06	2.83919E-06	11285.96112	9774.510509	25.98085186	389963.3331
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	75	Diesel	3.44392E-05	4.16714E-05	4.95924E-05	0.000197658	0.000348433	0.023216411	2.39118E-05	2.19989E-05	2.39118E-05	2.13614E-07	1.89489E-07	753.2308921	409.0770236	1.564755851	28879.26374
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	100	Diesel	0.000204764	0.000247764	0.00029486	0.001620212	0.002269491	0.228855943	0.00017209	0.000158323	0.00017209	2.10974E-06	1.86789E-06	7424.979023	3399.929969	10.48091183	285236.6995
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	175	Diesel	3.42082E-05	4.13919E-05	4.92598E-05	0.000327574	0.000438817	0.051471599	2.24369E-05	2.06419E-05	2.24369E-05	4.74854E-07	4.20104E-07	1669.939348	450.6038411	1.594279546	64478.43593
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	300	Diesel	6.82346E-05	8.25639E-05	9.82579E-05	0.000389191	0.001011879	0.124965988	4.07696E-05	3.7508E-05	4.07696E-05	1.15333E-06	1.01996E-06	4054.38384	679.8410945	2.214277147	155569.907
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	600	Diesel	5.76168E-05	6.97164E-05	8.29683E-05	0.000588083	0.000817407	0.167745914	3.07274E-05	2.82692E-05	3.07274E-05	1.54917E-06	1.36912E-06	5442.331431	537.0165049	1.50570846	208622.8463
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	750	Diesel	6.33713E-06	7.66793E-06	9.12547E-06	9.87351E-05	6.4562E-05	0.054755971	9.42001E-07	8.66641E-07	9.42001E-07	5.06056E-07	4.46911E-07	1776.497173	105.6118189	0.236189562	68300.54973
Alameda (SF)	2020 ConstMin - Trenchers	Aggregated	9999	Diesel	8.23212E-06	9.96086E-06	1.18542E-05	0.000118233	0.000114291	0.004538814	5.27736E-06	4.85517E-06	5.27736E-06	4.17166E-08	3.70452E-08	147.2568325	6.586331084	0.029523695	5664.244732
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	50	Diesel	0.000330701	0.000400148	0.000476209	0.007400331	0.007055177	1.402335364	7.37384E-05	6.78394E-05	7.37384E-05	1.29554E-05	1.14457E-05	45497.22647	55647.94658	188.3140123	2566967.714
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	75	Diesel	0.000295888	0.000358024	0.000426078	0.009744888	0.005532931	1.619303807	0.000151884	0.000139733	0.000151884	1.49624E-05	1.32165E-05	52536.52866	45621.98433	154.8991616	3295150.897
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	100	Diesel	0.000144225	0.000174513	0.000207685	0.004974863	0.003125194	0.827605535	4.07523E-05	3.74921E-05	4.07523E-05	7.6473E-06	6.75481E-06	26850.75013	21641.73273	73.22828983	1684172.099
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	175	Diesel	2.28149E-05	2.7606E-05	3.28535E-05	0.000804465	0.000278876	0.14954526	9.06888E-06	8.34337E-06	9.06888E-06	1.38194E-06	1.22057E-06	4851.831275	2333.661619	7.909366256	304457.2941
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	300	Diesel	9.4845E-07	1.14762E-06	1.36577E-06	1.59948E-05	1.14335E-05	0.008936493	1.50905E-07	1.38832E-07	1.50905E-07	8.25939E-08	7.29385E-08	289.9346863	79.10381326	0.266607851	18193.87705
Alameda (SF)	2020 Industrial - Aerial Lifts	Aggregated	600	Diesel	5.4034E-07	6.53811E-07	7.78089E-07	1.12899E-05	3.12177E-06	0.006346205	1.06484E-07	9.79649E-08	1.06484E-07	5.86576E-08	5.17969E-08	205.8956468	26.36793775	0.088869284	12920.2895
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	50	Diesel	0.001491323	0.001804501	0.002147505	0.009161715	0.007524019	0.94382803	0.000578281	0.000532018	0.000578281	8.68142E-06	7.7034E-06	30621.46099	62417.44353	87.29816188	2646499.559
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	75	Diesel	0.000215699	0.000260996	0.000310607	0.000874399	0.002040775	0.089369873	0.000168766	0.000155264	0.000168766	8.19798E-07	7.29425E-07	2899.507106	3803.26244	7.503313087	279750.7527
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	100	Diesel	0.007955688	0.009626382	0.01145619	0.080168871	0.087043872	11.280744	0.006468054	0.00595061	0.006468054	0.000104057	9.20719E-05	365991.3156	427661.0078	575.3021015	35258066.42
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	175	Diesel	0.001901398	0.002300691	0.002738013	0.022095331	0.022585779	3.59094456	0.001222895	0.001125063	0.001222895	3.3143E-05	2.93088E-05	116504.2415	79348.64084	108.2208618	11213405.43
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	300	Diesel	0.000368077	0.000445373	0.000530031	0.002231979	0.004921305	0.783269955	0.000193529	0.000178047	0.000193529	7.23068E-06	6.39294E-06	25412.33109	11624.65636	15.87239307	2439783.279
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	600	Diesel	6.55737E-05	7.93442E-05	9.44261E-05	0.000452463	0.000744284	0.197058267	2.72468E-05	2.5067E-05	2.72468E-05	1.81993E-06	1.60836E-06	6393.338463	1730.218842	2.453006202	611226.2286
Alameda (SF)	2020 Industrial - Forklifts	Aggregated	9999	Diesel	1.92803E-06	2.33292E-06	2.77636E-06	2.91295E-05	6.9221E-05	0.015650912	5.92154E-07	5.44781E-07	5.92154E-07	1.44643E-07	1.27741E-07	507.7766026	55.52795353	0.072147241	48864.5991
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	1.23203E-06	1.49076E-06	1.77413E-06	4.09649E-06	2.82076E-06	0.000215551	3.87799E-07	3.56775E-07	3.87799E-07	1.95592E-09	1.7593E-09	6.993326471	14.23335684	0.06380203	355.8339211
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	50	Diesel	0.002695153	0.003261136	0.003881021	0.018977492	0.015937783	2.029561925	0.001151407	0.001059295	0.001151407	1.86835E-05	1.6565E-05	65846.9015	95163.36985	116.3749019	3341010.805
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	75	Diesel	0.000699627	0.000846548	0.001007463	0.00919146	0.008561305	1.322322776	0.000548178	0.000504323	0.000548178	1.22045E-05	1.07926E-05	42901.3062	33884.21397	41.024705	2423967.42
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	100	Diesel	0.000428613	0.000518622	0.000617203	0.002494004	0.003901611	0.311868849	0.000359746	0.000330966	0.000359746	2.87052E-06	2.54543E-06	10118.24134	7319.361423	9.697908492	573143.3134
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	175	Diesel	0.000340576	0.000412097	0.000490429	0.004718983	0.0039093	0.764177154	0.000209454	0.000192698	0.000209454	7.05498E-06	6.23711E-06	24792.88618	9438.138922	11.61196938	1401515.385
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	300	Diesel	0.000345185	0.000417674	0.000497067	0.002097411	0.005257975	0.821660689	0.000170966	0.000157289	0.000170966	7.5863E-06	6.70628E-06	26657.87617	6890.225714	8.677076019	1505305.508
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	600	Diesel	0.000706629	0.000855021	0.001017546	0.005702073	0.007955486	2.37531611	0.000280379	0.000257949	0.000280379	2.19398E-05	1.9387E-05	77064.51524	11398.21449	13.71743635	4355216.396
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	750	Diesel	0.000105826	0.000128049	0.000152389	0.00136974	0.00102599	0.399194287	4.88781E-05	4.49678E-05	4.88781E-05	3.68757E-06	3.25817E-06	12951.41899	1159.022248	1.40364465	730774.558
Alameda (SF)	2020 Industrial - Other General Industrial Equipment	Aggregated	9999	Diesel	3.89312E-05	4.71067E-05	5.60609E-05	0.000268785	0.000982391	0.138315822	1.97906E-05	1.82074E-05	1.97906E-05	1.27763E-06	1.12892E-06	4487.504509	218.0550268	0.255208118	253761.5375
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	25	Diesel	1.5915E-06	1.92571E-06	2.29176E-06	5.40776E-06	3.67319E-06	0.000284548	5.11932E-07	4.70978E-07	5.11932E-07	2.58305E-09	2.32245E-09	9.231860008	16.24167849	0.072804474	406.0419623
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	50	Diesel	0.000165158	0.000199841	0.000237828	0.000993906	0.000829088	0.094638424	7.06618E-05	6.50089E-05	7.06618E-05	8.70024E-07	7.72426E-07	3070.439455	3782.362088	5.096313146	134246.3786
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	75	Diesel	2.29971E-05	2.78265E-05	3.31159E-05	0.000196647	0.000248004	0.025751994	1.995E-05	1.8354E-05	1.995E-05	2.374E-07	2.10184E-07	835.4950811	566.9157878	0.873653682	41049.99783
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	100	Diesel	0.000384286	0.000464986	0.000553372	0.006878461	0.005292531	1.038416564	0.000242773	0.000223351	0.000242773	9.58915E-06	8.47542E-06	33690.2818	17664.28711	23.22462705	1646088.209
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	175	Diesel	0.000390989	0.000473097	0.000563024	0.004500279	0.004017199	0.716715018	0.000273416	0.000251542	0.000273416	6.61466E-06	5.84973E-06	23253.02943	8187.754962	11.50310681	1135664.116
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	300	Diesel	0.000584429	0.000707159	0.000841577	0.003170537	0.008099683	1.2589901	0.0002961	0.000272412	0.0002961	1.16225E-05	1.02757E-05	40846.54728	8329.463607	11.21188892	1997474.871
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	600	Diesel	0.000604146	0.000731017	0.000869971	0.004269744	0.008666397	1.473460993	0.000298155	0.000274302	0.000298155	1.36048E-05	1.20262E-05	47804.81919	6339.370741	8.590927874	2332080.407
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	750	Diesel	2.94257E-05	3.56051E-05	4.2373E-05	0.000138604	0.000332204	0.067842171	1.6283E-05	1.49804E-05	1.6283E-05	6.26352E-07	5.53719E-07	2201.064515	172.7302508	0.218413421	107668.523
Alameda (SF)	2020 Industrial - Other Material Handling Equipment	Aggregated	9999	Diesel	2.84493E-05	3.44237E-05	4.0967E-05	0.000214606	0.000671012	0.10967213	1.26027E-05	1.15944E-05	1.26027E-05	1.01312E-06	8.95129E-07	3558.19146	172.7302508	0.218413421	174054.516
Alameda (SF)	2020 Locomotive - Line haul	Aggregated	9999	Diesel	0.006415614	0.007762892	0.009238484	0.074893586	0.221638607	0	0.00328524	0.003000842	0.00328524	0.000292167	0.000234324	0	0	0	0
Alameda (SF)	2020 Locomotive - Passenger	Aggregated	9999	Diesel	0.010000107	8.87382E-06	1.05606E-05	0.031637921	0.24320587	0	0.004491357	0.004132048	0.004491357	0.000139104	0.000122954	0	0	0	0
Alameda (SF)	2020 Locomotive - Short line	Aggregated	9999	Diesel	6.59446E-05	3.72872E-10	4.43749E-10	0.000175852	0.001786	0	3.02964E-05	2.78726E-05	3.02964E-05	8.51652E-07	7.52904E-07	0	0	0	0
Alameda (SF)	2020 Locomotive - Switcher	Aggregated	9999	Diesel	0.013029198	1.97166E-06	2.34643E-06	0.035001938	0.202091723	0	0.004268664	0.003927171	0.004268664	0.000116541	0.00010482	0	0	0	0
Alameda (SF)	2020 Ocean Going Vessels	Aggregated		Diesel	0.106817543	0.13724226	0.163688505	0.216523076	2.034623708	188.2168654	0.053017154	0.048775782	0.053017154	0.19226728	0.001184944	5939097.911	0	0	109187494.9
Alameda (SF)	2020 OFF - Agricultural - 2-Wheel Tractors	Aggregated	25	Gasoline	0.000360484	0.000331573	0.00039669	0.013234159	0.000257989	0.022324187	0.000141841	0.000107169	0.000157601	6.55584E-07	5.92029E-07	1689.95	3963.9	15.62	27740
Alameda (SF)	2020 OFF - Agricultural - Agricultural Mowers	Aggregated	25	Gasoline	0.000287241	0.000264205	0.000316092	0.012287314	0.000209006	0.018844209	0.000142174	0.00010742	0.000157971	4.98619E-07	5.20423E-07	1485.55	2423.6	13.41	30265.8
Alameda (SF)	2020 OFF - Agricultural - Agricultural Tractors	Aggregated	25	Diesel	0.00151305	0.001800654	0.002178792	0.008593825	0.013732332	1.825093739	0.000519655	0.000478083	0.000519655	2.47158E-05	1.52756E-05	60721.4	84044.9	157.77	1519046.05
Alameda (SF)	2020 OFF - Agricultural - Agricultural Tractors	Aggregated	100	Gasoline	0.000253376	0.000233056	0.000278825	0.0094141	0.000645953	0.159090104	1.10921E-05	8.38073E-06	1.23246E-05	1.53703E-06	2.31953E-06	6621.1	1332.25	2.41	109244.5
Alameda (SF)	2020 OFF - Agricultural - Agricultural Tractors	Aggregated	175	Gasoline	3.3263E-05	3.05953E-05	3.66039E-05	0.001284793	0.000151196	0.032323631	2.31726E-06	1.75082E-06	2.57473E-06	3.21101E-07	4.56489E-07	1303.05	197.1	0.3	24637.5
Alameda (SF)	2020 OFF - Agricultural - Balers	Aggregated	50	Gasoline	4.41729E-05	4.06302E-05	4.86096E-05	0.002265577	8.19857E-05	0.027499755	1.89581E-06	1.43239E-06	2.10645E-06	3.34347E-07	4.14293E-07	1182.6	602.25	8.84	21078.75
Alameda (SF)	2020 OFF - Agricultural - Balers	Aggregated	100	Gasoline	2.09579E-05	1.92771E-05	2.30629E-05	0.000621969	7.84999E-05	0.025428816	1.77296E-06	1.33957E-06	1.96995E-06	2.45678E-07	3.4908E-07	996.45	310.25	4.54	19856
Alameda (SF)	2020 OFF - Agricultural - Combines	Aggregated	100	Gasoline	5.7742E-06	5.31111E-06	6.35416E-06	0.00026861	1.4581E-05	0.013580724	9.46881E-07	7.15421E-07	1.05209E-06	1.31209E-07	1.86687E-07	532.9	73	0.6	7519
Alameda (SF)	2020 OFF - Agricultural - Combines	Aggregated	175	Gasoline	3.6746E-06	3.3799E-06	4.04368E-06	0.000397432	1.38963E-05	0.011683547	8.37586E-07	6.32843E-07	9.30651E-07	1.16064E-07	1.62393E-07	463.55	32.85	0.36	5387.4
Alameda (SF)	2020 OFF - Agricultural - Combines	Aggregated	300	Gasoline	6.71084E-07	6.17263E-07	7.38487E-07	8.67939E-05	7.61692E-06	0.002479547	1.82917E-07	1.38204E-07	2.03242E-07	2.53468E-08	3.45244E-08	98.55	0	0.08	0
Alameda (SF)	2020 OFF - Agricultural - Hydro Power Units	Aggregated	25	Gasoline	0.000281781	0.000259182	0.000310083	0.011059397	0.000203814	0.017555779	0.000124656	9.41849E-05	0.000138507	4.83668E-07	4.76948E-07	1361.45	2460.1	6.35	24137.45
Alameda (SF)	2020 OFF - Agricultural - Hydro Power Units	Aggregated	25	Diesel	1.02528E-05	1.22017E-05	1.4764E-05	5.42888E-05	9.31759E-05	0.012302365	3.50251E-06	3.22231E-06	3.50251E-06	1.61343E-07	1.02841E-07	408.8	890.6	1.09	14884.7
Alameda (SF)	2020 OFF - Agricultural - Hydro Power Units	Aggregated	50	Gasoline	2.4046E-06	2.21175E-06	2.64611E-06	0.000193867	3.62383E-06	0.001887856	1.30147E-07	9.83334E-08	1.44608E-07	2.29529E-08	2.8131E-08	80.3	40.15	0.07	1525.7
Alameda (SF)	2020 OFF - Agricultural - Hydro Power Units	Aggregated	100	Gasoline	1.81904E-07	1.67315E-07	2.00174E-07	9.06496E-06	4.45314E-07	0.000405259	2.82556E-08	2.13487E-08	3.13951E-08	3.91537E-09	3.83604E-09	10.95	0	0	0
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Gasoline	3.70401E-05	3.40695E-05	4.07604E-05	0.001326425	2.48888E-05	0.002234535	1.332E-05	1.0064E-05	1.48E-05	6.44968E-08	5.75407E-08	164.25	354.05	2.48	3003.95
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Diesel	2.3824E-05	2.83525E-05	3.43065E-05	0.000126597	0.000217028	0.028471515	8.54129E-06	7.85799E-06	8.54129E-06	3.74653E-07	2.3782E-07	945.35	1686.3	3.76	32645.6
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	50	Gasoline	1.9404E-06	1.78478E-06	2.13529E-06	0.000115195	3.27452E-06	0.001291585	8.90407E-08	6.72752E-08	9.89341E-08	1.57033E-08	1.66229E-08	47.45	36.5	0.24	1058.5
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	100	Gasoline	1.22603E-05	1.12771E-05	1.34917E-05	0.000430533	3.85343E-05	0.017090533	1.19159E-06	9.00315E-07	1.32399E-06	1.65118E-07	2.3272E-07	664.3	200.75	1.58	13450.25
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	175	Gasoline	1.82893E-06	1.68225E-06	2.01262E-06	0.000132217	9.73844E-06	0.003846512	2.75754E-07	2.08347E-07	3.06393E-07	3.82111E-08	5.49833E-08	156.95	0	0.13	0
Alameda (SF)	2020 OFF - Agricultural - Other Agricultural Equipment	Aggregated	300	Gasoline	9.94975E-07	9.15178E-07	1.09491E-06	8.88296E-05	9.81378E-06	0.002511369	1.85265E-07	1.39978E-07	2.0585E-07	2.56721E-08	3.06883E-08	87.6	0	0.05	0
Alameda (SF)	2020 OFF - Agricultural - Sprayers	Aggregated	25	Gasoline	0.000621187	0.000571368	0.000683579	0.022024401	0.000371935	0.035440779	0.000215244	0.000162629	0.00023916	9.76114E-07	9.64126E-07	2752.1	5821.75	59.32	54651.45
Alameda (SF)	2020 OFF - Agricultural - Sprayers	Aggregated	25	Diesel	2.49806E-06	2.9729E-06	3.59721E-06	1.14788E-05	2.09331E-05	0.002612041	9.98397E-07	9.18525E-07	9.98397E-07	3.31418E-08	1.74463E-08	69.35	167.9	1.45	3190.1
Alameda (SF)	2020 OFF - Agricultural - Sprayers	Aggregated	50	Gasoline	8.56012E-06	7.8736E-06	9.41989E-06	0.000444142	1.57202E-05	0.00522088	3.59923E-07	2.71942E-07	3.99914E-07	6.34764E-08	7.67209E-08	219	142.35	1.67	4697.55
Alameda (SF)	2020 OFF - Agricultural - Sprayers	Aggregated	100	Gasoline	1.51179E-05	1.39055E-05	1.66364E-05	0.000453958	5.57772E-05	0.017927686	1.24996E-06	9.44415E-07	1.38885E-06	1.73206E-07	2.48064E-07	708.1	215.35	2.81	14643.8
Alameda (SF)	2020 OFF - Agricultural - Sprayers	Aggregated	175	Gasoline	4.33527E-06	3.98758E-06	4.7707E-06	0.000275434	2.84691E-05	0.008095126	5.80334E-07	4.38475E-07	6.44816E-07	8.04166E-08	1.11245E-07	317.55	43.8	0.62	6132
Alameda (SF)	2020 OFF - Agricultural - Swathers	Aggregated	100	Gasoline	8.02783E-05	7.384E-05	8.83414E-05	0.002444033	0.000290831	0.092578273	6.45478E-06	4.87694E-06	7.17198E-06	8.94435E-07	1.27996E-06	3653.65	868.7	9.05	76445.6
Alameda (SF)	2020 OFF - Agricultural - Swathers	Aggregated	175	Gasoline	5.57768E-05	5.13035E-05	6.13789E-05	0.003460956	0.000359575	0.10118059	7.25357E-06	5.48048E-06	8.05952E-06	1.00512E-06	1.4155E-06	4040.55	657	6.97	84753
Alameda (SF)	2020 OFF - Agricultural - Tillers	Aggregated	25	Gasoline	0.005009513	0.00460775	0.005512663	0.278875372	0.003496926	0.437298989	0.000198828	0.000150225	0.00022092	1.24686E-05	1.18802E-05	33912.15	67842.55	954.16	474897.85
Alameda (SF)	2020 OFF - AirGrSupp - A/C Tug Narrow Body	Aggregated	175	Gasoline	0.00055937	0.000514509	0.000615553	0.028896938	0.003546471	0.696046644	4.98991E-05	3.77016E-05	5.54435E-05	6.9145E-06	9.85224E-06	28123.25	2938.25	4.07	381972.5
Alameda (SF)	2020 OFF - AirGrSupp - A/C Tug Wide Body	Aggregated	600	Gasoline	0.000209984	0.000193144	0.000231075	0.022555548	0.001939829	0.607303134	4.48011E-05	3.38497E-05	4.97789E-05	6.20806E-06	8.5288E-06	24345.5	686.2	1.35	343100
Alameda (SF)	2020 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Gasoline	2.35381E-07	2.16504E-07	2.59023E-07	2.0699E-05	2.50066E-06	0.000623555	4.47022E-08	3.3775E-08	4.96692E-08	6.19436E-09	0	0	0	0.15	0
Alameda (SF)	2020 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Nat Gas	0	0	1.11032E-07	8.26737E-05	1.12939E-05	0.003350979	0	0	2.98015E-07	0	0	171.55	0	0.77	0
Alameda (SF)	2020 OFF - AirGrSupp - Air Start Unit	Aggregated	175	Gasoline	2.41781E-05	2.2239E-05	2.66065E-05	0.00199482	0.000241131	0.058983757	4.22851E-06	3.19487E-06	4.69834E-06	5.85942E-07	8.24749E-07	2354.25	211.7	2.94	27521
Alameda (SF)	2020 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Gasoline	0.00354537	0.003261032	0.003901464	0.266998884	0.020409683	6.14546122	0.000428476	0.000323738	0.000476085	5.93737E-05	8.71818E-05	248860.65	47782.15	54.44	4778215
Alameda (SF)	2020 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Nat Gas	0	0	0.000136311	0.044839054	0.005594166	1.009454118	0	0	8.97745E-05	0	0	56180.8	9000.9	10.86	900090
Alameda (SF)	2020 OFF - AirGrSupp - Belt Loader	Aggregated	100	Gasoline	0.000862255	0.000793102	0.000948859	0.065957177	0.004921907	1.465470184	0.000102176	7.71997E-05	0.000113529	1.41585E-05	2.08399E-05	59487.7	20878	25.72	1252680
Alameda (SF)	2020 OFF - AirGrSupp - Belt Loader	Aggregated	100	Nat Gas	0	0	9.90576E-06	0.003826706	0.00046756	0.097317842	0	0	8.65483E-06	0	0	5361.85	1595.05	2.89	95703
Alameda (SF)	2020 OFF - AirGrSupp - Bobtail	Aggregated	100	Gasoline	0.000569789	0.000524092	0.000627019	0.042910253	0.00328012	0.987663249	6.88622E-05	5.20292E-05	7.65136E-05	9.5422E-06	1.40105E-05	39993.05	7683.25	8.77	768325
Alameda (SF)	2020 OFF - AirGrSupp - Bobtail	Aggregated	100	Nat Gas	0	0	1.28913E-06	0.000876197	7.9609E-05	0.024349374	0	0	2.16548E-06	0	0	1335.9	219	0.25	21900
Alameda (SF)	2020 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Gasoline	0.000238634	0.000219496	0.000262603	0.018174642	0.001359096	0.404299132	2.81887E-05	2.12981E-05	3.13208E-05	3.90609E-06	5.74767E-06	16406.75	4934.8	6.84	345436
Alameda (SF)	2020 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Nat Gas	0	0	1.36628E-05	0.004129904	0.000521576	0.085813869	0	0	7.63174E-06	0	0	4810.7	1204.5	1.15	84315
Alameda (SF)	2020 OFF - AirGrSupp - Cargo Tractor	Aggregated	100	Gasoline	0.007639603	0.007026907	0.008406918	0.634811239	0.032808034	6.869201763	0.000478937	0.000361864	0.000532152	5.67128E-05	0.000104657	298745.2	57246.6	42.36	5438427
Alameda (SF)	2020 OFF - AirGrSupp - Cargo Tractor	Aggregated	175	Nat Gas	0	0	5.00205E-06	0.003216564	0.000433908	0.122556082	0	0	1.08994E-05	0	0	6613.8	711.75	4.59	110748.3
Alameda (SF)	2020 OFF - AirGrSupp - Cart	Aggregated	25	Gasoline	2.68595E-05	2.47053E-05	2.95572E-05	0.001712612	2.06142E-05	0.002731047	1.23852E-06	9.35773E-07	1.37614E-06	7.78695E-08	7.28848E-08	208.05	346.75	2.34	4161
Alameda (SF)	2020 OFF - AirGrSupp - Catering Truck	Aggregated	300	Gasoline	0.001112755	0.001023512	0.001224519	0.051257942	0.006261581	1.106140119	8.16005E-05	6.16537E-05	9.06672E-05	9.66263E-06	1.57866E-05	45062.9	4715.8	4.62	961551.62
Alameda (SF)	2020 OFF - AirGrSupp - Catering Truck	Aggregated	300	Nat Gas	0	0	4.89883E-06	0.002518732	0.000331853	0.084710926	0	0	7.53365E-06	0	0	4606.3	386.9	0.85	79314.5
Alameda (SF)	2020 OFF - AirGrSupp - Deicer	Aggregated	100	Gasoline	9.08423E-06	8.35568E-06	9.99665E-06	0.000294382	5.5283E-05	0.015126953	1.05469E-06	7.96875E-07	1.17188E-06	1.46147E-07	2.07146E-07	591.3	58.4	3.32	5431.2
Alameda (SF)	2020 OFF - AirGrSupp - Forklift	Aggregated	50	Gasoline	0.00024864	0.000228699	0.000273613	0.023526816	0.000538964	0.16727066	1.15315E-05	8.71268E-06	1.28128E-05	2.03371E-06	2.72103E-06	7767.2	4704.85	6.48	235242.5
Alameda (SF)	2020 OFF - AirGrSupp - Forklift	Aggregated	50	Nat Gas	0	0	1.55601E-05	0.004176879	0.001129337	0.337126155	0	0	2.99819E-05	0	0	17822.95	11030.3	15.17	551515
Alameda (SF)	2020 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Gasoline	2.52105E-06	2.31886E-06	2.77426E-06	0.00021647	2.67708E-05	0.006527944	4.67984E-07	3.53588E-07	5.19982E-07	6.48483E-08	9.07864E-08	259.15	83.95	4.01	10913.5
Alameda (SF)	2020 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Nat Gas	0	0	1.3189E-06	0.000637032	8.32871E-05	0.020508965	0	0	1.82394E-06	0	0	1109.6	292	0.48	40880
Alameda (SF)	2020 OFF - AirGrSupp - Generator	Aggregated	100	Gasoline	9.69491E-05	8.91738E-05	0.000106687	0.00484075	0.000315444	0.057678876	4.02151E-06	3.03847E-06	4.46834E-06	4.76203E-07	8.69503E-07	2482	295.65	0.3	31634.55
Alameda (SF)	2020 OFF - AirGrSupp - Ground Power Unit	Aggregated	175	Gasoline	0.000369369	0.000339746	0.000406468	0.03813924	0.003266194	1.040901086	7.46215E-05	5.63807E-05	8.29128E-05	1.03403E-05	1.46064E-05	41693.95	4066.1	5.1	609915
Alameda (SF)	2020 OFF - AirGrSupp - Hydrant truck	Aggregated	175	Gasoline	0.001483566	0.001364584	0.001632574	0.05915341	0.007187131	1.150973295	8.25125E-05	6.23428E-05	9.16806E-05	9.77063E-06	1.65615E-05	47274.8	5945.85	3.9	722420.775
Alameda (SF)	2020 OFF - AirGrSupp - Lav Cart	Aggregated	25	Gasoline	2.32359E-06	2.13724E-06	2.55697E-06	0.000148157	1.78332E-06	0.00023626	1.07144E-07	8.0953E-08	1.19049E-07	6.73643E-09	6.39341E-09	18.25	25.55	0.2	306.6
Alameda (SF)	2020 OFF - AirGrSupp - Lav Truck	Aggregated	175	Gasoline	0.000325367	0.000299273	0.000358047	0.023540295	0.002006973	0.559911802	4.01397E-05	3.03278E-05	4.45997E-05	5.56214E-06	7.92527E-06	22622.7	7573.75	6.25	984587.5
Alameda (SF)	2020 OFF - AirGrSupp - Lav Truck	Aggregated	175	Nat Gas	0	0	6.32457E-07	0.000338752	4.48448E-05	0.011695665	0	0	1.04014E-06	0	0	627.8	167.9	0.45	21827
Alameda (SF)	2020 OFF - AirGrSupp - Lift	Aggregated	100	Gasoline	0.000520983	0.0004792	0.00057331	0.022721488	0.002205449	0.501072189	3.4936E-05	2.63961E-05	3.88177E-05	4.84106E-06	7.14016E-06	20381.6	4288.75	11.36	428875
Alameda (SF)	2020 OFF - AirGrSupp - Lift	Aggregated	100	Nat Gas	0	0	1.13703E-06	0.000526064	6.29932E-05	0.014831307	0	0	1.319E-06	0	0	810.3	138.7	0.42	13870
Alameda (SF)	2020 OFF - AirGrSupp - Maint. Truck	Aggregated	175	Gasoline	0.000259606	0.000238786	0.000285681	0.019953209	0.002025619	0.531278804	3.8087E-05	2.87769E-05	4.23189E-05	5.2777E-06	7.46878E-06	21319.65	3584.3	7.99	465959
Alameda (SF)	2020 OFF - AirGrSupp - Other	Aggregated	50	Nat Gas	0	0	1.76369E-05	0.001967202	0.000698286	0.115657023	0	0	1.02858E-05	0	0	6190.4	2266.65	2.21	113332.5
Alameda (SF)	2020 OFF - AirGrSupp - Other GSE	Aggregated	50	Gasoline	0.000215216	0.000197956	0.000236832	0.013805542	0.00043069	0.127907559	8.81783E-06	6.66236E-06	9.79759E-06	1.55512E-06	1.99602E-06	5697.65	2164.45	11.81	108222.5
Alameda (SF)	2020 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Gasoline	8.28804E-05	7.62334E-05	9.12048E-05	0.006023696	0.00074133	0.171566418	1.22995E-05	9.29294E-06	1.36661E-05	1.51841E-06	2.40392E-06	6862	1014.7	5.44	126938.97
Alameda (SF)	2020 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Nat Gas	0	0	1.52653E-08	1.15118E-05	1.57419E-06	0.000468843	0	0	4.1696E-08	0	0	0	0	0.16	0
Alameda (SF)	2020 OFF - AirGrSupp - Service Truck	Aggregated	300	Gasoline	0.001383027	0.001272108	0.001521937	0.068066858	0.008340674	1.541436894	0.000113713	8.59162E-05	0.000126347	1.57571E-05	2.19179E-05	62564.65	19370.55	23.02	3486699
Alameda (SF)	2020 OFF - AirGrSupp - Service Truck	Aggregated	300	Nat Gas	0	0	1.47523E-05	0.007619758	0.000722319	0.215216497	0	0	1.914E-05	0	0	11793.15	2938.25	2.25	528885
Alameda (SF)	2020 OFF - AirGrSupp - Sweeper	Aggregated	50	Nat Gas	0	0	1.37545E-07	3.07604E-05	1.03858E-05	0.002560579	0	0	2.27722E-07	0	0	131.4	51.1	0.15	2299.5
Alameda (SF)	2020 OFF - AirGrSupp - Sweeper	Aggregated	100	Gasoline	1.23222E-05	1.13339E-05	1.35598E-05	0.000535117	5.27682E-05	0.012079857	8.42237E-07	6.36357E-07	9.35818E-07	9.97325E-08	1.72622E-07	492.75	182.5	0.51	9727.25
Alameda (SF)	2020 OFF - AirGrSupp - Water Truck	Aggregated	175	Gasoline	2.38162E-05	2.19061E-05	2.62082E-05	0.001566129	0.00019258	0.042850201	3.0719E-06	2.32099E-06	3.41323E-06	4.25672E-07	6.04816E-07	1726.45	616.85	2.03	92527.5
Alameda (SF)	2020 OFF - ConstMin - Asphalt Pavers	Aggregated	25	Gasoline	0.000997273	0.000917292	0.001097438	0.042413288	0.000710179	0.064402453	0.000485898	0.000367123	0.000539886	1.67164E-06	1.79271E-06	5117.3	4376.35	11.05	75306.8
Alameda (SF)	2020 OFF - ConstMin - Asphalt Pavers	Aggregated	50	Gasoline	0.000140918	0.000129616	0.000155072	0.009212713	0.000200199	0.062992324	4.34263E-06	3.2811E-06	4.82515E-06	7.65872E-07	1.0319E-06	2945.55	1262.9	3.21	40412.8
Alameda (SF)	2020 OFF - ConstMin - Asphalt Pavers	Aggregated	100	Gasoline	7.49548E-05	6.89434E-05	8.24832E-05	0.002866802	0.000200128	0.065217936	4.54715E-06	3.43563E-06	5.05239E-06	6.30096E-07	9.27044E-07	2646.25	693.5	1.76	42303.5
Alameda (SF)	2020 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Gasoline	0.000354179	0.000325774	0.000389752	0.015799593	0.000249194	0.023875979	0.000180137	0.000136104	0.000200153	6.12735E-07	6.62357E-07	1890.7	1390.65	11.25	23162.9
Alameda (SF)	2020 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	3.39255E-05	4.03741E-05	4.88527E-05	0.000182161	0.000308232	0.040748868	1.16023E-05	1.06741E-05	1.16023E-05	5.37795E-07	3.4158E-07	1357.8	2047.65	2.52	31744.05
Alameda (SF)	2020 OFF - ConstMin - Bore/Drill Rigs	Aggregated	50	Gasoline	1.09338E-05	1.00569E-05	1.20319E-05	0.00058104	1.96282E-05	0.006377241	4.39641E-07	3.32173E-07	4.8849E-07	7.75356E-08	9.59011E-08	273.75	105.85	0.97	3387.2
Alameda (SF)	2020 OFF - ConstMin - Bore/Drill Rigs	Aggregated	100	Gasoline	7.05514E-05	6.48932E-05	7.76375E-05	0.002170282	0.000252011	0.079608145	5.55047E-06	4.19369E-06	6.16719E-06	7.69126E-07	1.1035E-06	3149.95	485.45	4.57	42719.6
Alameda (SF)	2020 OFF - ConstMin - Bore/Drill Rigs	Aggregated	175	Gasoline	1.54715E-05	1.42307E-05	1.70255E-05	0.000942574	9.83274E-05	0.027439848	1.96715E-06	1.48629E-06	2.18572E-06	2.72586E-07	3.79768E-07	1084.05	109.5	1.13	13797
Alameda (SF)	2020 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Gasoline	0.014117144	0.012984949	0.015535056	0.489140267	0.009125849	0.830186539	0.004653695	0.003516125	0.005170772	2.49796E-05	2.19677E-05	62707	156446.3	1699.17	1084641.3
Alameda (SF)	2020 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Diesel	8.59385E-05	0.000102274	0.000123751	0.000597842	0.000771786	0.104362214	3.06714E-05	2.82177E-05	3.06714E-05	1.564E-06	8.74151E-07	3474.8	10522.95	35.01	108664.15
Alameda (SF)	2020 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Gasoline	0.010880958	0.010008305	0.01197383	0.457108079	0.008104411	0.718374179	0.005287683	0.003995138	0.005875203	1.97686E-05	1.96393E-05	56060.35	67963	239.17	710074.65
Alameda (SF)	2020 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Diesel	2.8167E-06	3.35211E-06	4.05605E-06	1.38439E-05	2.5631E-05	0.003362163	9.57711E-07	8.81094E-07	9.57711E-07	4.26595E-08	2.66285E-08	105.85	146	0.26	2628
Alameda (SF)	2020 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Gasoline	0.000171188	0.000157459	0.000188382	0.012884666	0.000269013	0.1463375	1.00884E-05	7.62233E-06	1.12093E-05	1.7792E-06	2.21595E-06	6325.45	2266.65	3.71	79332.75
Alameda (SF)	2020 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Diesel	5.15146E-05	6.13066E-05	7.4181E-05	0.000423284	0.000390234	0.052841435	1.97122E-05	1.81353E-05	1.97122E-05	6.83108E-07	4.44421E-07	1766.6	1273.85	2.21	42037.05
Alameda (SF)	2020 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	100	Gasoline	7.03518E-05	6.47096E-05	7.74179E-05	0.00351182	0.000172195	0.156389928	1.09039E-05	8.23849E-06	1.21154E-05	1.51094E-06	2.15074E-06	6139.3	1299.4	2.13	85760.4
Alameda (SF)	2020 OFF - ConstMin - Cranes	Aggregated	50	Gasoline	4.96971E-05	4.57114E-05	5.46886E-05	0.003096235	7.42659E-05	0.019334679	1.33292E-06	1.00709E-06	1.48102E-06	2.35074E-07	3.24785E-07	927.1	459.9	1.13	17016.3
Alameda (SF)	2020 OFF - ConstMin - Cranes	Aggregated	100	Gasoline	0.000105303	9.68573E-05	0.000115879	0.00378007	0.000289618	0.076469852	5.33166E-06	4.02837E-06	5.92407E-06	7.38805E-07	1.09455E-06	3124.4	934.4	2.27	69145.6
Alameda (SF)	2020 OFF - ConstMin - Cranes	Aggregated	175	Gasoline	4.45762E-06	4.10012E-06	4.90534E-06	0.000191431	2.18278E-05	0.005025118	3.60247E-07	2.72187E-07	4.00275E-07	4.99193E-08	7.03275E-08	200.75	32.85	0.09	4106.25
Alameda (SF)	2020 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	25	Gasoline	0.000159724	0.000146914	0.000175766	0.006886981	0.000117938	0.010631081	8.02084E-05	6.06019E-05	8.91204E-05	2.84999E-07	2.92818E-07	835.85	817.6	2.83	9606.8

Alameda (SF)	2020 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	100	Gasoline	6.64387E-05	6.11103E-05	7.31117E-05	0.002229377	0.000207618	0.060429334	4.21328E-06	3.18337E-06	4.68142E-06	5.83832E-07	8.50323E-07	2427.25	313.9	1.28	30134.4
Alameda (SF)	2020 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Gasoline	0.001301024	0.001196682	0.001431697	0.047780387	0.000887631	0.078149245	0.000515779	0.0003897	0.000573088	2.22898E-06	2.10599E-06	6011.55	16877.6	113.23	146861.4
Alameda (SF)	2020 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Diesel	8.74854E-06	1.04115E-05	1.25979E-05	4.29786E-05	7.96514E-05	0.010437935	3.03535E-06	2.79252E-06	3.03535E-06	1.32438E-07	8.72314E-08	346.75	1000.1	1.52	16001.6
Alameda (SF)	2020 OFF - ConstMin - Dumpers/Tenders	Aggregated	100	Gasoline	6.01749E-06	5.53489E-06	6.62189E-06	0.000188113	2.10138E-05	0.006554606	4.57003E-07	3.45291E-07	5.07781E-07	6.33266E-08	8.8229E-08	251.85	105.85	0.85	6986.1
Alameda (SF)	2020 OFF - ConstMin - Excavators	Aggregated	25	Diesel	6.12991E-05	7.2951E-05	8.82707E-05	0.00030128	0.0005578	0.073169743	2.08424E-05	1.9175E-05	2.08424E-05	9.28385E-07	6.13375E-07	2438.2	3255.8	2.33	74883.4
Alameda (SF)	2020 OFF - ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0.000197659	0.000235231	0.000284629	0.001395723	0.001785473	0.242915515	6.91879E-05	6.36528E-05	6.91879E-05	3.65356E-06	2.03754E-06	8099.35	16811.9	24.35	228278.3
Alameda (SF)	2020 OFF - ConstMin - Other Construction Equipment	Aggregated	175	Gasoline	6.56829E-05	6.04151E-05	7.228E-05	0.005667398	0.000211195	0.161861658	1.16038E-05	8.76728E-06	1.28931E-05	1.60793E-06	2.2671E-06	6471.45	1175.3	3.16	148087.8
Alameda (SF)	2020 OFF - ConstMin - Pavers	Aggregated	25	Diesel	1.66117E-05	1.97694E-05	2.39209E-05	8.153E-05	0.000151412	0.019800634	5.84484E-06	5.37725E-06	5.84484E-06	2.51233E-07	1.67117E-07	664.3	781.1	0.95	18746.4
Alameda (SF)	2020 OFF - ConstMin - Paving Equipment	Aggregated	25	Gasoline	0.022970036	0.021127839	0.025277124	0.849393265	0.016458305	1.433475344	0.009143648	0.006908534	0.010159609	4.20822E-05	3.79525E-05	108335.65	228526.5	1208.03	1873282.2
Alameda (SF)	2020 OFF - ConstMin - Paving Equipment	Aggregated	25	Diesel	1.96481E-05	2.33829E-05	2.82933E-05	9.65689E-05	0.000178791	0.023453037	6.67711E-06	6.14294E-06	6.67711E-06	2.97575E-07	1.95582E-07	777.45	1354.15	1.63	25728.85
Alameda (SF)	2020 OFF - ConstMin - Paving Equipment	Aggregated	50	Gasoline	0.000105311	9.68655E-05	0.000115889	0.00744599	0.00016905	0.079422355	5.47531E-06	4.1369E-06	6.08367E-06	9.65631E-07	1.21219E-06	3460.2	1533	8.79	56721
Alameda (SF)	2020 OFF - ConstMin - Paving Equipment	Aggregated	100	Gasoline	2.02735E-05	1.86475E-05	2.23097E-05	0.000902177	5.60458E-05	0.036103272	2.51721E-06	1.90189E-06	2.7969E-06	3.48808E-07	4.9485E-07	1412.55	397.85	2.27	26258.1
Alameda (SF)	2020 OFF - ConstMin - Plate Compactors	Aggregated	25	Gasoline	0.009684836	0.008908112	0.010657571	0.317098685	0.006499006	0.566699954	0.003096656	0.002339695	0.003440729	1.72562E-05	1.46498E-05	41818.05	129443.6	667.77	794415.2
Alameda (SF)	2020 OFF - ConstMin - Plate Compactors	Aggregated	25	Diesel	5.8052E-05	6.90867E-05	8.3595E-05	0.000438489	0.000523503	0.0718137	2.04561E-05	1.88196E-05	2.04561E-05	1.11748E-06	6.01438E-07	2390.75	12161.8	20.25	97294.4
Alameda (SF)	2020 OFF - ConstMin - Rollers	Aggregated	25	Gasoline	0.004948477	0.004551609	0.005445497	0.207174746	0.003567309	0.322134243	0.002345091	0.001771846	0.002605657	8.67796E-06	8.85742E-06	25283.55	32550.7	130.7	400638.6
Alameda (SF)	2020 OFF - ConstMin - Rollers	Aggregated	25	Diesel	0.000354467	0.000421845	0.000510432	0.002230574	0.003210379	0.431144838	0.000122781	0.000112959	0.000122781	6.12824E-06	3.6123E-06	14359.1	37551.2	53.97	448701.8
Alameda (SF)	2020 OFF - ConstMin - Rollers	Aggregated	50	Gasoline	0.000239995	0.000220748	0.0002641	0.015757166	0.000332215	0.07633159	5.26223E-06	3.97591E-06	5.84692E-06	9.28053E-07	1.35157E-06	3858.05	1408.9	2.27	52129.3
Alameda (SF)	2020 OFF - ConstMin - Rollers	Aggregated	100	Gasoline	0.000490692	0.000451338	0.000539976	0.018493599	0.00120909	0.28761729	2.00534E-05	1.51514E-05	2.22815E-05	2.77878E-06	4.22221E-06	12052.3	2646.25	4.24	198468.75
Alameda (SF)	2020 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	50	Gasoline	3.36116E-05	3.09159E-05	3.69875E-05	0.002092732	5.02722E-05	0.013105021	9.03448E-07	6.82605E-07	1.00383E-06	1.59333E-07	2.16097E-07	616.85	200.75	0.48	9435.25
Alameda (SF)	2020 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	100	Gasoline	0.000457173	0.000420507	0.000503091	0.01640135	0.001258957	0.332767165	2.32013E-05	1.75299E-05	2.57792E-05	3.21499E-06	4.77715E-06	13636.4	2653.55	6.43	225551.75
Alameda (SF)	2020 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	175	Gasoline	1.68475E-05	1.54963E-05	1.85396E-05	0.00072476	8.25996E-05	0.019037471	1.36478E-06	1.03117E-06	1.51643E-06	1.89117E-07	2.69802E-07	770.15	94.9	0.24	13475.8
Alameda (SF)	2020 OFF - ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	1.63734E-05	1.94857E-05	2.35776E-05	8.04736E-05	0.000148992	0.019544093	5.56713E-06	5.12176E-06	5.56713E-06	2.47977E-07	1.64362E-07	653.35	843.15	0.88	21078.75
Alameda (SF)	2020 OFF - ConstMin - Rubber Tired Loaders	Aggregated	50	Gasoline	7.91796E-05	7.28294E-05	8.71323E-05	0.005164994	0.000109462	0.029628729	2.04258E-06	1.54328E-06	2.26953E-06	3.60231E-07	5.05079E-07	1441.75	580.35	1.1	23214
Alameda (SF)	2020 OFF - ConstMin - Rubber Tired Loaders	Aggregated	100	Gasoline	0.00049667	0.000456837	0.000546555	0.018745206	0.001266369	0.350144179	2.44129E-05	1.84453E-05	2.71254E-05	3.38288E-06	5.05591E-06	14432.1	3854.4	7.5	277516.8
Alameda (SF)	2020 OFF - ConstMin - Signal Boards	Aggregated	25	Gasoline	0.000247217	0.00022739	0.000272047	0.010319365	0.000191612	0.016646929	0.000120932	9.13707E-05	0.000134369	4.78521E-07	4.48817E-07	1281.15	2157.15	8.14	16873.95
Alameda (SF)	2020 OFF - ConstMin - Signal Boards	Aggregated	25	Diesel	0.000907312	0.001079776	0.001306529	0.006853278	0.008181984	1.12239709	0.000319714	0.000294137	0.000319714	1.74655E-05	9.41456E-06	37423.45	132922.05	177.08	797532.3
Alameda (SF)	2020 OFF - ConstMin - Signal Boards	Aggregated	50	Diesel	2.25018E-05	2.6779E-05	3.24026E-05	0.000182813	0.000169843	0.023357151	8.46633E-06	7.78902E-06	8.46633E-06	3.0195E-07	1.95582E-07	777.45	467.2	0.9	17286.4
Alameda (SF)	2020 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Gasoline	0.016274011	0.014968835	0.017908556	0.690135909	0.011311465	1.037488933	0.007827552	0.005914151	0.00869728	2.63306E-05	2.90197E-05	82836.75	72872.25	228.26	1379225.5
Alameda (SF)	2020 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0.001640124	0.001951884	0.002361779	0.007929257	0.014760135	1.903275861	0.000600338	0.000552311	0.000600338	2.4149E-05	1.59229E-05	63294.65	100813	120.77	2016260
Alameda (SF)	2020 OFF - ConstMin - Skid Steer Loaders	Aggregated	50	Gasoline	0.00052486	0.000482766	0.000577576	0.041683512	0.000798816	0.420507046	2.89894E-05	2.19031E-05	3.22104E-05	5.1126E-06	6.46885E-06	18465.35	9570.3	30.87	306249.6
Alameda (SF)	2020 OFF - ConstMin - Skid Steer Loaders	Aggregated	100	Gasoline	0.000301688	0.000277492	0.000331989	0.016039575	0.000741005	0.621845391	4.33566E-05	3.27583E-05	4.81739E-05	6.00789E-06	8.59018E-06	24520.7	5730.5	18.46	458440
Alameda (SF)	2020 OFF - ConstMin - Surfacing Equipment	Aggregated	25	Gasoline	0.011069277	0.010181521	0.012181064	0.421389176	0.008357123	0.689788568	0.00482949	0.003648948	0.005366099	1.99152E-05	1.85294E-05	52892.15	139488.4	326.03	1085382.25
Alameda (SF)	2020 OFF - ConstMin - Tampers/Rammers	Aggregated	25	Gasoline	0.00122156	0.001123591	0.001344252	0.0570862	0.001028034	0.107119096	0.000808182	0.000610627	0.00089798	4.28403E-06	2.67756E-06	7643.1	35576.55	195.31	150135.45
Alameda (SF)	2020 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0.000304197	0.000362019	0.000438043	0.001495101	0.002768084	0.36310505	0.000104196	9.58606E-05	0.000104196	4.60711E-06	3.03657E-06	12070.55	16731.6	17.73	384826.8
Alameda (SF)	2020 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Gasoline	0.000226011	0.000207885	0.000248711	0.014865943	0.000564759	0.245316221	1.7104E-05	1.2923E-05	1.90045E-05	2.3701E-06	3.57264E-06	10198.1	3460.2	3.97	217992.6
Alameda (SF)	2020 OFF - ConstMin - Trenchers	Aggregated	25	Gasoline	0.010029591	0.009225218	0.011036954	0.420189593	0.007322865	0.644983923	0.004866217	0.003676697	0.005406908	1.71247E-05	1.78504E-05	50954	50906.55	117.21	753538.85
Alameda (SF)	2020 OFF - ConstMin - Trenchers	Aggregated	25	Diesel	0.000143341	0.000170588	0.000206412	0.000776615	0.001302121	0.172285957	4.90756E-05	4.51495E-05	4.90756E-05	2.2831E-06	1.44253E-06	5734.15	5993.3	9.69	133845.5
Alameda (SF)	2020 OFF - ConstMin - Trenchers	Aggregated	50	Gasoline	0.000983514	0.000904636	0.001082297	0.06101686	0.001478219	0.388107416	2.67558E-05	2.02155E-05	2.97286E-05	4.71868E-06	6.47013E-06	18469	8285.5	20.6	248565
Alameda (SF)	2020 OFF - ConstMin - Trenchers	Aggregated	100	Gasoline	0.000379998	0.000349522	0.000418164	0.013586823	0.001053759	0.280177644	1.95347E-05	1.47595E-05	2.17052E-05	2.70691E-06	4.01634E-06	11464.65	2752.1	6.84	181638.6
Alameda (SF)	2020 OFF - Industrial - Aerial Lifts	Aggregated	25	Gasoline	0.002574969	0.002368457	0.002833597	0.108065214	0.00179049	0.162428875	0.001225479	0.000925917	0.001361643	4.12483E-06	4.54315E-06	12968.45	14439.4	38.47	272355.7
Alameda (SF)	2020 OFF - Industrial - Aerial Lifts	Aggregated	25	Diesel	0.000266232	0.000316838	0.000383374	0.001509618	0.002390094	0.314054715	9.59622E-05	8.82852E-05	9.59622E-05	4.27882E-06	2.6298E-06	10453.6	22757.75	57	397824.45
Alameda (SF)	2020 OFF - Industrial - Aerial Lifts	Aggregated	25	Nat Gas	0	0	0.00018246	0.048730392	0.001340936	0.286830754	0	0	0.000147302	0	0	19180.75	16224.25	43.22	306048.85
Alameda (SF)	2020 OFF - Industrial - Aerial Lifts	Aggregated	50	Gasoline	0.000793405	0.000729774	0.000873094	0.066002806	0.001179461	0.595811039	4.10747E-05	3.10342E-05	4.56385E-05	7.24398E-06	9.31519E-06	26590.25	16589.25	45.93	547445.25
Alameda (SF)	2020 OFF - Industrial - Aerial Lifts	Aggregated	100	Gasoline	0.000625414	0.000575256	0.00068823	0.035040746	0.001550685	1.196086635	8.3394E-05	6.30088E-05	9.26601E-05	1.15559E-05	1.66113E-05	47417.15	16589.25	45.93	1111479.75
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	25	Gasoline	7.58286E-05	6.97472E-05	8.34448E-05	0.004746738	6.23368E-05	0.007102493	3.57242E-06	2.69916E-06	3.96935E-06	1.8001E-07	1.95638E-07	558.45	795.7	0.88	18301.1
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	25	Nat Gas	0	0	8.83015E-06	0.001398622	3.90513E-05	0.007292925	0	0	4.79845E-06	0	0	507.35	514.65	0.42	11836.95
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	50	Gasoline	0.019874466	0.018280534	0.021870638	2.36809124	0.045262575	8.028436	0.000553473	0.00041818	0.00061497	9.76111E-05	0.000156785	447544.75	275918.1	153.15	11312642.1
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	50	Nat Gas	0	0	0.001218747	0.203032332	0.053113841	12.68088342	0	0	0.001127758	0	0	675469	505999.5	280.87	20745979.5
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	100	Gasoline	0.041962268	0.038596894	0.046176916	4.02482235	0.205192504	47.56195927	0.003316134	0.002505523	0.003684593	0.000459515	0.000716324	2044748.25	968293.9	537.5	67780573
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	100	Nat Gas	0	0	0.007230846	3.422656043	0.342952213	75.9857499	0	0	0.006757693	0	0	4226860.6	1775892.9	985.76	124312503
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	175	Gasoline	0.002189467	0.002013872	0.002409375	0.155733608	0.012728644	3.526084535	0.000252783	0.000190991	0.00028087	3.5028E-05	5.00821E-05	142959.55	35386.75	19.65	5166465.5
Alameda (SF)	2020 OFF - Industrial - Forklifts	Aggregated	175	Nat Gas	0	0	0.000331926	0.200584537	0.017093756	5.799740176	0	0	0.000515792	0	0	317258	64991.9	36.07	9488817.4
Alameda (SF)	2020 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Gasoline	0.002123218	0.001952936	0.002336472	0.131762623	0.001680041	0.206055831	9.92879E-05	7.50176E-05	0.00011032	5.71168E-06	5.59167E-06	15961.45	27853.15	71.78	294219.2
Alameda (SF)	2020 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	0.00032141	0.000382504	0.00046283	0.001821254	0.002994023	0.396862063	0.000113046	0.000104002	0.000113046	5.30583E-06	3.32122E-06	13202.05	25159.45	17.65	453286.2
Alameda (SF)	2020 OFF - Industrial - Other General Industrial Equipment	Aggregated	50	Gasoline	0.000621797	0.000571929	0.00068425	0.060395253	0.001355296	0.401131557	2.76537E-05	2.08939E-05	3.07263E-05	4.87703E-06	6.60695E-06	18859.55	10471.85	14.67	314155.5
Alameda (SF)	2020 OFF - Industrial - Other General Industrial Equipment	Aggregated	100	Gasoline	0.000192398	0.000176968	0.000211722	0.014159022	0.001121609	0.34327883	2.39307E-05	1.80809E-05	2.65896E-05	3.31606E-06	4.85387E-06	13855.4	3438.3	4.81	271625.7
Alameda (SF)	2020 OFF - Industrial - Other General Industrial Equipment	Aggregated	175	Gasoline	2.69839E-05	2.48198E-05	2.96942E-05	0.002652896	0.00022626	0.071151152	5.10078E-06	3.85392E-06	5.66753E-06	7.06812E-07	9.9865E-07	2850.65	335.8	0.47	58429.2
Alameda (SF)	2020 OFF - Industrial - Other Material Handling Equipment	Aggregated	50	Gasoline	8.96867E-06	8.24938E-06	9.86947E-06	0.000644085	1.73031E-05	0.004117208	2.83837E-07	2.14454E-07	3.15374E-07	5.00577E-08	6.39341E-08	182.5	62.05	0.16	2544.05
Alameda (SF)	2020 OFF - Industrial - Other Material Handling Equipment	Aggregated	100	Gasoline	0.000252257	0.000232026	0.000277593	0.010926466	0.001057421	0.237257155	1.65421E-05	1.24985E-05	1.83802E-05	2.29223E-06	3.38339E-06	9657.9	3547.8	9.17	191581.2
Alameda (SF)	2020 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Gasoline	0.001622447	0.001492327	0.001785404	0.106221768	0.001293098	0.162529343	7.58526E-05	5.73109E-05	8.42807E-05	4.28039E-06	4.45365E-06	12712.95	13636.4	50.47	176433.7
Alameda (SF)	2020 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Diesel	6.40087E-05	7.61756E-05	9.21725E-05	0.000392948	0.000604937	0.080689134	2.29843E-05	2.11455E-05	2.29843E-05	1.1115E-06	6.73977E-07	2679.1	3744.9	5.74	69313.5
Alameda (SF)	2020 OFF - Industrial - Sweepers/Scrubbers	Aggregated	50	Gasoline	0.001728864	0.001590209	0.001902509	0.15143576	0.00368795	1.296579426	8.9385E-05	6.75353E-05	9.93167E-05	1.5764E-05	2.04269E-05	58308.75	22060.6	42.69	772121
Alameda (SF)	2020 OFF - Industrial - Sweepers/Scrubbers	Aggregated	100	Gasoline	0.001009167	0.000928232	0.001110527	0.064683856	0.006284901	2.079670575	0.000145	0.000109555	0.000161111	2.00925E-05	2.89583E-05	82661.55	18421.55	35.66	1252665.4
Alameda (SF)	2020 OFF - Industrial - Sweepers/Scrubbers	Aggregated	175	Gasoline	7.81055E-06	7.18414E-06	8.59503E-06	0.000865244	7.459E-05	0.024210451	1.73563E-06	1.31137E-06	1.92848E-06	2.40506E-07	3.41408E-07	974.55	105.85	0.2	14819
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	25	Gasoline	0.026384864	0.024268798	0.029034934	0.616842019	0.015433859	1.279051275	0.004871374	0.003680594	0.005412638	3.99514E-05	3.12599E-05	89231.55	285743.9	591.12	1761168.8
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	25	Diesel	0.000113308	0.000134846	0.000163164	0.000580473	0.000978968	0.123327579	4.54671E-05	4.18298E-05	4.54671E-05	1.6362E-06	1.033E-06	4106.25	7497.1	9.18	149708.4
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	50	Gasoline	0.001418407	0.00130465	0.00156087	0.094850873	0.0019803	0.548927323	3.78426E-05	2.85922E-05	4.20473E-05	6.67396E-06	9.3267E-06	26623.1	11836.95	24.51	414293.25
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	50	Diesel	0.001564598	0.001862001	0.002253021	0.012234243	0.010466752	1.379548019	0.000562014	0.000517053	0.000562014	1.78341E-05	1.1644E-05	46285.65	45263.65	55.61	1674755.05
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	100	Gasoline	0.004763963	0.004381893	0.00524245	0.18505242	0.012270776	3.51996064	0.00024542	0.000185429	0.000272689	3.40077E-05	5.07534E-05	144875.8	38394.35	79.42	2687604.5
Alameda (SF)	2020 OFF - Light Commercial - Air Compressors	Aggregated	175	Gasoline	0.000398186	0.000366251	0.000438179	0.017021979	0.001746872	0.440851615	3.16044E-05	2.38789E-05	3.5116E-05	4.3794E-06	6.21823E-06	17749.95	2580.55	5.34	345793.7
Alameda (SF)	2020 OFF - Light Commercial - Gas Compressors	Aggregated	50	Nat Gas	0	0	8.15554E-05	0.014453032	0.002961707	0.9847037	0	0	7.54273E-05	0	0	52319.1	15300.8	1.8	489625.6
Alameda (SF)	2020 OFF - Light Commercial - Gas Compressors	Aggregated	100	Nat Gas	0	0	0.000444748	0.23112661	0.0175238	5.5335277	0	0	0.000428679	0	0	306180.25	31627.25	3.73	2783198
Alameda (SF)	2020 OFF - Light Commercial - Gas Compressors	Aggregated	175	Nat Gas	0	0	0.000124032	0.047021442	0.004689288	1.4401186	0	0	0.000114712	0	0	78631.95	5099.05	0.6	744461.3
Alameda (SF)	2020 OFF - Light Commercial - Gas Compressors	Aggregated	300	Nat Gas	0	0	9.54319E-05	0.05410686	0.004539642	1.4842271	0	0	0.000131998	0	0	81435.15	4080.7	0.48	856947
Alameda (SF)	2020 OFF - Light Commercial - Gas Compressors	Aggregated	600	Nat Gas	0	0	0.0001344	0.07620048	0.006393328	2.0902873	0	0	0.000185897	0	0	114690.3	3569.7	0.42	1206558.6
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	25	Gasoline	0.200495022	0.184415321	0.220632541	10.6628531	0.136515022	16.87443106	0.011128166	0.008407947	0.012364629	0.000462225	0.000456739	1303761.75	1783831.65	15525.49	19133748.95
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	25	Diesel	0.002690419	0.003201821	0.003874203	0.016652275	0.025516727	3.225014981	0.001157415	0.001064822	0.001157415	4.50127E-05	2.70179E-05	107397.6	176594.3	523.11	2539356.1
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	50	Gasoline	0.007272882	0.006689597	0.008003363	0.437493088	0.014860148	4.764930508	0.00032849	0.000248192	0.000364989	5.79329E-05	7.2647E-05	207371.1	92567.65	805.93	2962164.8
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	50	Diesel	0.002973552	0.003538773	0.004281915	0.026293873	0.026884494	3.818259765	0.00120683	0.001110283	0.00120683	4.93606E-05	3.20644E-05	127458	91100.35	269.88	3006311.55
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	100	Gasoline	0.001720166	0.001582208	0.001892937	0.062351162	0.009211006	2.360119069	0.000164553	0.000124329	0.000182837	2.2802E-05	3.26639E-05	93239.25	17870.4	155.65	1483243.2
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	100	Nat Gas	0	0	7.64891E-06	0.004791754	0.000561032	0.153021423	0	0	1.36088E-05	0	0	8332.95	1321.3	11.59	109667.9
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	175	Gasoline	0.000170406	0.00015674	0.000187522	0.013073555	0.001624986	0.38149599	2.73492E-05	2.06638E-05	3.0388E-05	3.78976E-06	5.33977E-06	15242.4	1689.95	14.69	246732.7
Alameda (SF)	2020 OFF - Light Commercial - Generator Sets	Aggregated	175	Nat Gas	0	0	8.67011E-06	0.005746769	0.000782488	0.223146277	0	0	1.98452E-05	0	0	12037.7	1102.3	9.58	160935.8
Alameda (SF)	2020 OFF - Light Commercial - Pressure Washers	Aggregated	25	Gasoline	0.021234511	0.019531503	0.023367284	0.778086853	0.0106396	1.421331628	0.00196196	0.00148237	0.002179956	4.25736E-05	3.62161E-05	103378.95	186230.3	1620.73	1289311.4
Alameda (SF)	2020 OFF - Light Commercial - Pressure Washers	Aggregated	25	Diesel	1.46746E-05	1.7464E-05	2.11315E-05	0.000104601	0.000143738	0.018218322	6.60141E-06	6.0733E-06	6.60141E-06	2.70196E-07	1.5518E-07	616.85	2489.3	17.27	35164.1
Alameda (SF)	2020 OFF - Light Commercial - Pressure Washers	Aggregated	50	Gasoline	6.59954E-05	6.07026E-05	7.26239E-05	0.004131074	0.000111041	0.048244662	3.32594E-06	2.51294E-06	3.69549E-06	5.86567E-07	7.2757E-07	2076.85	828.55	7.22	24027.95
Alameda (SF)	2020 OFF - Light Commercial - Pressure Washers	Aggregated	50	Diesel	1.03393E-05	1.23047E-05	1.48886E-05	0.000107948	0.000124336	0.018346776	4.80991E-06	4.42512E-06	4.80991E-06	2.37178E-07	1.54262E-07	613.2	938.05	6.47	35645.9
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	25	Gasoline	0.065237753	0.060005685	0.071790167	2.229114512	0.043680972	3.926007756	0.024425933	0.018455149	0.027139925	0.00011971	0.000102055	291317.45	790673.95	3582.5	4387183.2
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	25	Diesel	0.001495202	0.001779414	0.002153091	0.008922302	0.013122578	1.655621185	0.000624637	0.000574666	0.000624637	2.36726E-05	1.38808E-05	55177.05	118610.4	294.71	1303477.05
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	50	Gasoline	0.001131527	0.001040778	0.001245176	0.077287925	0.001767749	0.719376185	4.95931E-05	3.74704E-05	5.51035E-05	8.7463E-06	1.12051E-05	31984.95	14220.4	64.42	440832.4
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	50	Diesel	0.001901892	0.002263408	0.002738724	0.01614279	0.015933596	2.234774168	0.000746805	0.000687061	0.000746805	2.88901E-05	1.87832E-05	74664.4	47544.9	118.16	1759161.3
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	100	Gasoline	0.001958838	0.001801739	0.002155581	0.08135455	0.005565128	2.704641844	0.000188574	0.000142478	0.000209527	2.61306E-05	3.7638E-05	107437.75	18009.1	81.62	1674846.3
Alameda (SF)	2020 OFF - Light Commercial - Pumps	Aggregated	175	Gasoline	6.35583E-05	5.84609E-05	6.9942E-05	0.004332517	0.000281513	0.122786888	8.80251E-06	6.65079E-06	9.78057E-06	1.21976E-06	1.72238E-06	4916.55	536.55	2.48	77263.2
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	25	Gasoline	0.063980088	0.058848885	0.070406184	2.701988247	0.04519763	4.092841194	0.030879294	0.023331022	0.034310327	0.0001057	0.000114047	325547.15	394141.6	1897.23	6187947.2
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	25	Diesel	0.001325552	0.001577516	0.001908795	0.007356593	0.011544133	1.45540693	0.000542956	0.000499519	0.000542956	2.00743E-05	1.2195E-05	48475.65	123873.7	192.84	1884564.35
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	50	Gasoline	0.00269677	0.002480489	0.00296763	0.160771347	0.004379213	1.443399142	9.95066E-05	7.51828E-05	0.000110563	1.75491E-05	2.26211E-05	64572.15	26593.9	127.99	1196725.5
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	50	Diesel	0.006703798	0.007978074	0.009653469	0.052660348	0.047079048	6.340185111	0.002456104	0.002259616	0.002456104	8.19628E-05	5.34407E-05	212430	178459.45	277.88	8209134.7
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	100	Gasoline	0.002155062	0.001982226	0.002371515	0.074853031	0.006677749	2.265880295	0.000157983	0.000119365	0.000175536	2.18916E-05	3.17036E-05	90498.1	27141.4	130.61	1899898
Alameda (SF)	2020 OFF - Light Commercial - Welders	Aggregated	175	Gasoline	0.000175281	0.000161224	0.000192886	0.009973999	0.000940652	0.28211903	2.02249E-05	1.52811E-05	2.24721E-05	2.80256E-06	3.95624E-06	11293.1	1872.45	9.03	243418.5
Alameda (SF)	2020 OFF - Oil Drilling - Compressors (Workover)	Aggregated	25	Diesel	4.58362E-08	5.45488E-08	6.60041E-08	2.24715E-07	4.1178E-07	5.1609E-05	1.87671E-08	1.72657E-08	1.87671E-08	6.5482E-10	0	0	0	0	0
Alameda (SF)	2020 OFF - Oil Drilling - Generator (Drilling)	Aggregated	50	Diesel	4.42143E-08	5.26186E-08	6.36685E-08	3.3284E-07	2.69388E-07	3.34614E-05	1.55898E-08	1.43426E-08	1.55898E-08	4.32572E-10	0	0	0	0	0
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	25	Diesel	8.85841E-09	1.07187E-08	1.27561E-08	1.88013E-07	1.49926E-07	2.98192E-05	6.17434E-10	5.68039E-10	6.17434E-10	2.75427E-10	2.4338E-10	0.967449483	1.338595657	0.000839771	33.46489143
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	50	Diesel	1.34627E-06	1.62899E-06	1.93863E-06	4.86246E-06	3.43547E-06	0.000289528	4.51834E-07	4.15687E-07	4.51834E-07	2.63644E-09	2.36309E-09	9.393411996	7.703223314	0.006718171	324.9478747
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	75	Diesel	9.13603E-08	1.10546E-07	1.31559E-07	1.23305E-06	1.14965E-06	0.000172592	6.91765E-08	6.36424E-08	6.91765E-08	1.59296E-09	1.40867E-09	5.599564053	3.076922514	0.003359086	215.4097691
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	100	Diesel	9.31497E-07	1.12711E-06	1.34136E-06	7.46877E-06	1.02449E-05	0.00095211	7.83165E-07	7.20511E-07	7.83165E-07	8.77478E-09	7.77099E-09	30.89015103	13.23395794	0.010077257	1177.51532
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	175	Diesel	4.46517E-06	5.40285E-06	6.42984E-06	4.59527E-05	4.48806E-05	0.007015581	2.78919E-06	2.56605E-06	2.78919E-06	6.47286E-08	5.72602E-08	227.6128111	60.34933394	0.050386286	8720.949167
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	300	Diesel	3.75102E-06	4.53873E-06	5.40146E-06	1.90433E-05	5.30385E-05	0.008156754	1.57258E-06	1.44677E-06	1.57258E-06	7.53007E-08	6.65743E-08	264.6368911	45.3694912	0.036110171	10151.46984
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	600	Diesel	5.8988E-06	7.13755E-06	8.49427E-06	3.17331E-05	8.49461E-05	0.014727358	2.67205E-06	2.45828E-06	2.67205E-06	1.35985E-07	1.20203E-07	477.8128998	44.59270263	0.031911314	18340.65111
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	750	Diesel	1.60552E-06	1.94268E-06	2.31195E-06	7.63527E-06	1.99291E-05	0.003606202	7.30846E-07	6.72378E-07	7.30846E-07	3.3293E-08	2.94333E-08	116.9992424	7.0717152	0.005038629	4487.575599
Alameda (SF)	2020 Oil Drilling - Drill Rig (Mobile)	Aggregated	9999	Diesel	1.06365E-06	1.28702E-06	1.53166E-06	5.24628E-06	2.24176E-05	0.002580723	5.65215E-07	5.19998E-07	5.65215E-07	2.38282E-08	2.10635E-08	83.72871454	4.187100343	0.002519314	3220.198437
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	75	Diesel	8.90955E-09	1.07806E-08	1.28297E-08	8.12579E-08	1.15895E-07	1.03648E-05	8.549E-09	7.86508E-09	8.549E-09	9.55602E-11	8.45959E-11	0.336273759	0.174794521	0.000873973	12.93479452
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	175	Diesel	1.32667E-07	1.60527E-07	1.9104E-07	1.60859E-06	1.32582E-06	0.000238802	9.57026E-08	8.80464E-08	9.57026E-08	2.20386E-09	1.94907E-09	7.747671557	1.755810959	0.001747945	298.0290274
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	300	Diesel	1.59199E-06	1.92631E-06	2.29247E-06	9.13327E-06	1.58242E-05	0.003396261	5.97876E-07	5.50046E-07	5.97876E-07	3.13524E-08	2.77198E-08	110.1879366	19.32003836	0.034958904	4187.537696
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	600	Diesel	7.26104E-05	8.78585E-05	0.000104559	0.000426564	0.000817934	0.206829053	2.69222E-05	2.47684E-05	2.69222E-05	1.91006E-06	1.68811E-06	6710.340849	658.1450685	0.471071233	258342.0182
Alameda (SF)	2020 Oil Drilling - Workover Rig (Mobile)	Aggregated	750	Diesel	5.35197E-07	6.47588E-07	7.70683E-07	3.28325E-06	4.6549E-06	0.00165686	2.37658E-07	2.18645E-07	2.37658E-07	1.53024E-08	1.35231E-08	53.75500502	3.032684932	0.001747945	2068.002712
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	50	Diesel	1.93923E-06	2.34647E-06	2.7925E-06	3.53962E-05	3.17439E-05	0.004861466	9.11916E-07	8.38963E-07	9.11916E-07	4.48885E-08	3.96786E-08	157.7249178	178.7071542	0.45387834	9366.893206
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	75	Diesel	0.000118353	0.000143207	0.000170428	0.001927868	0.001857874	0.289938943	7.63941E-05	7.02826E-05	7.63941E-05	2.67708E-06	2.36644E-06	9406.749708	8935.35771	22.69391699	621053.4041
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	100	Diesel	0.000174257	0.000210851	0.00025093	0.004799005	0.00264646	0.713848761	0.000175937	0.000161862	0.000175937	6.59466E-06	5.82634E-06	23160.03687	17602.65469	44.70701647	1529074.355
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	175	Diesel	0.000125133	0.000151411	0.000180192	0.003257234	0.001987901	0.568879289	7.84789E-05	7.22006E-05	7.84789E-05	5.25582E-06	4.64312E-06	18456.66202	8846.004133	22.46697782	1218547.652
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	300	Diesel	0.000149484	0.000180875	0.000215256	0.001237091	0.002190456	0.585973495	7.88584E-05	7.25498E-05	7.88584E-05	5.41313E-06	4.78264E-06	19011.26472	4467.678855	11.34695849	1255163.69
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	600	Diesel	0.000277211	0.000335426	0.000399184	0.002056408	0.004632176	1.070221002	0.000162958	0.000149921	0.000162958	9.88641E-06	8.735E-06	34722.14178	4378.325278	11.12001932	2292428.843
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	750	Diesel	1.67832E-05	2.03077E-05	2.41679E-05	0.000105769	0.000345116	0.055655556	1.02262E-05	9.40807E-06	1.02262E-05	5.1406E-07	4.54253E-07	1805.683216	178.7071542	0.45387834	119215.0044
Alameda (SF)	2020 Portable Equipment - Non-Rental Compressor	Aggregated	9999	Diesel	0.000484291	0.000585992	0.000697378	0.005339447	0.004619796	0.198769842	0.000235044	0.000216241	0.000235044	1.8232E-06	1.62233E-06	6448.86863	89.3535771	0.22693917	425767.873
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	50	Diesel	5.82741E-05	7.05116E-05	8.39146E-05	0.000841736	0.000451171	0.081914696	6.64847E-06	6.11659E-06	6.64847E-06	7.55594E-07	6.68577E-07	2657.63211	2981.066652	2.269391699	157830.2053
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	75	Diesel	0.000445812	0.000539433	0.00064197	0.00669053	0.005357797	0.91514376	0.000260283	0.00023946	0.000260283	8.44758E-06	7.46928E-06	29690.83144	28618.23986	21.78616031	1960251.15
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	100	Diesel	0.000654203	0.000791586	0.000942053	0.012221173	0.007777045	1.651090287	0.000615294	0.000566071	0.000615294	1.52455E-05	1.3476E-05	53567.80603	36667.11982	27.9135179	3536659.241
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	175	Diesel	0.001298303	0.001570947	0.001869556	0.023414751	0.013762981	3.665438122	0.000697821	0.000641995	0.000697821	3.38498E-05	2.99168E-05	118921.1031	53659.19974	40.84905058	7851421.394
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	300	Diesel	0.001397203	0.001690616	0.002011972	0.008834591	0.012955953	3.802193905	0.00055305	0.000508806	0.00055305	3.51113E-05	3.1033E-05	123357.9939	31301.19985	23.82861284	8144354.255
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	600	Diesel	0.0033464	0.004049144	0.004818816	0.019115911	0.034755319	8.286250962	0.001418631	0.001305141	0.001418631	7.65101E-05	6.76313E-05	268838.2868	41734.93313	31.77148378	17749269.23
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	750	Diesel	0.001269734	0.001536378	0.001828417	0.00665044	0.011972686	3.121804414	0.000570312	0.000524687	0.000570312	2.88245E-05	2.54797E-05	101283.5061	9539.413288	7.262053436	6686950.139
Alameda (SF)	2020 Portable Equipment - Non-Rental Generator	Aggregated	9999	Diesel	0.006898543	0.008347237	0.009933902	0.035686474	0.11441782	16.99986374	0.003599685	0.003311711	0.003599685	0.000156965	0.000138751	551541.8572	19078.82658	14.52410687	36413953.65
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	50	Diesel	7.22173E-07	8.73829E-07	1.03993E-06	1.35349E-05	9.34046E-06	0.001912575	1.04992E-07	9.65923E-08	1.04992E-07	1.7661E-08	1.56102E-08	62.05138021	69.60304986	0.22693917	3685.078172
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	75	Diesel	6.00046E-05	7.26056E-05	8.64066E-05	0.00117267	0.001094707	0.1857666	4.33527E-05	3.98845E-05	4.33527E-05	1.7157E-06	1.5162E-06	6026.992767	5637.847039	18.38207276	397914.7411
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	100	Diesel	0.000108773	0.000131616	0.000156634	0.003233901	0.002315786	0.512914005	0.000145594	0.000133947	0.000145594	4.73888E-06	4.18634E-06	16640.93002	11693.31238	38.12578054	1098669.206
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	175	Diesel	0.000391395	0.000473588	0.000563609	0.010509708	0.006972469	1.88804791	0.000283467	0.00026079	0.000283467	1.74442E-05	1.541E-05	61255.63514	28467.64739	92.81812049	4044225.891
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	300	Diesel	0.000282684	0.000342048	0.000407065	0.002373426	0.004141847	1.11177818	0.000152438	0.000140243	0.000152438	1.02705E-05	9.07418E-06	36070.41865	9674.823931	31.54454461	2381444.918
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	600	Diesel	0.000245742	0.000297348	0.000353868	0.00233997	0.003449774	1.076269543	0.000131923	0.000121369	0.000131923	9.94327E-06	8.78437E-06	34918.38002	5081.02264	16.5665594	2305384.905
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	750	Diesel	9.76841E-05	0.000118198	0.000140665	0.000801504	0.001952292	0.42617246	6.27331E-05	5.77145E-05	6.27331E-05	3.93725E-06	3.47836E-06	13826.69613	1252.854898	4.084905058	912867.5649
Alameda (SF)	2020 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	9999	Diesel	0.008148971	0.009860255	0.011734518	0.083658353	0.106526853	7.344576218	0.004510009	0.004149208	0.004510009	6.76598E-05	5.99454E-05	238286.6868	4176.182992	13.61635019	15732188.33
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	50	Diesel	1.01611E-06	1.22949E-06	1.46319E-06	2.21987E-05	2.22976E-05	0.003603327	6.3108E-07	5.80594E-07	6.3108E-07	3.32841E-08	2.94099E-08	116.9059825	139.5036937	0.45387834	6942.757487
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	75	Diesel	6.66019E-05	8.05884E-05	9.59068E-05	0.001514411	0.001315656	0.239988807	4.47247E-05	4.11467E-05	4.47247E-05	2.21682E-06	1.95876E-06	7786.172542	7323.943918	23.82861284	514059.4905
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	100	Diesel	7.60293E-05	9.19954E-05	0.000109482	0.00211687	0.001559895	0.333156875	9.33486E-05	8.58807E-05	9.33486E-05	3.07792E-06	2.71918E-06	10808.90792	7812.206845	25.41718703	713626.8387
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	175	Diesel	0.000130495	0.000157899	0.000187913	0.003585288	0.002333942	0.640418407	9.55524E-05	8.79082E-05	9.55524E-05	5.91707E-06	5.22701E-06	20777.66992	9486.251169	30.86372711	1371785.477
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	300	Diesel	0.000133941	0.000162068	0.000192875	0.001386296	0.001971816	0.727828123	6.9048E-05	6.35242E-05	6.9048E-05	6.72511E-06	5.94044E-06	23613.5819	5998.658828	19.51676861	1559018.351
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	600	Diesel	0.000203154	0.000245816	0.000292542	0.001762628	0.003880335	0.949266071	0.000140627	0.000129377	0.000140627	8.77034E-06	7.74778E-06	30797.89225	4394.366351	14.2971677	2033341.634
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	750	Diesel	4.11199E-05	4.97551E-05	5.92127E-05	0.000300612	0.000861306	0.161716596	3.03685E-05	2.7939E-05	3.03685E-05	1.49392E-06	1.31991E-06	5246.716842	488.2629278	1.588574189	346399.2831
Alameda (SF)	2020 Portable Equipment - Non-Rental Pump	Aggregated	9999	Diesel	7.01E-05	8.4821E-05	0.000100944	0.000502626	0.001700066	0.271125286	4.66106E-05	4.28817E-05	4.66106E-05	2.50458E-06	2.21289E-06	8796.361307	488.2629278	1.588574189	580754.2778
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	75	Diesel	1.80041E-05	2.1785E-05	2.59259E-05	0.000429921	0.000345329	0.067952203	6.75647E-06	6.21596E-06	6.75647E-06	6.27712E-07	5.54617E-07	2204.634393	2107.569541	4.084905058	145554.6003
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	100	Diesel	2.25433E-05	2.72774E-05	3.24623E-05	0.00061799	0.000390469	0.093419809	2.52733E-05	2.32514E-05	2.52733E-05	8.63036E-07	7.6248E-07	3030.902819	2224.656738	4.311844228	200106.58
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	175	Diesel	0.000261583	0.000316516	0.00037668	0.008433449	0.004762349	1.530718878	0.000162378	0.000149388	0.000162378	1.41444E-05	1.24935E-05	49662.4882	23885.78814	46.29559066	3278821.943
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	300	Diesel	0.000245676	0.000297268	0.000353773	0.00320446	0.003298501	1.713506831	0.000108213	9.95556E-05	0.000108213	1.58349E-05	1.39854E-05	55592.84204	12879.59164	24.96330869	3670356.379
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	600	Diesel	0.001339981	0.001621377	0.001929573	0.017892054	0.010172839	9.599724647	0.000476619	0.00043849	0.000476619	8.8714E-05	7.83517E-05	311452.494	36765.37978	71.25889935	20562748.83
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	750	Diesel	1.79746E-05	2.17493E-05	2.58834E-05	0.000237568	0.000208401	0.127627434	1.2645E-05	1.16334E-05	1.2645E-05	1.17944E-06	1.04168E-06	4140.731547	351.2615902	0.68081751	273379.8073
Alameda (SF)	2020 Portable Equipment - Rental Compressor	Aggregated	9999	Diesel	1.84286E-05	2.22986E-05	2.65371E-05	0.000158865	0.000513995	0.087400193	1.17733E-05	1.08314E-05	1.17733E-05	8.07505E-07	7.13349E-07	2835.603009	234.1743935	0.45387834	187212.4757
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	50	Diesel	1.53345E-05	1.85547E-05	2.20817E-05	0.000246471	0.000219104	0.028776747	8.96231E-06	8.24533E-06	8.96231E-06	2.65595E-07	2.34872E-07	933.6298566	1277.137636	0.90775668	55445.97065
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	75	Diesel	0.000820853	0.000993232	0.001182028	0.013716693	0.010918233	1.955419766	0.00042014	0.000386528	0.00042014	1.80542E-05	1.59599E-05	63441.44081	60025.46887	42.66456394	4188537.38
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	100	Diesel	0.001362697	0.001648863	0.001962283	0.029930008	0.019417849	4.20330808	0.001420034	0.001306431	0.001420034	3.88208E-05	3.43068E-05	136371.7015	89080.35008	63.3160284	9003546.611
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	175	Diesel	0.002051338	0.002482119	0.002953926	0.041842356	0.023809761	6.751714533	0.000909791	0.000837008	0.000909791	6.23614E-05	5.51066E-05	219051.9423	98339.59793	69.89726433	14462270.04
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	300	Diesel	0.001838713	0.002224843	0.002647747	0.010772102	0.018051383	4.81444581	0.000728039	0.000669796	0.000728039	4.44568E-05	3.92949E-05	156199.3921	42145.54197	29.95597043	10312612.45
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	600	Diesel	0.007297496	0.008829971	0.010508395	0.04722112	0.06419165	23.00179101	0.002762163	0.00254119	0.002762163	0.000212444	0.000187738	746267.7774	111430.2587	79.20177029	49270168.54
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	750	Diesel	0.001495407	0.001809443	0.002153387	0.014220523	0.014425624	7.137621493	0.000627056	0.000576891	0.000627056	6.5946E-05	5.82563E-05	231572.2687	21711.3398	15.43186355	15288888.32
Alameda (SF)	2020 Portable Equipment - Rental Generator	Aggregated	9999	Diesel	0.015947487	0.01929646	0.022964382	0.095198636	0.256549993	45.71837389	0.007728982	0.007110664	0.007728982	0.000422211	0.000373147	1483282.291	69604.00114	49.47273904	97929417.14
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	75	Diesel	0.000135061	0.000163423	0.000194487	0.002183566	0.001612519	0.305229359	3.98477E-05	3.66599E-05	3.98477E-05	2.81794E-06	2.49124E-06	9902.830397	9664.881049	7.942870946	653805.6947
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	100	Diesel	0.000103285	0.000124975	0.000148731	0.002056294	0.00122569	0.273423258	9.24297E-05	8.50353E-05	9.24297E-05	2.52484E-06	2.23164E-06	8870.916496	6627.347005	5.446540077	585676.5682
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	175	Diesel	0.000263188	0.000318458	0.000378991	0.004924863	0.002786852	0.774812988	0.000128334	0.000118068	0.000128334	7.15563E-06	6.32392E-06	25137.95408	11045.57834	9.077566796	1659660.61
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	300	Diesel	0.00026016	0.000314793	0.00037463	0.001479989	0.002867624	0.672569343	0.000112041	0.000103078	0.000112041	6.21043E-06	5.48942E-06	21820.77163	5522.789171	4.538783398	1440653.246
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	600	Diesel	0.000330176	0.000399513	0.000475454	0.002380786	0.002397826	1.150752905	0.0001055	9.70601E-05	0.0001055	1.06294E-05	9.39229E-06	37334.91066	6351.207547	5.219600907	2464929.341
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	750	Diesel	0.000175283	0.000212092	0.000252407	0.001008133	0.001430212	0.46821856	6.09709E-05	5.60932E-05	6.09709E-05	4.32365E-06	3.82154E-06	15190.83554	1380.697293	1.134695849	1002930.918
Alameda (SF)	2020 Portable Equipment - Rental Other Portable Equipment	Aggregated	9999	Diesel	0.014582858	0.017645259	0.020999316	0.144860498	0.159655708	11.17172215	0.007229621	0.006651251	0.007229621	0.000102851	9.11821E-05	362454.2217	7731.90484	6.354296757	23929990.19
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	75	Diesel	0.000260651	0.000315387	0.000375337	0.005663556	0.00453935	0.869829411	0.00014821	0.000136353	0.00014821	8.03418E-06	7.09943E-06	28220.6573	24989.08258	26.32494371	1863187.161
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	100	Diesel	0.000215342	0.000260564	0.000310092	0.005048734	0.002941576	0.693371608	0.000219401	0.000201849	0.000219401	6.4041E-06	5.65921E-06	22495.67822	16803.0038	17.70125525	1485211.999
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	175	Diesel	0.000366305	0.000443229	0.000527479	0.009279382	0.004261086	1.518261253	0.00015348	0.000141202	0.00015348	1.40261E-05	1.23918E-05	49258.3143	20465.19694	21.55922114	3252137.532
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	300	Diesel	0.00032166	0.000389208	0.00046319	0.003085857	0.002892525	1.511445744	0.000102762	9.45413E-05	0.000102762	1.39644E-05	1.23362E-05	49037.1926	12709.96442	13.38941102	3237538.612
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	600	Diesel	0.000401117	0.000485351	0.000577608	0.003742359	0.002088496	1.880441693	0.000109626	0.000100856	0.000109626	1.73736E-05	1.53479E-05	61008.85978	10124.88691	10.66614098	4027933.263
Alameda (SF)	2020 Portable Equipment - Rental Pump	Aggregated	750	Diesel	3.16911E-05	3.83462E-05	4.56351E-05	0.000251297	0.000409387	0.128855728	2.60322E-05	2.39496E-05	2.60322E-05	1.19038E-06	1.0517E-06	4180.582191	430.8462514	0.45387834	276010.8307
Alameda (SF)	2020 TRU - Instate Genset TRU	Aggregated	50	Diesel	0.001229018	0.001487112	0.001769786	0.025036992	0.019454894	0.544082225	8.25857E-05	7.59789E-05	8.25857E-05	5.02718E-06	4.47051E-06	345.3636875	208057.2819	266.4938824	6553804.379
Alameda (SF)	2020 TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.024574064	0.029734618	0.035386652	0.380905387	0.272548158	6.485224692	0.005229615	0.004811246	0.005229615	5.96241E-05	5.32866E-05	4116.58571	1648280.629	1244.095261	56041541.39
Alameda (SF)	2020 TRU - Instate Truck TRU	Aggregated	25	Diesel	0.00376939	0.004560962	0.005427922	0.036742278	0.04426316	0.881053926	0.001837681	0.001690667	0.001837681	8.08734E-06	7.23928E-06	559.2611161	443545.5504	325.8968041	6253992.261
Alameda (SF)	2020 TRU - Instate Van TRU	Aggregated	25	Diesel	8.7264E-05	0.000105589	0.00012566	0.000850609	0.001024723	0.020397015	4.25436E-05	3.91401E-05	4.25436E-05	1.87227E-07	1.67594E-07	12.94728634	16087.14431	11.82009134	144784.2988
Alameda (SF)	2020 TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.000770873	0.000932756	0.001110057	0.015737354	0.012252306	0.342841022	5.2322E-05	4.81362E-05	5.2322E-05	3.16787E-06	2.81699E-06	217.6230613	131102.5572	1060.323483	4129730.553
Alameda (SF)	2020 TRU - Out-of-State Trailer TRU	Aggregated	50	Diesel	0.012868298	0.015570641	0.018530349	0.220307533	0.157666076	3.998517139	0.001611837	0.00148289	0.001611837	3.68302E-05	3.28543E-05	2538.113835	1016260.601	4843.401409	34552860.45
Alameda (SF)	2020 TRU - Railcar TRU	Aggregated	50	Diesel	0.001332035	0.001611762	0.00191813	0.022804668	0.01632047	0.413898034	0.000166846	0.000153498	0.000166846	3.8124E-06	3.40084E-06	262.7274785	105196.064	326.2601618	3576666.175

OFFROAD 2021

	Equipment Type	Horsepower	Gas				Diesel				Natural Gas			
		HP	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr
Air Compressors25	Air Compressors	25	90644.1	600.56	290299.1	0.31224382	4168.3	9.34	7610.25	0.547721823	0	0	0	0
Air Compressors50	Air Compressors	50	27086.65	24.89	12023.1	2.252884032	46939	56.44	45938.9	1.021770221	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	147113.25	80.69	38996.6	3.772463497	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	18027.35	5.42	2624.35	6.869262865	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	13187.45	39.06	14662.05	0.899427433	10606.9	57.83	23104.5	0.459083728	19472.75	43.89	16487.05	1.181093646
Aerial Lifts50	Aerial Lifts	50	26995.4	46.66	16859.35	1.601212384	47064.48677	192.4619382	57564.8726	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	55585.08347	161.8533147	48257.31573	1.151847811	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	48169.05	46.66	16859.35	2.857111929	26536.87916	71.2990191	21323.46022	1.244492164	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	5018.964155	8.083583057	2414.05015	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	299.9221769	0.272480328	81.82873245	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	212.9882126	0.090826776	27.27624415	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	1916.25	11.47	1427.15	1.342710997	1379.7	2.55	2073.2	0.665492958	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	273.75	0.98	105.85	2.586206897	1006.150432	2.475059712	870.6484294	1.155633432	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	1143.323417	1.511089087	608.8950384	1.877701976	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	3146.3	4.58	474.5	6.630769231	5131.734282	6.044356349	2375.340695	2.160420311	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	1098.65	1.15	109.5	10.03333333	7262.93495	5.966196568	1866.599639	3.890997725	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	10345.7697	6.018303088	1931.751203	5.355642946	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	18872.84022	5.106438984	1764.916139	10.6933354	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	8232.436488	0.990023885	488.5926034	16.84928595	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	5438.782649	0.156319561	112.6842612	48.26568137	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	63590.3	1726.28	158931.95	0.400110236	3525.9	35.51	10679.9	0.330143541	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	56958.25	242.99	69050.7	0.82487578	113.15	0.26	146	0.775	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	6325.45	3.71	2266.65	2.790660225	1788.5	2.23	1292.1	1.384180791	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	6139.3	2.13	1299.4	4.724719101	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	19.23834978	0.098162228	46.47215658	0.413975834	0	0	0	0
Cranes50	Cranes	50	927.1	1.15	470.85	1.968992248	311.7102257	1.047063763	452.0137582	0.689603403	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	126.5973097	0.327207426	121.3521736	1.043222432	0	0	0	0
Cranes100	Cranes	100	3124.4	2.28	934.4	3.34375	7114.245312	12.43388219	5439.865152	1.3077981	0	0	0	0
Cranes175	Cranes	175	208.05	0.08	32.85	6.333333333	21493.17915	21.75929383	9838.983032	2.184491942	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	37481.47898	24.40967398	11396.20663	3.288943435	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	64867.83016	24.18062878	11826.3142	5.485042006	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	1014.092378	0.261765941	105.9476511	9.571636256	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	3582.167128	0.523531882	256.2248633	13.98056021	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	1009.426863	2.904054607	979.4938794	1.030559644	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	123.9856978	0.435608191	79.50703457	1.55943054	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	44486.07639	49.4270094	22880.48523	1.944280287	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	48642.56685	32.81581705	14696.70321	3.309760438	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	51233.80085	25.52663999	11225.70477	4.563971877	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	176964.0269	44.14163002	20747.40165	8.529454908	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	3240.748116	0.522729829	233.8326476	13.8592628	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	10307.32189	0.871216382	476.6815569	21.62307674	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	854.1	2.88	835.85	1.021834061	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	2423.6	1.29	313.9	7.720930233	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	6095.5	115.02	17165.95	0.355092494	346.75	1.53	1014.7	0.341726619	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	259.15	0.84	102.2	2.535714286	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	2479.611636	2.447295849	3318.190781	0.747278201	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	40359.83208	71.00062382	51346.47395	0.786029283	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	2926.761269	2.560678236	1993.785852	1.467941638	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	49491.28415	48.62378787	30761.76021	1.608857355	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	110614.5236	65.55918257	38326.22118	2.886131744	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	141626.7324	56.88779491	32757.41862	4.323501007	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	248999.6059	58.80830358	37373.51415	6.662461681	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	3506.577934	0.494676477	277.237746	12.64827025	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	6970.653902	0.436479245	292.8095782	23.80609933	0	0	0	0
Forklifts25	Forklifts	25	573.05	0.89	810.3	0.707207207	6.140557991	0.033708623	10.61779285	0.578327161	514.65	0.42	525.6	0.979166667
Forklifts50	Forklifts	50	455158.65	156.06	280524.4	1.622527844	33009.32348	93.4881347	65849.61207	0.501283492	686232.85	285.35	514069.65	1.334902479
Forklifts75	Forklifts	75	0	0	0	0	2805.432032	7.276561262	3655.998682	0.767350395	0	0	0	0
Forklifts100	Forklifts	100	2090723.65	552.46	986394.25	2.119561879	468635.8092	748.6897075	487524.6052	0.961255707	4294108.2	1001.47	1804227.85	2.38002545
Forklifts175	Forklifts	175	146010.95	20.22	36054.7	4.049706418	141071.8899	140.2597605	90049.02874	1.56661201	322305.95	36.63	66028.5	4.881315644
Forklifts300	Forklifts	300	0	0	0	0	27747.50967	17.57035355	12358.8137	2.245159637	0	0	0	0
Forklifts600	Forklifts	600	0	0	0	0	7155.251868	2.776706681	1858.055843	3.85093478	0	0	0	0
Forklifts750	Forklifts	750	0	0	0	0	93.38665655	0.033708623	7.192698384	12.98353574	0	0	0	0
Forklifts9999	Forklifts	9999	0	0	0	0	525.2681767	0.073736403	57.4407461	9.144522179	0	0	0	0
Generator Sets25	Generator Sets	25	1322774.6	15773.17	1812316.25	0.729880671	108992.65	530.99	179244.2	0.608067932	0	0	0	0
Generator Sets50	Generator Sets	50	210510.1	818.77	94049.55	2.238289285	129283	273.94	92472.75	1.398065917	0	0	0	0
Generator Sets75	Generator Sets	75	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets100	Generator Sets	100	94618.95	158.12	18151.45	5.212748844	0	0	0	0	8460.7	11.75	1346.85	6.281842818
Generator Sets175	Generator Sets	175	15472.35	14.94	1711.85	9.038379531	0	0	0	0	12227.5	9.73	1124.2	10.87662338
Generator Sets300	Generator Sets	300	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets600	Generator Sets	600	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets750	Generator Sets	750	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets9999	Generator Sets	9999	0	0	0	0	0	0	0	0	0	0	0	0
Graders25	Graders	25	0	0	0	0	7.76035454	0.058482565	13.20521385	0.587673523	0	0	0	0
Graders50	Graders	50	0	0	0	0	259.194052	0.847997186	295.4006338	0.877432281	0	0	0	0
Graders75	Graders	75	0	0	0	0	388.2165044	0.64330821	252.0215063	1.540410222	0	0	0	0
Graders100	Graders	100	0	0	0	0	5516.726673	8.099835189	2941.263306	1.875631693	0	0	0	0
Graders175	Graders	175	0	0	0	0	67668.75252	46.05501957	21494.32466	3.14821487	0	0	0	0
Graders300	Graders	300	0	0	0	0	142492.812	41.46413826	31116.27072	4.579366638	0	0	0	0
Graders600	Graders	600	0	0	0	0	6132.403111	1.081927444	820.7370537	7.47182436	0	0	0	0
Graders750	Graders	750	0	0	0	0	0	0	0	0	0	0	0	0
Graders9999	Graders	9999	0	0	0	0	4834.266199	0.175447694	126.3738965	38.25367684	0	0	0	0
Pavers25	Pavers	25	5197.6	11.22	4445.7	1.169129721	664.3	0.96	788.4	0.842592593	0	0	0	0
Pavers50	Pavers	50	2956.5	3.19	1262.9	2.341040462	1106.427403	3.407621256	1195.056421	0.925836959	0	0	0	0
Pavers75	Pavers	75	0	0	0	0	1949.535534	3.634796006	1251.000553	1.558381033	0	0	0	0
Pavers100	Pavers	100	2657.2	1.74	689.85	3.851851852	8702.000892	12.80697655	5017.819933	1.734219444	0	0	0	0
Pavers175	Pavers	175	0	0	0	0	14632.76563	11.30194383	4309.076712	3.39580068	0	0	0	0
Pavers300	Pavers	300	0	0	0	0	11442.57525	5.423797166	2408.867752	4.750188232	0	0	0	0
Pavers600	Pavers	600	0	0	0	0	2048.010883	0.59633372	259.2345269	7.900224202	0	0	0	0
Pavers750	Pavers	750	0	0	0	0	428.2371627	0.056793688	26.57747005	16.11278884	0	0	0	0
Pavers9999	Pavers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Paving Equipment25	Paving Equipment	25	110076.7	1227.29	232191.1	0.474078033	784.75	1.65	1376.05	0.570291777	0	0	0	0
Paving Equipment50	Paving Equipment	50	3460.2	8.78	1533	2.257142857	1377.860094	4.195974233	1953.871511	0.705194833	0	0	0	0
Paving Equipment75	Paving Equipment	75	0	0	0	0	222.1399242	0.453618836	180.3977497	1.231389663	0	0	0	0
Paving Equipment100	Paving Equipment	100	1416.2	2.28	397.85	3.559633028	5810.813093	7.796573743	3534.528373	1.644013707	0	0	0	0
Paving Equipment175	Paving Equipment	175	0	0	0	0	6122.961448	4.989807196	2289.50863	2.674356134	0	0	0	0
Paving Equipment300	Paving Equipment	300	0	0	0	0	4423.242575	2.211391825	1028.612861	4.300201507	0	0	0	0
Paving Equipment600	Paving Equipment	600	0	0	0	0	4212.153265	1.247451799	567.6639622	7.420152671	0	0	0	0
Paving Equipment750	Paving Equipment	750	0	0	0	0	891.0015805	0.141755886	75.7632139	11.76034562	0	0	0	0
Paving Equipment9999	Paving Equipment	9999	0	0	0	0	404.5685762	0.056702354	26.1186238	15.489659	0	0	0	0
Rollers25	Rollers	25	25685.05	132.8	33076.3	0.776539395	14556.10507	54.77920967	38076.09547	0.382289856	0	0	0	0
Rollers50	Rollers	50	3865.35	2.28	1412.55	2.736434109	22718.88769	86.13931034	29475.87404	0.770762138	0	0	0	0
Rollers75	Rollers	75	0	0	0	0	189.7182153	0.613403024	139.6260672	1.358759285	0	0	0	0
Rollers100	Rollers	100	12037.7	4.24	2642.6	4.555248619	35321.48674	63.64786613	20857.47647	1.693468852	0	0	0	0
Rollers175	Rollers	175	0	0	0	0	36720.51686	37.15469744	13171.67815	2.787838911	0	0	0	0
Rollers300	Rollers	300	0	0	0	0	6080.678971	4.761175851	1448.991443	4.196490602	0	0	0	0
Rollers600	Rollers	600	0	0	0	0	3566.930697	1.7233704	523.053626	6.819435942	0	0	0	0
Rollers750	Rollers	750	0	0	0	0	0	0	0	0	0	0	0	0
Rollers9999	Rollers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rough Terrain Forklifts25	Rough Terrain Forklifts	25	0	0	0	0	6.140557991	0.033708623	10.61779285	0.578327161	0	0	0	0
Rough Terrain Forklifts50	Rough Terrain Forklifts	50	613.2	0.45	204.4	3	1151.174838	3.876491634	1046.556643	1.099964198	0	0	0	0
Rough Terrain Forklifts75	Rough Terrain Forklifts	75	0	0	0	0	31.55419402	0.101125869	22.87201973	1.379598059	0	0	0	0
Rough Terrain Forklifts100	Rough Terrain Forklifts	100	13614.5	6.41	2649.9	5.137741047	89843.43256	160.4867537	44871.43956	2.002240923	0	0	0	0
Rough Terrain Forklifts175	Rough Terrain Forklifts	175	770.15	0.25	98.55	7.814814815	20481.50415	29.36021055	7900.437071	2.592452034	0	0	0	0
Rough Terrain Forklifts300	Rough Terrain Forklifts	300	0	0	0	0	1459.790328	1.348344916	333.718371	4.374318151	0	0	0	0
Rough Terrain Forklifts600	Rough Terrain Forklifts	600	0	0	0	0	541.6796393	0.269668983	68.23549313	7.938385354	0	0	0	0
Rough Terrain Forklifts750	Rough Terrain Forklifts	750	0	0	0	0	93.38665655	0.033708623	7.192698384	12.98353574	0	0	0	0
Rough Terrain Forklifts9999	Rough Terrain Forklifts	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers25	Rubber Tired Dozers	25	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers50	Rubber Tired Dozers	50	0	0	0	0	976.6373803	1.083819322	1041.267702	0.937931118	0	0	0	0
Rubber Tired Dozers75	Rubber Tired Dozers	75	0	0	0	0	788.6814604	0.86149741	554.8010358	1.421557296	0	0	0	0
Rubber Tired Dozers100	Rubber Tired Dozers	100	0	0	0	0	3800.362431	2.473331273	2195.014153	1.731361243	0	0	0	0
Rubber Tired Dozers175	Rubber Tired Dozers	175	0	0	0	0	4205.473519	1.861946014	1400.8232	3.002144395	0	0	0	0
Rubber Tired Dozers300	Rubber Tired Dozers	300	0	0	0	0	4618.503182	1.528463146	1034.271116	4.465466656	0	0	0	0
Rubber Tired Dozers600	Rubber Tired Dozers	600	0	0	0	0	51209.52601	9.365310549	6750.042665	7.586548492	0	0	0	0
Rubber Tired Dozers750	Rubber Tired Dozers	750	0	0	0	0	1456.998202	0.111160956	109.56089	13.29852471	0	0	0	0
Rubber Tired Dozers9999	Rubber Tired Dozers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers25	Scrapers	25	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers50	Scrapers	50	0	0	0	0	48.57028139	0.171838753	55.32340558	0.877933686	0	0	0	0
Scrapers75	Scrapers	75	0	0	0	0	582.52922	0.830553974	349.4007719	1.667223621	0	0	0	0
Scrapers100	Scrapers	100	0	0	0	0	2565.869634	1.861586494	1133.014293	2.264640129	0	0	0	0
Scrapers175	Scrapers	175	0	0	0	0	34425.49115	18.58722514	8218.807626	4.188623547	0	0	0	0
Scrapers300	Scrapers	300	0	0	0	0	40673.04937	18.27218743	7321.313898	5.555430342	0	0	0	0
Scrapers600	Scrapers	600	0	0	0	0	502898.2583	100.5543104	47689.42229	10.54527889	0	0	0	0
Scrapers750	Scrapers	750	0	0	0	0	8027.497783	1.346070234	514.4979717	15.60258392	0	0	0	0
Scrapers9999	Scrapers	9999	0	0	0	0	11637.12981	0.744634597	292.0403268	39.84768109	0	0	0	0
Skid Steer Loaders25	Skid Steer Loaders	25	84154.4	231.91	74036.6	1.136659436	64177.95	122.48	102236.5	0.627740093	0	0	0	0
Skid Steer Loaders50	Skid Steer Loaders	50	18458.05	30.86	9573.95	1.927945101	17189.7778	59.64199331	18558.20065	0.926263172	0	0	0	0
Skid Steer Loaders75	Skid Steer Loaders	75	0	0	0	0	89703.81599	189.1275108	66768.12646	1.343512552	0	0	0	0
Skid Steer Loaders100	Skid Steer Loaders	100	24528	18.47	5726.85	4.282982792	1527.636398	3.341370969	1070.717424	1.426740953	0	0	0	0
Skid Steer Loaders175	Skid Steer Loaders	175	0	0	0	0	616.583693	0.798380674	213.0551741	2.894009478	0	0	0	0
Skid Steer Loaders300	Skid Steer Loaders	300	0	0	0	0	572.8392103	0.502684128	146.5881024	3.907815171	0	0	0	0
Skid Steer Loaders600	Skid Steer Loaders	600	0	0	0	0	165.6657121	0.059139309	18.36106953	9.022661336	0	0	0	0
Skid Steer Loaders750	Skid Steer Loaders	750	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer Loaders9999	Skid Steer Loaders	9999	0	0	0	0	224.251387	0.059139309	11.7510845	19.08346307	0	0	0	0
Surfacing Equipment25	Surfacing Equipment	25	53735.3	331.23	141711.25	0.379188667	0	0	0	0	0	0	0	0
Surfacing Equipment50	Surfacing Equipment	50	0	0	0	0	159.2548221	1.04620578	252.2215898	0.631408367	0	0	0	0
Surfacing Equipment75	Surfacing Equipment	75	0	0	0	0	106.8776933	0.402386839	101.2460104	1.055623751	0	0	0	0
Surfacing Equipment100	Surfacing Equipment	100	0	0	0	0	927.1803074	2.494798399	666.5337114	1.391047882	0	0	0	0
Surfacing Equipment175	Surfacing Equipment	175	0	0	0	0	857.4143813	1.582721565	406.1651946	2.110999152	0	0	0	0
Surfacing Equipment300	Surfacing Equipment	300	0	0	0	0	1690.694311	1.958282614	475.096071	3.558636694	0	0	0	0
Surfacing Equipment600	Surfacing Equipment	600	0	0	0	0	5349.215854	3.004488394	844.7363812	6.332408516	0	0	0	0
Surfacing Equipment750	Surfacing Equipment	750	0	0	0	0	2663.030366	0.912076834	268.6365876	9.913133539	0	0	0	0
Surfacing Equipment9999	Surfacing Equipment	9999	0	0	0	0	877.065238	0.241432103	64.23655043	13.65367898	0	0	0	0
Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0	0	0	0	12238.45	18	16957.9	0.721696083	0	0	0	0
Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0	0	0	0	33980.72635	83.47080746	42648.53274	0.796761909	0	0	0	0
Tractors/Loaders/Backhoes75	Tractors/Loaders/Backhoes	75	0	0	0	0	4815.339126	15.73439263	3525.663701	1.365796495	0	0	0	0
Tractors/Loaders/Backhoes100	Tractors/Loaders/Backhoes	100	10201.75	3.97	3463.85	2.945205479	541588.3378	551.0236648	340862.4695	1.588876413	0	0	0	0
Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0	0	0	0	94522.60519	63.40291298	34785.25262	2.717318349	0	0	0	0
Tractors/Loaders/Backhoes300	Tractors/Loaders/Backhoes	300	0	0	0	0	56963.00605	26.40818577	14522.29068	3.922453236	0	0	0	0
Tractors/Loaders/Backhoes600	Tractors/Loaders/Backhoes	600	0	0	0	0	80496.95993	23.20895622	12610.51764	6.383319243	0	0	0	0
Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0	0	0	0	1521.213429	0.23267124	125.0698776	12.16290811	0	0	0	0
Tractors/Loaders/Backhoes9999	Tractors/Loaders/Backhoes	9999	0	0	0	0	26577.62938	1.221524012	753.4401185	35.27503876	0	0	0	0
Trenchers25	Trenchers	25	51767.95	119.06	51713.2	1.001058724	5814.45	9.82	6069.95	0.957907396	0	0	0	0
Trenchers50	Trenchers	50	18454.4	20.58	8285.5	2.227312775	12032.45578	27.37086654	10422.18567	1.154504071	0	0	0	0
Trenchers75	Trenchers	75	0	0	0	0	693.8502429	1.399646584	376.6103143	1.842355922	0	0	0	0
Trenchers100	Trenchers	100	11446.4	6.81	2752.1	4.159151194	8029.560405	11.29048245	3684.07408	2.17953283	0	0	0	0
Trenchers175	Trenchers	175	0	0	0	0	1780.662345	1.679575901	480.4810191	3.705999352	0	0	0	0
Trenchers300	Trenchers	300	0	0	0	0	4232.05032	2.30164105	712.5221339	5.939535234	0	0	0	0
Trenchers600	Trenchers	600	0	0	0	0	5880.810053	1.617369386	583.7898811	10.0735046	0	0	0	0
Trenchers750	Trenchers	750	0	0	0	0	1909.821609	0.248826059	113.7731858	16.78621896	0	0	0	0
Trenchers9999	Trenchers	9999	0	0	0	0	157.0206609	0.031103257	7.023036163	22.35794566	0	0	0	0
Welders25	Welders	25	330660.8	1927.5	400419.6	0.825785751	49194.7	195.77	125738.85	0.391245029	0	0	0	0
Welders50	Welders	50	65594.15	130.03	27017.3	2.427857336	215437.6	282.06	181131.25	1.189400504	0	0	0	0
Welders75	Welders	75	0	0	0	0	0	0	0	0	0	0	0	0
Welders100	Welders	100	91844.95	132.71	27568.45	3.331523898	0	0	0	0	0	0	0	0
Welders175	Welders	175	11464.65	9.18	1898	6.040384615	0	0	0	0	0	0	0	0
Welders300	Welders	300	0	0	0	0	0	0	0	0	0	0	0	0
Welders600	Welders	600	0	0	0	0	0	0	0	0	0	0	0	0
Welders750	Welders	750	0	0	0	0	0	0	0	0	0	0	0	0
Welders9999	Welders	9999	0	0	0	0	0	0	0	0	0	0	0	0

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2021
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	50	Diesel	0.002423322	0.00293222	0.003489584	0.007522777	0.006860383	0.094732631	0.000649853	0.000597864	0.000649853	8.09025E-07	7.78381E-07	21948.48754	19676.53604	63.89653969	803390.2
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	75	Diesel	0.002367972	0.002865246	0.00340988	0.009319645	0.017645768	0.178632957	0.001367726	0.001258308	0.001367726	1.59159E-06	1.46776E-06	41387.25144	23418.83897	68.37317109	1477260
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	100	Diesel	0.002652252	0.003209225	0.003819243	0.017312204	0.022121733	0.384285253	0.001769845	0.001628258	0.001769845	3.49717E-06	3.15752E-06	89034.58061	37209.45817	69.30686331	3188122
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	175	Diesel	0.001528513	0.0018495	0.002201058	0.009577501	0.014323918	0.206398699	0.000824658	0.000758685	0.000824658	1.8752E-06	1.6959E-06	47820.26245	15319.75564	24.13375535	1856034
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	300	Diesel	0.001188393	0.001437955	0.001711285	0.004404103	0.012710316	0.208410007	0.000539206	0.00049607	0.000539206	1.90413E-06	1.71242E-06	48286.25976	8749.975492	10.82579964	1896496
Alameda (SF)	2021	Agricultural - Agricultural Tractors	Aggregated	600	Diesel	0.000658163	0.000796377	0.000947754	0.002890055	0.006169659	0.178338064	0.000277277	0.000255095	0.000277277	1.64014E-06	1.46533E-06	41318.92806	4468.737483	3.982506993	1647766
Alameda (SF)	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregated	50	Diesel	6.6713E-07	8.07228E-07	9.60668E-07	4.2475E-06	4.47382E-06	7.43006E-05	2.48345E-07	2.28477E-07	2.48345E-07	6.71539E-10	6.10499E-10	17.21460461	16.87706371	0.026476799	590.6972
Alameda (SF)	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregated	100	Diesel	6.81225E-06	8.24282E-06	9.80964E-06	6.42004E-05	6.24051E-05	0.001488056	5.17462E-06	4.76065E-06	5.17462E-06	1.36457E-08	1.22268E-08	344.7657631	141.037817	0.226670889	11827.6
Alameda (SF)	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregated	175	Diesel	1.58872E-05	1.92236E-05	2.28776E-05	0.00016209	0.000156221	0.003895967	9.51091E-06	8.75004E-06	9.51091E-06	3.57851E-08	3.20116E-08	902.6517313	269.8285596	0.432020097	34548.98
Alameda (SF)	2021	Agricultural - Bale Wagons (Self Propelled)	Aggregated	300	Diesel	4.26304E-06	5.15828E-06	6.13878E-06	1.85198E-05	4.86628E-05	0.001245916	1.9367E-06	1.78177E-06	1.9367E-06	1.14685E-08	1.02372E-08	288.6648515	56.9195192	0.091695007	11011.74
Alameda (SF)	2021	Agricultural - Balers (Self Propelled)	Aggregated	50	Diesel	1.50158E-05	1.81692E-05	2.16228E-05	6.75331E-05	7.56858E-05	0.001228279	4.94132E-06	4.54601E-06	4.94132E-06	1.09817E-08	1.00923E-08	284.578349	211.4882096	0.650306894	9735.92
Alameda (SF)	2021	Agricultural - Balers (Self Propelled)	Aggregated	75	Diesel	6.90282E-06	8.35242E-06	9.94007E-06	4.77394E-05	6.66637E-05	0.001117338	4.2619E-06	3.92095E-06	4.2619E-06	1.01926E-08	9.18073E-09	258.8747155	137.1791856	0.418901571	8908.935
Alameda (SF)	2021	Agricultural - Balers (Self Propelled)	Aggregated	100	Diesel	1.7049E-06	2.06292E-06	2.45505E-06	1.19453E-05	1.5591E-05	0.000279579	1.14897E-06	1.05706E-06	1.14897E-06	2.55104E-09	2.29719E-09	64.775404	28.08543551	0.086197647	2227.321
Alameda (SF)	2021	Agricultural - Balers (Self Propelled)	Aggregated	175	Diesel	4.65281E-07	5.6299E-07	6.70005E-07	3.85788E-06	5.19604E-06	9.47373E-05	2.68969E-07	2.47452E-07	2.68969E-07	8.6781E-10	7.7842E-10	21.94957323	8.036596543	0.024750948	841.3663
Alameda (SF)	2021	Agricultural - Combine Harvesters	Aggregated	75	Diesel	1.53656E-06	1.85924E-06	2.21265E-06	9.11772E-06	1.32371E-05	0.000206109	9.83875E-07	9.05165E-07	9.83875E-07	1.87226E-09	1.69351E-09	47.75306451	34.15908348	0.093526581	1846.376
Alameda (SF)	2021	Agricultural - Combine Harvesters	Aggregated	100	Diesel	1.25258E-05	1.51563E-05	1.80372E-05	7.44549E-05	0.000106488	0.001681131	8.53872E-06	7.85563E-06	8.53872E-06	1.52714E-08	1.38132E-08	389.4990955	173.1184741	0.479917137	14670.23
Alameda (SF)	2021	Agricultural - Combine Harvesters	Aggregated	175	Diesel	1.86621E-05	2.25811E-05	2.68734E-05	0.000132136	0.000196925	0.003191743	1.05674E-05	9.72197E-06	1.05674E-05	2.91473E-08	2.62253E-08	739.4910925	232.5207822	0.651831534	32457.29

Alameda (SF)	2021 ConstMin - Off-Highway Trucks	Aggregated	300	Diesel	0.000949917	0.0011494	0.001367881	0.006276799	0.009747249	2.409096764	0.000380384	0.000349953	0.000380384	2.22448E-05	1.96627E-05	78160.49138	18826.24709	14.93492435	3976373
Alameda (SF)	2021 ConstMin - Off-Highway Trucks	Aggregated	600	Diesel	0.003647422	0.004413381	0.005252288	0.026407765	0.038632703	10.33231048	0.001419389	0.001305837	0.001419389	9.54179E-05	8.43309E-05	335220.4345	45091.26734	33.5111255	16978200
Alameda (SF)	2021 ConstMin - Off-Highway Trucks	Aggregated	750	Diesel	0.001566799	0.001895826	0.00225619	0.012376903	0.016977321	3.458319075	0.000678214	0.000623957	0.000678214	3.19269E-05	2.82263E-05	112201.3537	8580.012814	7.140316213	5692660
Alameda (SF)	2021 ConstMin - Off-Highway Trucks	Aggregated	9999	Diesel	0.002326919	0.002815572	0.003350763	0.015253012	0.045159553	6.180421697	0.001035652	0.000952799	0.001035652	5.70713E-05	5.04438E-05	200516.9755	7994.844057	5.717942466	10136527
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	50	Diesel	0.000393172	0.000475738	0.000566167	0.002501138	0.002310212	0.278205211	0.000179805	0.00016542	0.000179805	2.56035E-06	2.27067E-06	9026.061672	9888.3193	21.03521094	376475.8
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	75	Diesel	4.6112E-05	5.57955E-05	6.64013E-05	0.000256123	0.000472175	0.029054702	3.59711E-05	3.30935E-05	3.59711E-05	2.67242E-07	2.37141E-07	942.6478215	608.5429364	2.010094181	44365.58
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	100	Diesel	0.000611092	0.000739422	0.000879973	0.005865591	0.006886747	0.84460493	0.000498159	0.000458306	0.000498159	7.79046E-06	6.89355E-06	27402.27678	15564.1752	35.07755902	1276296
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	175	Diesel	0.000247594	0.000299588	0.000356535	0.002881895	0.003121386	0.475315646	0.000163528	0.000150446	0.000163528	4.3871E-06	3.87946E-06	15421.09266	4731.861621	11.57927493	720353.4
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	300	Diesel	0.000274055	0.000331607	0.000394639	0.001816705	0.004062377	0.628293992	0.000152763	0.000140542	0.000152763	5.80067E-06	5.12805E-06	20384.30661	4315.064526	10.75825055	944537.9
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	600	Diesel	0.000763778	0.000924172	0.001099841	0.00684829	0.01058546	2.40196382	0.000380311	0.000349886	0.000380311	2.21844E-05	1.96045E-05	77929.07085	9528.735917	21.57312347	3635117
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	750	Diesel	0.000147213	0.000178127	0.000211986	0.000989781	0.002127861	0.468950654	7.12576E-05	6.5557E-05	7.12576E-05	4.33126E-06	3.82751E-06	15214.58751	1154.917901	2.321517224	709972.3
Alameda (SF)	2021 ConstMin - Other Construction Equipment	Aggregated	9999	Diesel	3.88402E-05	4.69967E-05	5.593E-05	0.000290715	0.00097209	0.153081547	2.08114E-05	1.91465E-05	2.08114E-05	1.41415E-06	1.24943E-06	4966.562196	253.2106278	0.537912527	231344.7
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	50	Diesel	5.77879E-05	6.99233E-05	8.32145E-05	0.000306992	0.00026647	0.034102788	2.14217E-05	1.9708E-05	2.14217E-05	3.13564E-07	2.78342E-07	1106.427403	1195.056421	3.407621256	46381.64
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	75	Diesel	9.82107E-05	0.000118835	0.000141423	0.000471842	0.000879179	0.060089435	8.518E-05	7.83656E-05	8.518E-05	5.5261E-07	4.90442E-07	1949.535534	1251.000553	3.634796006	91147.7
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	100	Diesel	0.000115274	0.000139481	0.000165994	0.001749095	0.001608312	0.268216868	9.06576E-05	8.3405E-05	9.06576E-05	2.47634E-06	2.18915E-06	8702.000892	5017.819933	12.80697655	406880.3
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	175	Diesel	0.00018403	0.000222677	0.000265004	0.002580902	0.002332673	0.451017486	0.000114155	0.000105023	0.000114155	4.16436E-06	3.68114E-06	14632.76563	4309.076712	11.30194383	680183.2
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	300	Diesel	9.2566E-05	0.000112005	0.000133295	0.000681976	0.001642185	0.352688046	4.82012E-05	4.43451E-05	4.82012E-05	3.258E-06	2.87859E-06	11442.57525	2408.867752	5.423797166	533464.2
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	600	Diesel	1.51789E-05	1.83664E-05	2.18576E-05	0.000119152	0.000226175	0.063124685	7.81401E-06	7.18889E-06	7.81401E-06	5.83164E-07	5.15215E-07	2048.010883	259.2345269	0.59633372	95228.77
Alameda (SF)	2021 ConstMin - Pavers	Aggregated	750	Diesel	2.49345E-06	3.01708E-06	3.59057E-06	2.43564E-05	2.96931E-05	0.013199313	1.31408E-06	1.20895E-06	1.31408E-06	1.21959E-07	1.07731E-07	428.2371627	26.57747005	0.056793688	19933.1
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	50	Diesel	3.53658E-05	4.27926E-05	5.09268E-05	0.000307208	0.000283244	0.042469005	1.46178E-05	1.34484E-05	1.46178E-05	3.91586E-07	3.46626E-07	1377.860094	1953.871511	4.195974233	67795.92
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	75	Diesel	6.83993E-06	8.27631E-06	9.8495E-06	5.24453E-05	7.24473E-05	0.006846894	5.16412E-06	4.75099E-06	5.16412E-06	6.30977E-08	5.58834E-08	222.1399242	180.3977497	0.453618836	12114.44
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	100	Diesel	9.39957E-05	0.000113735	0.000135354	0.001189206	0.001114301	0.179103416	7.05869E-05	6.494E-05	7.05869E-05	1.65308E-06	1.46182E-06	5810.813093	3534.528373	7.796573743	316215
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	175	Diesel	7.14853E-05	8.64972E-05	0.000102939	0.001100377	0.000870044	0.188724589	4.35279E-05	4.00457E-05	4.35279E-05	1.74271E-06	1.54034E-06	6122.961448	2289.50863	4.989807196	334046.4
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	300	Diesel	4.34466E-05	5.25704E-05	6.25631E-05	0.000297085	0.000644777	0.136335112	2.34082E-05	2.15356E-05	2.34082E-05	1.25918E-06	1.11275E-06	4423.242575	1028.612861	2.211391825	240428
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	600	Diesel	4.40624E-05	5.33155E-05	6.34498E-05	0.000284088	0.000681374	0.129828826	2.13659E-05	1.96566E-05	2.13659E-05	1.19901E-06	1.05965E-06	4212.153265	567.6639622	1.247451799	228919.8
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	750	Diesel	5.01923E-06	6.07326E-06	7.22768E-06	5.042E-05	6.03179E-05	0.027462839	1.50357E-06	1.38328E-06	1.50357E-06	2.53757E-07	2.24148E-07	891.0015805	75.7632139	0.141755886	48467.76
Alameda (SF)	2021 ConstMin - Paving Equipment	Aggregated	9999	Diesel	1.85937E-06	2.24984E-06	2.67749E-06	2.31036E-05	5.49871E-05	0.012469789	8.95785E-07	8.24122E-07	8.95785E-07	1.15234E-07	1.01777E-07	404.5685762	26.1186238	0.056702354	22018.38
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	25	Diesel	6.05932E-07	7.33178E-07	8.72542E-07	2.02069E-06	1.42218E-06	0.000109576	1.92032E-07	1.76669E-07	1.92032E-07	9.94904E-10	8.94343E-10	3.555065348	6.595468457	0.029209668	164.8867
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	50	Diesel	0.000833434	0.001008456	0.001200146	0.005471982	0.005179827	0.700251468	0.000349712	0.000321735	0.000349712	6.44917E-06	5.71536E-06	22718.88769	29475.87404	86.13931034	1052499
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	75	Diesel	1.69521E-05	2.05121E-05	2.44111E-05	6.7645E-05	0.000165823	0.005847578	1.17162E-05	1.07789E-05	1.17162E-05	5.35552E-08	4.77271E-08	189.7182153	139.6260672	0.613403024	9752.521
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	100	Diesel	0.000586164	0.000709259	0.000844076	0.007174091	0.007244638	1.088694274	0.000441307	0.000406002	0.000441307	1.00479E-05	8.88578E-06	35321.48674	20857.47647	63.64786613	1819132
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	175	Diesel	0.000341779	0.000413553	0.000492162	0.006272013	0.004538301	1.131815791	0.000208573	0.000191887	0.000208573	1.04539E-05	9.23773E-06	36720.51686	13171.67815	37.15469744	1894346
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	300	Diesel	6.75719E-05	8.1762E-05	9.73036E-05	0.000548581	0.001009482	0.18742134	3.5792E-05	3.29287E-05	3.5792E-05	1.73078E-06	1.52971E-06	6080.678971	1448.991443	4.761175851	313191.9
Alameda (SF)	2021 ConstMin - Rollers	Aggregated	600	Diesel	2.64436E-05	3.19967E-05	3.80787E-05	0.000287545	0.000385675	0.109941494	1.27028E-05	1.16866E-05	1.27028E-05	1.01567E-06	8.97328E-07	3566.930697	523.053626	1.7233704	182800.3
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	25	Diesel	5.51958E-08	6.67869E-08	7.94819E-08	1.18348E-06	1.57243E-06	0.000189267	5.19307E-08	4.77763E-08	5.19307E-08	1.74821E-09	1.54477E-09	6.140557991	10.61779285	0.033708623	265.4448
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	50	Diesel	4.85266E-05	5.87172E-05	6.98783E-05	0.000281466	0.000266198	0.035482013	1.83869E-05	1.6916E-05	1.83869E-05	3.26593E-07	2.89599E-07	1151.174838	1046.556643	3.876491634	49794.55
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	75	Diesel	2.67265E-06	3.23391E-06	3.84862E-06	1.08619E-05	2.67227E-05	0.000972577	1.81394E-06	1.66882E-06	1.81394E-06	8.91178E-09	7.93804E-09	31.55419402	22.87201973	0.101125869	1517.336
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	100	Diesel	0.000609132	0.00073705	0.00087715	0.016872023	0.010944829	2.769193475	0.000332375	0.000305785	0.000332375	2.55843E-05	2.26018E-05	89843.43256	44871.43956	160.4867537	4317512
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	175	Diesel	0.000279556	0.000338263	0.000402561	0.003620553	0.003054807	0.631289856	0.000206182	0.000189687	0.000206182	5.8282E-06	5.1525E-06	20481.50415	7900.437071	29.36021055	984735.7
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	300	Diesel	7.96122E-06	9.63307E-06	1.14642E-05	8.36691E-05	0.00013305	0.044994294	3.05125E-06	2.80715E-06	3.05125E-06	4.15756E-07	3.67237E-07	1459.790328	333.718371	1.348344916	70168.64
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	600	Diesel	2.50074E-06	3.0259E-06	3.60107E-06	3.032E-05	4.49869E-05	0.016695886	9.65075E-07	8.87869E-07	9.65075E-07	1.54287E-07	1.3627E-07	541.6796393	68.23549313	0.269668983	26233.75
Alameda (SF)	2021 ConstMin - Rough Terrain Forklifts	Aggregated	750	Diesel	4.76251E-07	5.76263E-07	6.85801E-07	5.29352E-06	7.28195E-06	0.002878404	5.13312E-08	4.72247E-08	5.13312E-08	2.6598E-08	2.34931E-08	93.38665655	7.192698384	0.033708623	4495.436
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	50	Diesel	4.90486E-05	5.93488E-05	7.063E-05	0.000305743	0.000227468	0.030102343	1.79513E-05	1.65152E-05	1.79513E-05	2.7684E-07	2.45691E-07	976.6373803	1041.267702	1.083819322	42947.77
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	75	Diesel	5.46283E-05	6.61003E-05	7.86648E-05	0.000249094	0.0004789	0.024309084	3.85622E-05	3.54772E-05	3.85622E-05	2.23111E-07	1.98407E-07	788.6814604	554.8010358	0.86149741	38202.44
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	100	Diesel	0.000151695	0.000183551	0.000218441	0.000946212	0.001428387	0.117136429	0.000125842	0.000115774	0.000125842	1.07843E-06	9.56052E-07	3800.362431	2195.014153	2.473331273	184191.3
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	175	Diesel	0.000138987	0.000168174	0.000200141	0.000948034	0.001642407	0.12962294	9.39642E-05	8.64471E-05	9.39642E-05	1.19426E-06	1.05797E-06	4205.473519	1400.8232	1.861946014	205724.1
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	300	Diesel	0.000146525	0.000177295	0.000210996	0.00094468	0.001887576	0.14235352	9.12398E-05	8.39406E-05	9.12398E-05	1.31173E-06	1.16187E-06	4618.503182	1034.271116	1.528463146	225716.8
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	600	Diesel	0.001191799	0.001442077	0.00171619	0.01142207	0.015212956	1.578402352	0.000679536	0.000625173	0.000679536	1.45574E-05	1.28827E-05	51209.52601	6750.042665	9.365310549	2489646
Alameda (SF)	2021 ConstMin - Rubber Tired Dozers	Aggregated	750	Diesel	1.7246E-05	2.08676E-05	2.48342E-05	9.18208E-05	0.000307464	0.044908234	8.61366E-06	7.92457E-06	8.61366E-06	4.14682E-07	3.66535E-07	1456.998202	109.56089	0.111160956	71264.15
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	50	Diesel	0.00018171	0.000219869	0.000261662	0.001069684	0.000825118	0.097328778	6.78762E-05	6.24461E-05	6.78762E-05	8.94402E-07	7.94384E-07	3157.72502	3641.048946	4.286945687	151224.2
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	100	Diesel	0.001867985	0.002260262	0.002689898	0.017672935	0.019134241	2.369474413	0.00143579	0.001320927	0.00143579	2.18509E-05	1.93393E-05	76874.98781	48250.96218	53.26819675	4152127
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	175	Diesel	0.003052471	0.00369349	0.004395558	0.035780779	0.033281318	5.621347251	0.001820245	0.001674625	0.001820245	5.18806E-05	4.58807E-05	182378.4208	65094.06741	69.86562836	9763408
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	300	Diesel	0.003346471	0.00404923	0.004818919	0.019425721	0.045374859	7.87309265	0.001520259	0.001398638	0.001520259	7.26903E-05	6.42591E-05	255433.8204	66287.07178	63.34831228	13690438
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	600	Diesel	0.004540062	0.005493475	0.006537689	0.030259395	0.054232096	10.82783281	0.002043039	0.001879596	0.002043039	9.99725E-05	8.83753E-05	351297.1109	57269.08238	58.80067395	18875572
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	750	Diesel	0.000353309	0.000427504	0.000508765	0.002987844	0.004180791	0.947253991	0.00014803	0.000136188	0.00014803	8.74723E-06	7.73136E-06	30732.61253	2540.624148	2.693823979	1648480
Alameda (SF)	2021 ConstMin - Rubber Tired Loaders	Aggregated	9999	Diesel	0.000312933	0.000378649	0.000450624	0.001610786	0.006535479	0.726949997	0.00016171	0.000148773	0.00016171	6.71163E-06	5.93327E-06	23585.09206	1316.650913	1.12966812	1260621
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	50	Diesel	6.42776E-06	7.77759E-06	9.25598E-06	2.28098E-05	1.63171E-05	0.001497054	2.10376E-06	1.93546E-06	2.10376E-06	1.36482E-08	1.22188E-08	48.57028139	55.32340558	0.171838753	1789.717
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	75	Diesel	3.41573E-05	4.13304E-05	4.91866E-05	0.000159342	0.00029546	0.01795497	2.62123E-05	2.41153E-05	2.62123E-05	1.64978E-07	1.46546E-07	582.52922	349.4007719	0.830553974	23206.97
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	100	Diesel	6.77987E-05	8.20365E-05	9.76302E-05	0.00059148	0.000860717	0.079086353	6.39922E-05	5.88728E-05	6.39922E-05	7.29159E-07	6.45492E-07	2565.869634	1133.014293	1.861586494	102500.6
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	175	Diesel	0.000711467	0.000860875	0.001024512	0.006867389	0.008608242	1.061077507	0.000461015	0.000424134	0.000461015	9.78884E-06	8.66037E-06	34425.49115	8218.807626	18.58722514	1373289
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	300	Diesel	0.000774981	0.000937727	0.001115972	0.004552127	0.010484299	1.253642472	0.00045648	0.000419962	0.00045648	1.15673E-05	1.02321E-05	40673.04937	7321.313898	18.27218743	1635836
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	600	Diesel	0.006727325	0.008140063	0.009687348	0.058593221	0.093059199	15.50054952	0.003546147	0.003262455	0.003546147	0.000143108	0.000126513	502898.2583	47689.42229	100.5543104	20129666
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	750	Diesel	0.000266307	0.000322231	0.000383482	0.003032588	0.004416217	0.247427039	0.000180026	0.000165624	0.000180026	2.2796E-06	2.01947E-06	8027.497783	514.4979717	1.346070234	320139.5
Alameda (SF)	2021 ConstMin - Scrapers	Aggregated	9999	Diesel	0.000344323	0.000416631	0.000495825	0.004259853	0.005441833	0.358684692	0.000217658	0.000200246	0.000217658	3.30589E-06	2.92754E-06	11637.12981	292.0403268	0.744634597	466410.9
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	50	Diesel	0.000303409	0.000367125	0.00043691	0.003351106	0.003208731	0.529830831	0.000113407	0.000104335	0.000113407	4.88945E-06	4.32441E-06	17189.7778	18558.20065	59.64199331	808472.4
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	75	Diesel	0.000768245	0.000929576	0.001106273	0.017148306	0.012322859	2.764890152	0.00049459	0.000455023	0.00049459	2.55397E-05	2.25667E-05	89703.81599	66768.12646	189.1275108	4706528
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	100	Diesel	1.52347E-05	1.8434E-05	2.1938E-05	0.000305462	0.000278624	0.047085476	1.81473E-05	1.66955E-05	1.81473E-05	4.34872E-07	3.84305E-07	1527.636398	1070.717424	3.341370969	81280.67
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	175	Diesel	4.66955E-06	5.65016E-06	6.72415E-06	0.000102983	6.0418E-05	0.019004612	2.52364E-06	2.32175E-06	2.52364E-06	1.75567E-07	1.55113E-07	616.583693	213.0551741	0.798380674	32437.4
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	300	Diesel	2.76812E-06	3.34942E-06	3.98609E-06	3.26121E-05	4.12531E-05	0.0176563	1.17599E-06	1.08192E-06	1.17599E-06	1.63158E-07	1.44108E-07	572.8392103	146.5881024	0.502684128	30054.3
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	600	Diesel	1.25096E-06	1.51367E-06	1.80139E-06	9.55827E-06	2.00377E-05	0.005106221	8.64062E-07	7.94937E-07	8.64062E-07	4.7172E-08	4.16763E-08	165.6657121	18.36106953	0.059139309	8681.114
Alameda (SF)	2021 ConstMin - Skid Steer Loaders	Aggregated	9999	Diesel	3.27627E-06	3.96428E-06	4.71783E-06	2.22642E-05	5.92811E-05	0.006911974	1.95973E-06	1.80295E-06	1.95973E-06	6.38063E-08	5.64146E-08	224.251387	11.7510845	0.059139309	11751.08
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	50	Diesel	3.43056E-06	4.15098E-06	4.94001E-06	3.22075E-05	3.43079E-05	0.004908622	1.67054E-06	1.5369E-06	1.67054E-06	4.52797E-08	4.00635E-08	159.2548221	252.2215898	1.04620578	9060.405
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	75	Diesel	2.72336E-06	3.29527E-06	3.92165E-06	2.33174E-05	3.97562E-05	0.003294231	2.38614E-06	2.19525E-06	2.38614E-06	3.03751E-08	2.68871E-08	106.8776933	101.2460104	0.402386839	6824.52
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	100	Diesel	1.2844E-05	1.55413E-05	1.84954E-05	0.000184573	0.00017181	0.028577956	9.28198E-06	8.53943E-06	9.28198E-06	2.63832E-07	2.33249E-07	927.1803074	666.5337114	2.494798399	59298.3
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	175	Diesel	1.11812E-05	1.35293E-05	1.6101E-05	0.000151732	0.000156634	0.0264276	7.65083E-06	7.03877E-06	7.65083E-06	2.44001E-07	2.15699E-07	857.4143813	406.1651946	1.582721565	54971.83
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	300	Diesel	1.82243E-05	2.20514E-05	2.6243E-05	0.0001413	0.000320127	0.052111318	1.05472E-05	9.70347E-06	1.05472E-05	4.81248E-07	4.25326E-07	1690.694311	475.096071	1.958282614	108418.4
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	600	Diesel	3.16463E-05	3.8292E-05	4.55706E-05	0.000334477	0.00046721	0.164875865	1.68615E-05	1.55126E-05	1.68615E-05	1.52341E-06	1.34569E-06	5349.215854	844.7363812	3.004488394	343092.3
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	750	Diesel	1.73312E-05	2.09708E-05	2.4957E-05	0.000157487	0.00026745	0.082081084	1.03794E-05	9.54908E-06	1.03794E-05	7.5836E-07	6.69935E-07	2663.030366	268.6365876	0.912076834	171038.2
Alameda (SF)	2021 ConstMin - Surfacing Equipment	Aggregated	9999	Diesel	7.49566E-06	9.06974E-06	1.07937E-05	5.8131E-05	0.000192205	0.027033287	4.17975E-06	3.84537E-06	4.17975E-06	2.49711E-07	2.20642E-07	877.065238	64.23655043	0.241432103	56260.5
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	50	Diesel	0.000553772	0.000670064	0.000797431	0.003242816	0.002665423	0.322971982	0.000226281	0.000208178	0.000226281	2.96942E-06	2.63605E-06	10478.47026	11225.20815	16.06581994	400205.6
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	75	Diesel	7.22257E-05	8.73931E-05	0.000104005	0.000629953	0.00077011	0.086543417	5.46106E-05	5.02417E-05	5.46106E-05	7.9797E-07	7.06356E-07	2807.805838	1637.501766	2.843507954	119038.5
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	100	Diesel	0.000270199	0.000326941	0.000389087	0.002906701	0.002959004	0.412620492	0.000219662	0.000202089	0.000219662	3.80678E-06	3.36775E-06	13387.01745	7186.156981	10.23662863	568349.6
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	175	Diesel	7.48243E-05	9.05375E-05	0.000107747	0.000763999	0.000872217	0.124511418	4.40466E-05	4.05229E-05	4.40466E-05	1.14893E-06	1.01625E-06	4039.635828	1072.234924	1.507059216	171377.8
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	300	Diesel	2.17283E-05	2.62913E-05	3.12888E-05	0.000157705	0.000299904	0.074774772	9.56104E-06	8.79615E-06	9.56104E-06	6.90678E-07	6.10302E-07	2425.98514	490.7882488	0.682441909	102920.2
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	600	Diesel	8.18399E-06	9.90263E-06	1.1785E-05	0.00013393	0.000112882	0.010098246	5.69936E-06	5.24341E-06	5.69936E-06	9.31178E-08	8.24205E-08	327.6264762	42.11892873	0.056870159	13899.25
Alameda (SF)	2021 ConstMin - Sweepers/Scrubbers	Aggregated	9999	Diesel	5.25104E-06	6.35376E-06	7.5615E-06	2.6127E-05	0.000104761	0.012974716	3.02121E-06	2.77952E-06	3.02121E-06	1.198E-07	1.05898E-07	420.9503816	21.05946437	0.02843508	17858.43
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	50	Diesel	0.001135667	0.001374157	0.001635361	0.008909995	0.007682505	1.047368772	0.000462552	0.000425548	0.000462552	9.64937E-06	8.54848E-06	33980.72635	42648.53274	83.47080746	1617288
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	75	Diesel	0.000376114	0.000455098	0.000541605	0.001513885	0.003571658	0.148420483	0.000286021	0.00026314	0.000286021	1.36094E-06	1.21139E-06	4815.339126	3525.663701	15.73439263	253152.1
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Diesel	0.007368271	0.008915608	0.010610311	0.111583186	0.091290187	16.69307203	0.005306928	0.004882374	0.005306928	0.000154115	0.000136247	541588.3378	340862.4695	551.0236648	28336421
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	175	Diesel	0.001017546	0.001231231	0.001465266	0.017218308	0.011488593	2.913416975	0.000579944	0.000533548	0.000579944	2.69055E-05	2.37789E-05	94522.60519	34785.25262	63.40291298	4990291
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	0.00060391	0.000730732	0.000869631	0.004202142	0.008338806	1.755738624	0.000286083	0.000263197	0.000286083	1.62146E-05	1.43301E-05	56963.00605	14522.29068	26.40818577	2991653
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	600	Diesel	0.00070875	0.000857588	0.0010206	0.006197493	0.00854869	2.481112417	0.000309533	0.000284771	0.000309533	2.29179E-05	2.02505E-05	80496.95993	12610.51764	23.20895622	4259835
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	750	Diesel	1.10899E-05	1.34188E-05	1.59695E-05	9.64136E-05	0.000111118	0.046887504	2.66424E-06	2.4511E-06	2.66424E-06	4.33166E-07	3.8269E-07	1521.213429	125.0698776	0.23267124	81438.45
Alameda (SF)	2021 ConstMin - Tractors/Loaders/Backhoes	Aggregated	9999	Diesel	0.00022924	0.00027738	0.000330105	0.001618922	0.00524649	0.819187288	0.000106342	9.78343E-05	0.000106342	7.56692E-06	6.6861E-06	26577.62938	753.4401185	1.221524012	1394424
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	50	Diesel	0.000420652	0.000508989	0.000605739	0.002935339	0.002805208	0.370869601	0.000197093	0.000181325	0.000197093	3.41625E-06	3.02699E-06	12032.45578	10422.18567	27.37086654	415737.5
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	75	Diesel	2.83233E-05	3.42711E-05	4.07855E-05	0.000176497	0.000288066	0.021386155	1.94271E-05	1.78729E-05	1.94271E-05	1.96876E-07	1.74551E-07	693.8502429	376.6103143	1.399646584	26589.31
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	100	Diesel	0.00020409	0.000246949	0.00029389	0.001739852	0.002294265	0.247490614	0.000168075	0.000154629	0.000168075	2.28205E-06	2.01999E-06	8029.560405	3684.07408	11.29048245	308357.7
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	175	Diesel	3.52473E-05	4.26492E-05	5.07561E-05	0.000346561	0.000448185	0.054884352	2.29481E-05	2.11122E-05	2.29481E-05	5.06376E-07	4.47959E-07	1780.662345	480.4810191	1.679575901	68647.68
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	300	Diesel	6.54436E-05	7.91868E-05	9.42388E-05	0.000387985	0.000955258	0.130442101	3.79882E-05	3.49492E-05	3.79882E-05	1.20404E-06	1.06465E-06	4232.05032	712.5221339	2.30164105	162319.1
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	600	Diesel	5.96813E-05	7.22144E-05	8.59411E-05	0.000633945	0.00080618	0.181260893	3.1842E-05	2.92946E-05	3.1842E-05	1.67406E-06	1.47943E-06	5880.810053	583.7898811	1.617369386	225248.1
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	750	Diesel	6.09585E-06	7.37598E-06	8.77803E-06	0.000105347	5.58976E-05	0.058865355	9.9868E-07	9.18785E-07	9.9868E-07	5.44057E-07	4.80451E-07	1909.821609	113.7731858	0.248826059	73533.01
Alameda (SF)	2021 ConstMin - Trenchers	Aggregated	9999	Diesel	8.81429E-06	1.06653E-05	1.26926E-05	0.000127341	0.000122152	0.004839759	5.65813E-06	5.20548E-06	5.65813E-06	4.44815E-08	3.95015E-08	157.0206609	7.023036163	0.031103257	6039.811
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	50	Diesel	0.000336479	0.00040714	0.00048453	0.007690487	0.007217987	1.450642144	6.55069E-05	6.02664E-05	6.55069E-05	1.34018E-05	1.18399E-05	47064.48677	57564.8726	192.4619382	2655394
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	75	Diesel	0.000285148	0.000345029	0.000410613	0.010278346	0.005298317	1.713267693	0.000120572	0.000110927	0.000120572	1.58315E-05	1.39835E-05	55585.08347	48257.31573	161.8533147	3486853
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	100	Diesel	0.000145931	0.000176577	0.000210141	0.004945774	0.003059347	0.817931267	3.88357E-05	3.57288E-05	3.88357E-05	7.5578E-06	6.67585E-06	26536.87916	21323.46022	71.2990191	1664350
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	175	Diesel	2.32523E-05	2.81353E-05	3.34833E-05	0.000834642	0.000260207	0.154696703	8.86192E-06	8.15297E-06	8.86192E-06	1.42955E-06	1.26261E-06	5018.964155	2414.05015	8.083583057	314945.1
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	300	Diesel	1.02898E-06	1.24507E-06	1.48174E-06	1.66477E-05	1.18676E-05	0.009244332	1.5759E-07	1.44983E-07	1.5759E-07	8.54376E-08	7.5451E-08	299.9221769	81.82873245	0.272480328	18820.61
Alameda (SF)	2021 Industrial - Aerial Lifts	Aggregated	600	Diesel	5.86796E-07	7.10023E-07	8.44986E-07	1.1739E-05	3.24105E-06	0.006564816	1.11208E-07	1.02311E-07	1.11208E-07	6.06774E-08	5.35811E-08	212.9882126	27.27624415	0.090826776	13365.36
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	50	Diesel	0.001375595	0.00166447	0.001980857	0.009193508	0.007508252	0.976340434	0.000527883	0.000485652	0.000527883	8.98548E-06	7.96876E-06	31676.29012	64567.56099	89.22104748	2737295
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	75	Diesel	0.000221558	0.000268086	0.000319044	0.00088726	0.002106277	0.084593639	0.000166725	0.000153387	0.000166725	7.75463E-07	6.90442E-07	2744.547468	3613.772157	7.152431079	264668.2
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	100	Diesel	0.007362453	0.008908568	0.010601932	0.082038912	0.081572362	11.67494459	0.005772724	0.005310906	0.005772724	0.00010772	9.52893E-05	378780.7197	442646.7142	588.1952858	36488565
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	175	Diesel	0.001800766	0.002178927	0.002593103	0.022759799	0.020623996	3.71688948	0.001115307	0.001026082	0.001115307	3.43105E-05	3.03368E-05	120590.3858	82148.59167	110.8995499	11606599
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	300	Diesel	0.000324593	0.000392757	0.000467413	0.002151608	0.004049532	0.810251554	0.000158984	0.000146265	0.000158984	7.48144E-06	6.61316E-06	26287.71934	12025.09532	16.22200863	2524106
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	600	Diesel	7.09864E-05	8.58935E-05	0.00010222	0.000472531	0.000774304	0.203846409	2.86286E-05	2.63383E-05	2.86286E-05	1.88253E-06	1.66377E-06	6613.572229	1789.820349	2.507037698	632281.4
Alameda (SF)	2021 Industrial - Forklifts	Aggregated	9999	Diesel	2.17257E-06	2.62881E-06	3.1285E-06	3.05177E-05	7.22068E-05	0.016190045	6.30567E-07	5.80122E-07	6.30567E-07	1.4962E-07	1.32141E-07	525.2681767	57.4407461	0.073736403	50547.86
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	1.27447E-06	1.54211E-06	1.83524E-06	4.23761E-06	2.91793E-06	0.000222977	4.01158E-07	3.69065E-07	4.01158E-07	2.02329E-09	1.8199E-09	7.234228252	14.72365871	0.065207374	368.0915
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	50	Diesel	0.002450054	0.002964566	0.003528078	0.018951852	0.015784454	2.099475018	0.001030414	0.000947981	0.001030414	1.93372E-05	1.71356E-05	68115.15481	98441.49871	118.9382505	3457411
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	75	Diesel	0.000637309	0.000771144	0.000917725	0.009526818	0.007994414	1.38352855	0.000464086	0.000426959	0.000464086	1.27723E-05	1.12922E-05	44887.06013	35473.12198	42.31958585	2537052
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	100	Diesel	0.000416848	0.000504386	0.000600261	0.002462865	0.003789593	0.306956696	0.000345916	0.000318243	0.000345916	2.82546E-06	2.50534E-06	9958.871961	7149.808669	9.520276632	562498.9
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	175	Diesel	0.000334914	0.000405246	0.000482276	0.004888938	0.003706428	0.790501056	0.000195854	0.000180186	0.000195854	7.29853E-06	6.45196E-06	25646.93617	9763.25809	11.8677421	1449599
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	300	Diesel	0.00030962	0.00037464	0.000445853	0.002041455	0.004435098	0.832905748	0.000142765	0.000131344	0.000142765	7.69134E-06	6.79806E-06	27022.70972	7014.792719	8.737788142	1525238
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	600	Diesel	0.000687026	0.000831302	0.000989318	0.005870697	0.006912856	2.473153473	0.000250278	0.000230255	0.000250278	2.28449E-05	2.01855E-05	80238.74073	11903.63636	14.1500002	4534622
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	750	Diesel	0.000111348	0.000134732	0.000160342	0.001422063	0.001063228	0.41399054	5.06369E-05	4.65859E-05	5.06369E-05	3.82421E-06	3.37849E-06	13431.46715	1198.947529	1.434562232	757865.1
Alameda (SF)	2021 Industrial - Other General Industrial Equipment	Aggregated	9999	Diesel	4.17161E-05	5.04764E-05	6.00711E-05	0.00028089	0.001021607	0.14308044	2.07038E-05	1.90475E-05	2.07038E-05	1.3216E-06	1.1678E-06	4642.087287	225.5664514	0.260829497	262503
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	50	Diesel	0.000150114	0.000181639	0.000216165	0.000987761	0.000824768	0.09760412	6.52551E-05	6.00347E-05	6.52551E-05	8.97895E-07	7.96632E-07	3166.658179	3912.654556	5.208567825	138486.4
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	75	Diesel	2.08567E-05	2.52366E-05	3.00337E-05	0.000188659	0.00020169	0.024000293	1.6191E-05	1.48957E-05	1.6191E-05	2.21269E-07	1.95887E-07	778.6630676	543.6855952	0.892897341	38181.95
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	100	Diesel	0.000384935	0.000465772	0.000554307	0.006927369	0.005133249	1.039285362	0.000231409	0.000212896	0.000231409	9.59716E-06	8.48251E-06	33718.46899	17736.73447	23.06651466	1647600
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	175	Diesel	0.000397014	0.000480387	0.0005717	0.004929306	0.004079711	0.779533397	0.000265535	0.000244292	0.000265535	7.19526E-06	6.36245E-06	25291.10255	9065.402862	12.50056278	1235367
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	300	Diesel	0.00053642	0.000649068	0.000772444	0.002882824	0.006806547	1.23569948	0.000257185	0.000236611	0.000257185	1.14086E-05	1.00856E-05	40090.90873	8275.832264	11.08680866	1960489
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	600	Diesel	0.000585734	0.000708738	0.000843457	0.004513369	0.007622959	1.590877398	0.000272797	0.000250974	0.000272797	1.46909E-05	1.29845E-05	51614.26513	6898.30501	9.15219775	2520442
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	750	Diesel	3.21348E-05	3.88831E-05	4.62741E-05	0.000145093	0.000346487	0.070179156	1.72621E-05	1.58812E-05	1.72621E-05	6.47877E-07	5.72793E-07	2276.885423	178.6803555	0.223224335	111377.4
Alameda (SF)	2021 Industrial - Other Material Handling Equipment	Aggregated	9999	Diesel	1.40408E-05	1.69893E-05	2.02187E-05	0.000211293	0.000501987	0.113450047	4.29896E-06	3.95504E-06	4.29896E-06	1.04848E-06	9.25964E-07	3680.761837	178.6803555	0.223224335	180050.2
Alameda (SF)	2021 Locomotive - Line haul	Aggregated	9999	Diesel	0.006125498	0.007411853	0.008820717	0.075775832	0.210254657	0	0.003121646	0.002853499	0.003121646	0.000295621	0.000237084	0	0	0	0
Alameda (SF)	2021 Locomotive - Passenger	Aggregated	9999	Diesel	0.010000107	8.87382E-06	1.05606E-05	0.031637921	0.24320587	0	0.004491357	0.004132048	0.004491357	0.000139104	0.000122954	0	0	0	0
Alameda (SF)	2021 Locomotive - Short line	Aggregated	9999	Diesel	6.59446E-05	3.72872E-10	4.43749E-10	0.000175852	0.001786	0	3.02964E-05	2.78726E-05	3.02964E-05	8.51652E-07	7.52904E-07	0	0	0	0
Alameda (SF)	2021 Locomotive - Switcher	Aggregated	9999	Diesel	0.01315949	2.01129E-06	2.3936E-06	0.035351957	0.204112641	0	0.004311351	0.003966443	0.004311351	0.000117707	0.000105868	0	0	0	0
Alameda (SF)	2021 Ocean Going Vessels	Aggregated		Diesel	0.11326062	0.14552467	0.173567241	0.229489739	2.132332534	199.3320408	0.056156235	0.051663736	0.056156235	0.203543562	0.001256102	6289833.09	0	0	1.16E+08
Alameda (SF)	2021 OFF - Agricultural - 2-Wheel Tractors	Aggregated	25	Gasoline	0.000367151	0.000337705	0.000404027	0.01349188	0.000262764	0.022754986	0.000144578	0.000109237	0.000160643	6.68235E-07	6.03537E-07	1722.8	4040.55	15.93	28251
Alameda (SF)	2021 OFF - Agricultural - Agricultural Mowers	Aggregated	25	Gasoline	0.000292235	0.000268798	0.000321587	0.012524429	0.00021264	0.019207854	0.000144918	0.000109493	0.00016102	5.08242E-07	5.3321E-07	1522.05	2467.4	13.7	30871.7
Alameda (SF)	2021 OFF - Agricultural - Agricultural Tractors	Aggregated	25	Diesel	0.001506559	0.00179293	0.002169445	0.008556956	0.013673419	1.817263893	0.000517595	0.000476188	0.000517595	2.46098E-05	1.52113E-05	60465.9	83690.85	157.08	1512629
Alameda (SF)	2021 OFF - Agricultural - Agricultural Tractors	Aggregated	100	Gasoline	0.00023879	0.000219639	0.000262773	0.009317232	0.00059498	0.159090118	1.10921E-05	8.38073E-06	1.23246E-05	1.53703E-06	2.31313E-06	6602.85	1335.9	2.43	109543.8
Alameda (SF)	2021 OFF - Agricultural - Agricultural Tractors	Aggregated	175	Gasoline	3.22153E-05	2.96317E-05	3.5451E-05	0.001283773	0.000138011	0.03232363	2.31726E-06	1.75082E-06	2.57473E-06	3.21101E-07	4.56489E-07	1303.05	193.45	0.3	24181.25
Alameda (SF)	2021 OFF - Agricultural - Balers	Aggregated	50	Gasoline	4.23336E-05	3.89384E-05	4.65855E-05	0.002239321	7.72396E-05	0.027499755	1.89581E-06	1.43239E-06	2.10645E-06	3.34347E-07	4.1685E-07	1189.9	598.6	8.86	20951
Alameda (SF)	2021 OFF - Agricultural - Balers	Aggregated	100	Gasoline	1.96159E-05	1.80427E-05	2.15861E-05	0.000602643	7.05886E-05	0.025428815	1.77296E-06	1.33957E-06	1.96995E-06	2.45678E-07	3.50359E-07	1000.1	313.9	4.52	20089.6
Alameda (SF)	2021 OFF - Agricultural - Combines	Aggregated	100	Gasoline	5.72308E-06	5.26409E-06	6.2979E-06	0.000268363	1.42032E-05	0.013580723	9.4688E-07	7.15421E-07	1.05209E-06	1.31209E-07	1.85409E-07	529.25	73	0.59	7519
Alameda (SF)	2021 OFF - Agricultural - Combines	Aggregated	175	Gasoline	3.65443E-06	3.36135E-06	4.02148E-06	0.000397476	1.35103E-05	0.011683547	8.37586E-07	6.32843E-07	9.30651E-07	1.16064E-07	1.63671E-07	467.2	32.85	0.35	5387.4
Alameda (SF)	2021 OFF - Agricultural - Combines	Aggregated	300	Gasoline	6.66232E-07	6.12801E-07	7.33148E-07	8.68035E-05	7.59538E-06	0.002479547	1.82917E-07	1.38204E-07	2.03242E-07	2.53468E-08	3.45244E-08	98.55	0	0.08	0
Alameda (SF)	2021 OFF - Agricultural - Hydro Power Units	Aggregated	25	Gasoline	0.000287169	0.000264138	0.000316012	0.011273428	0.000207715	0.017894561	0.000127062	9.60024E-05	0.00014118	4.93001E-07	4.85899E-07	1387	2511.2	6.48	24699.55
Alameda (SF)	2021 OFF - Agricultural - Hydro Power Units	Aggregated	25	Diesel	1.02088E-05	1.21493E-05	1.47007E-05	5.40559E-05	9.27761E-05	0.012249587	3.48887E-06	3.20976E-06	3.48887E-06	1.60651E-07	1.01005E-07	401.5	890.6	1.09	14917.55
Alameda (SF)	2021 OFF - Agricultural - Hydro Power Units	Aggregated	50	Gasoline	2.40499E-06	2.21211E-06	2.64654E-06	0.000193922	3.62414E-06	0.001887856	1.30147E-07	9.83334E-08	1.44608E-07	2.29529E-08	2.8131E-08	80.3	40.15	0.07	1525.7
Alameda (SF)	2021 OFF - Agricultural - Hydro Power Units	Aggregated	100	Gasoline	1.81906E-07	1.67317E-07	2.00176E-07	9.06512E-06	4.45319E-07	0.000405259	2.82556E-08	2.13487E-08	3.13951E-08	3.91537E-09	3.83604E-09	10.95	0	0	0
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Gasoline	3.76991E-05	3.46756E-05	4.14855E-05	0.001352349	2.53301E-05	0.002277656	1.3577E-05	1.02582E-05	1.50856E-05	6.57414E-08	5.75407E-08	164.25	350.4	2.51	2967.45
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Diesel	2.36641E-05	2.81623E-05	3.40763E-05	0.000125967	0.000215568	0.028349371	8.40546E-06	7.73302E-06	8.40546E-06	3.73046E-07	2.39657E-07	952.65	1657.1	3.75	32076.2
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	50	Gasoline	1.85732E-06	1.70836E-06	2.04387E-06	0.000115096	3.0974E-06	0.001291585	8.90407E-08	6.72752E-08	9.89341E-08	1.57033E-08	1.66229E-08	47.45	40.15	0.25	1164.35
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	100	Gasoline	1.13666E-05	1.0455E-05	1.25083E-05	0.000421969	3.4586E-05	0.017090533	1.19159E-06	9.00315E-07	1.32399E-06	1.65118E-07	2.35277E-07	671.6	208.05	1.62	13939.35
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	175	Gasoline	1.73392E-06	1.59486E-06	1.90807E-06	0.000132319	8.7202E-06	0.003846512	2.75754E-07	2.08347E-07	3.06393E-07	3.82111E-08	5.37046E-08	153.3	0	0.13	0
Alameda (SF)	2021 OFF - Agricultural - Other Agricultural Equipment	Aggregated	300	Gasoline	9.33945E-07	8.59043E-07	1.02775E-06	8.88983E-05	9.33949E-06	0.002511369	1.85265E-07	1.39978E-07	2.0585E-07	2.56721E-08	3.1967E-08	91.25	0	0.05	0
Alameda (SF)	2021 OFF - Agricultural - Sprayers	Aggregated	25	Gasoline	0.000628456	0.000578054	0.000691577	0.022399564	0.000380819	0.036124699	0.000219523	0.000165862	0.000243915	9.9495E-07	9.76912E-07	2788.6	5934.9	60.46	55717.25
Alameda (SF)	2021 OFF - Agricultural - Sprayers	Aggregated	25	Diesel	2.43022E-06	2.89216E-06	3.49951E-06	1.12957E-05	2.06585E-05	0.002600835	9.48104E-07	8.72255E-07	9.48104E-07	3.29997E-08	1.74463E-08	69.35	156.95	1.43	2982.05
Alameda (SF)	2021 OFF - Agricultural - Sprayers	Aggregated	50	Gasoline	8.20459E-06	7.54658E-06	9.02865E-06	0.000439312	1.48027E-05	0.00522088	3.59923E-07	2.71942E-07	3.99914E-07	6.34764E-08	7.54422E-08	215.35	138.7	1.66	4577.1
Alameda (SF)	2021 OFF - Agricultural - Sprayers	Aggregated	100	Gasoline	1.41545E-05	1.30193E-05	1.55761E-05	0.000440401	5.01955E-05	0.017927686	1.24996E-06	9.44415E-07	1.38885E-06	1.73206E-07	2.41671E-07	689.85	215.35	2.81	14643.8
Alameda (SF)	2021 OFF - Agricultural - Sprayers	Aggregated	175	Gasoline	4.09132E-06	3.7632E-06	4.50225E-06	0.000275502	2.55856E-05	0.008095126	5.80334E-07	4.38475E-07	6.44816E-07	8.04166E-08	1.12524E-07	321.2	43.8	0.59	6132
Alameda (SF)	2021 OFF - Agricultural - Swathers	Aggregated	100	Gasoline	7.51912E-05	6.91608E-05	8.27433E-05	0.002374462	0.000261981	0.092578273	6.45478E-06	4.87694E-06	7.17198E-06	8.94435E-07	1.27996E-06	3653.65	861.4	9.08	75803.2
Alameda (SF)	2021 OFF - Agricultural - Swathers	Aggregated	175	Gasoline	5.27204E-05	4.84922E-05	5.80156E-05	0.003461671	0.000323369	0.10118059	7.25357E-06	5.48048E-06	8.05952E-06	1.00512E-06	1.41678E-06	4044.2	667.95	6.96	86165.55
Alameda (SF)	2021 OFF - Agricultural - Tillers	Aggregated	25	Gasoline	0.004957876	0.004560255	0.00545584	0.28331865	0.003519004	0.445737721	0.000203165	0.000153503	0.000225739	1.27092E-05	1.20784E-05	34477.9	69152.9	972.58	484070.3
Alameda (SF)	2021 OFF - AirGrSupp - A/C Tug Narrow Body	Aggregated	175	Gasoline	0.000534497	0.000491631	0.000588182	0.029408086	0.003393565	0.706671823	5.06608E-05	3.82771E-05	5.62898E-05	7.02005E-06	1.00057E-05	28561.25	2985.7	4.09	388141
Alameda (SF)	2021 OFF - AirGrSupp - A/C Tug Wide Body	Aggregated	600	Gasoline	0.000213098	0.000196008	0.000234502	0.022897419	0.001969282	0.616573619	4.54849E-05	3.43664E-05	5.05388E-05	6.30282E-06	8.65923E-06	24717.8	700.8	1.35	350400
Alameda (SF)	2021 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Gasoline	2.23968E-07	2.06005E-07	2.46463E-07	2.10402E-05	2.42376E-06	0.000633073	4.53846E-08	3.42906E-08	5.04274E-08	6.28892E-09	0	0	0	0.15	0
Alameda (SF)	2021 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Nat Gas	0	0	1.04801E-07	8.39377E-05	1.08626E-05	0.003402132	0	0	3.02564E-07	0	0	167.9	0	0.78	0
Alameda (SF)	2021 OFF - AirGrSupp - Air Start Unit	Aggregated	175	Gasoline	2.30058E-05	2.11607E-05	2.53164E-05	0.002027707	0.000233448	0.059884142	4.29305E-06	3.24364E-06	4.77006E-06	5.94886E-07	8.38815E-07	2394.4	211.7	2.98	27521
Alameda (SF)	2021 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Gasoline	0.003597387	0.003308876	0.003958705	0.270790343	0.020714374	6.23927217	0.000435017	0.00032868	0.000483352	6.02801E-05	8.85103E-05	252653	48508.5	55.26	4850850
Alameda (SF)	2021 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Nat Gas	0	0	0.000131483	0.045559095	0.005470366	1.024863417	0	0	9.11449E-05	0	0	57034.9	9146.9	10.98	914690
Alameda (SF)	2021 OFF - AirGrSupp - Belt Loader	Aggregated	100	Gasoline	0.000874968	0.000804795	0.000962849	0.066903282	0.004995573	1.487840679	0.000103736	7.83782E-05	0.000115262	1.43746E-05	2.11545E-05	60385.6	21202.85	26.12	1272171
Alameda (SF)	2021 OFF - AirGrSupp - Belt Loader	Aggregated	100	Nat Gas	0	0	9.53095E-06	0.003887399	0.000455488	0.098803402	0	0	8.78695E-06	0	0	5442.15	1613.3	2.92	96798
Alameda (SF)	2021 OFF - AirGrSupp - Bobtail	Aggregated	100	Gasoline	0.00057815	0.000531783	0.000636219	0.04351973	0.003329092	1.002739795	6.99134E-05	5.28235E-05	7.76816E-05	9.68787E-06	1.42228E-05	40598.95	7792.75	8.89	779275
Alameda (SF)	2021 OFF - AirGrSupp - Bobtail	Aggregated	100	Nat Gas	0	0	1.30761E-06	0.000889316	8.07891E-05	0.024721068	0	0	2.19854E-06	0	0	1357.8	219	0.25	21900
Alameda (SF)	2021 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Gasoline	0.000241448	0.000222084	0.000265699	0.01844089	0.00137812	0.410470747	2.8619E-05	2.16232E-05	3.17989E-05	3.96572E-06	5.83462E-06	16654.95	5004.15	6.96	350290.5
Alameda (SF)	2021 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Nat Gas	0	0	1.31942E-05	0.004196709	0.00051114	0.08712382	0	0	7.74824E-06	0	0	4883.7	1222.75	1.18	85592.5
Alameda (SF)	2021 OFF - AirGrSupp - Cargo Tractor	Aggregated	100	Gasoline	0.007319366	0.006732353	0.008054516	0.644838179	0.032697122	6.974060054	0.000486248	0.000367388	0.000540276	5.75785E-05	0.000106237	303252.95	58118.95	43.01	5521300
Alameda (SF)	2021 OFF - AirGrSupp - Cargo Tractor	Aggregated	175	Nat Gas	0	0	4.74039E-06	0.003266186	0.000416465	0.124426901	0	0	1.10657E-05	0	0	6716	730	4.67	113588
Alameda (SF)	2021 OFF - AirGrSupp - Cart	Aggregated	25	Gasoline	2.72286E-05	2.50449E-05	2.99634E-05	0.001738755	2.08991E-05	0.002772736	1.25564E-06	9.48704E-07	1.39515E-06	7.90582E-08	7.28848E-08	208.05	354.05	2.37	4248.6
Alameda (SF)	2021 OFF - AirGrSupp - Catering Truck	Aggregated	300	Gasoline	0.001063799	0.000978482	0.001170645	0.052167391	0.00597511	1.123025336	8.28461E-05	6.25949E-05	9.20513E-05	9.81013E-06	1.60232E-05	45738.15	4799.75	4.72	978669
Alameda (SF)	2021 OFF - AirGrSupp - Catering Truck	Aggregated	300	Nat Gas	0	0	4.66628E-06	0.002558226	0.000317241	0.086004041	0	0	7.64866E-06	0	0	4668.35	394.2	0.88	80811
Alameda (SF)	2021 OFF - AirGrSupp - Deicer	Aggregated	100	Gasoline	8.627E-06	7.93511E-06	9.49348E-06	0.000288698	5.34931E-05	0.015357866	1.07079E-06	8.09039E-07	1.18976E-06	1.48378E-07	2.08425E-07	594.95	58.4	3.35	5431.2
Alameda (SF)	2021 OFF - AirGrSupp - Forklift	Aggregated	50	Gasoline	0.000252298	0.000232064	0.000277639	0.023864603	0.000546853	0.169824043	1.17075E-05	8.84568E-06	1.30084E-05	2.06475E-06	2.76067E-06	7880.35	4785.15	6.59	239257.5
Alameda (SF)	2021 OFF - AirGrSupp - Forklift	Aggregated	50	Nat Gas	0	0	1.57833E-05	0.0042396	0.001146336	0.342272403	0	0	3.04395E-05	0	0	18093.05	11198.2	15.4	559910
Alameda (SF)	2021 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Gasoline	2.3887E-06	2.19712E-06	2.62862E-06	0.0002201	2.58396E-05	0.006627593	4.75128E-07	3.58985E-07	5.2792E-07	6.58382E-08	9.07864E-08	259.15	83.95	4.08	10913.5
Alameda (SF)	2021 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Nat Gas	0	0	1.25783E-06	0.000647073	7.9514E-05	0.020822033	0	0	1.85178E-06	0	0	1131.5	292	0.49	40880
Alameda (SF)	2021 OFF - AirGrSupp - Generator	Aggregated	100	Gasoline	9.14123E-05	8.4081E-05	0.000100594	0.004942733	0.000309405	0.058559346	4.0829E-06	3.08486E-06	4.53655E-06	4.83472E-07	8.81011E-07	2514.85	302.95	0.3	32415.65
Alameda (SF)	2021 OFF - AirGrSupp - Ground Power Unit	Aggregated	175	Gasoline	0.000374342	0.00034432	0.000411941	0.03870372	0.003314901	1.056790263	7.57606E-05	5.72414E-05	8.41785E-05	1.04981E-05	1.48289E-05	42329.05	4131.8	5.19	619770
Alameda (SF)	2021 OFF - AirGrSupp - Hydrant truck	Aggregated	175	Gasoline	0.001420114	0.001306221	0.001562749	0.060223273	0.006830061	1.168542941	8.37721E-05	6.32945E-05	9.30801E-05	9.91978E-06	1.68121E-05	47990.2	6040.75	3.95	733951.1
Alameda (SF)	2021 OFF - AirGrSupp - Lav Cart	Aggregated	25	Gasoline	2.35553E-06	2.16662E-06	2.59212E-06	0.000150418	1.80797E-06	0.000239867	1.08625E-07	8.20719E-08	1.20694E-07	6.83926E-09	6.39341E-09	18.25	29.2	0.2	350.4
Alameda (SF)	2021 OFF - AirGrSupp - Lav Truck	Aggregated	175	Gasoline	0.000322995	0.00029709	0.000355436	0.023885938	0.002011739	0.568458871	4.07524E-05	3.07907E-05	4.52805E-05	5.64704E-06	8.04674E-06	22969.45	7690.55	6.36	999771.5
Alameda (SF)	2021 OFF - AirGrSupp - Lav Truck	Aggregated	175	Nat Gas	0	0	6.01924E-07	0.000344046	4.29052E-05	0.011874199	0	0	1.05602E-06	0	0	646.05	167.9	0.46	21827
Alameda (SF)	2021 OFF - AirGrSupp - Lift	Aggregated	100	Gasoline	0.000492073	0.000452609	0.000541496	0.022968569	0.002147013	0.50872104	3.54693E-05	2.6799E-05	3.94103E-05	4.91496E-06	7.24756E-06	20688.2	4358.1	11.53	435810
Alameda (SF)	2021 OFF - AirGrSupp - Lift	Aggregated	100	Nat Gas	0	0	1.09035E-06	0.000534309	6.11375E-05	0.015057706	0	0	1.33914E-06	0	0	824.9	142.35	0.42	14235
Alameda (SF)	2021 OFF - AirGrSupp - Maint. Truck	Aggregated	175	Gasoline	0.000252523	0.00023227	0.000277886	0.020266895	0.001976377	0.539388779	3.86684E-05	2.92161E-05	4.29649E-05	5.35826E-06	7.5813E-06	21640.85	3642.7	8.12	473551
Alameda (SF)	2021 OFF - AirGrSupp - Other	Aggregated	50	Nat Gas	0	0	1.7123E-05	0.001999003	0.000675093	0.117422532	0	0	1.04428E-05	0	0	6274.35	2303.15	2.27	115157.5
Alameda (SF)	2021 OFF - AirGrSupp - Other GSE	Aggregated	50	Gasoline	0.000209972	0.000193132	0.000231061	0.014027589	0.000422179	0.129860065	8.95244E-06	6.76406E-06	9.94715E-06	1.57886E-06	2.02415E-06	5777.95	2186.35	11.96	109317.5
Alameda (SF)	2021 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Gasoline	7.87999E-05	7.24802E-05	8.67145E-05	0.006125732	0.000714182	0.174185375	1.24872E-05	9.4348E-06	1.38747E-05	1.54158E-06	2.43972E-06	6964.2	1043.9	5.53	130591.9
Alameda (SF)	2021 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Nat Gas	0	0	1.44031E-08	1.16877E-05	1.51432E-06	0.000476	0	0	4.23325E-08	0	0	0	0	0.16	0
Alameda (SF)	2021 OFF - AirGrSupp - Service Truck	Aggregated	300	Gasoline	0.001322327	0.001216276	0.00145514	0.06927875	0.007972293	1.564966975	0.000115448	8.72277E-05	0.000128276	1.59976E-05	2.22554E-05	63528.25	19658.9	23.34	3538602
Alameda (SF)	2021 OFF - AirGrSupp - Service Truck	Aggregated	300	Nat Gas	0	0	1.45711E-05	0.007735153	0.000711218	0.218501766	0	0	1.94322E-05	0	0	11964.7	2982.05	2.28	536769
Alameda (SF)	2021 OFF - AirGrSupp - Sweeper	Aggregated	50	Nat Gas	0	0	1.3275E-07	3.12243E-05	1.0086E-05	0.002599666	0	0	2.31198E-07	0	0	135.05	51.1	0.15	2299.5
Alameda (SF)	2021 OFF - AirGrSupp - Sweeper	Aggregated	100	Gasoline	1.16422E-05	1.07085E-05	1.28115E-05	0.00054051	5.13644E-05	0.012264256	8.55093E-07	6.46071E-07	9.50104E-07	1.01255E-07	1.75179E-07	500.05	178.85	0.49	9532.705
Alameda (SF)	2021 OFF - AirGrSupp - Water Truck	Aggregated	175	Gasoline	2.2676E-05	2.08574E-05	2.49535E-05	0.001592886	0.000185209	0.043504311	3.1188E-06	2.35642E-06	3.46533E-06	4.3217E-07	6.09931E-07	1741.05	631.45	2.05	94717.5
Alameda (SF)	2021 OFF - ConstMin - Asphalt Pavers	Aggregated	25	Gasoline	0.001012997	0.000931755	0.001114742	0.043089934	0.000721376	0.065429892	0.00049365	0.00037298	0.0005485	1.69831E-06	1.82084E-06	5197.6	4445.7	11.22	76452.9
Alameda (SF)	2021 OFF - ConstMin - Asphalt Pavers	Aggregated	50	Gasoline	0.00013597	0.000125065	0.000149627	0.009356977	0.000190874	0.062992325	4.34263E-06	3.2811E-06	4.82515E-06	7.65872E-07	1.03573E-06	2956.5	1262.9	3.19	40412.8
Alameda (SF)	2021 OFF - ConstMin - Asphalt Pavers	Aggregated	100	Gasoline	7.05342E-05	6.48773E-05	7.76186E-05	0.002872244	0.000185243	0.065217936	4.54715E-06	3.43563E-06	5.05239E-06	6.30096E-07	9.3088E-07	2657.2	689.85	1.74	42080.85
Alameda (SF)	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Gasoline	0.000359755	0.000330902	0.000395888	0.016051654	0.000253118	0.024256884	0.000183011	0.000138275	0.000203346	6.2251E-07	6.71308E-07	1916.25	1427.15	11.47	23761.5
Alameda (SF)	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	3.44034E-05	4.09429E-05	4.95409E-05	0.000184727	0.000312574	0.041322966	1.17697E-05	1.08281E-05	1.17697E-05	5.45372E-07	3.47089E-07	1379.7	2073.2	2.55	32156.5
Alameda (SF)	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregated	50	Gasoline	1.04821E-05	9.64142E-06	1.15349E-05	0.000575565	1.84624E-05	0.006377241	4.39641E-07	3.32173E-07	4.8849E-07	7.75356E-08	9.59011E-08	273.75	105.85	0.98	3387.2
Alameda (SF)	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregated	100	Gasoline	6.61E-05	6.07988E-05	7.2739E-05	0.002110758	0.000227185	0.079608144	5.55047E-06	4.19369E-06	6.16719E-06	7.69126E-07	1.10222E-06	3146.3	474.5	4.58	41756
Alameda (SF)	2021 OFF - ConstMin - Bore/Drill Rigs	Aggregated	175	Gasoline	1.46411E-05	1.34669E-05	1.61116E-05	0.00094274	8.84723E-05	0.02743985	1.96714E-06	1.48629E-06	2.18572E-06	2.72586E-07	3.84883E-07	1098.65	109.5	1.15	13797
Alameda (SF)	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Gasoline	0.014199949	0.013061113	0.015626177	0.495253877	0.009302225	0.843430941	0.004730213	0.003573938	0.005255792	2.53782E-05	2.22772E-05	63590.3	158931.95	1726.28	1101829
Alameda (SF)	2021 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Diesel	8.68832E-05	0.000103398	0.000125112	0.000605641	0.000781795	0.105832562	3.08058E-05	2.83414E-05	3.08058E-05	1.58603E-06	8.87006E-07	3525.9	10679.9	35.51	110310.3
Alameda (SF)	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Gasoline	0.01105173	0.010165381	0.012161754	0.464406707	0.008231641	0.729834658	0.005372041	0.004058875	0.005968934	2.0084E-05	1.99538E-05	56958.25	69050.7	242.99	721455.4
Alameda (SF)	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Diesel	2.85639E-06	3.39934E-06	4.1132E-06	1.40389E-05	2.59921E-05	0.003409532	9.71204E-07	8.93507E-07	9.71204E-07	4.32605E-08	2.8465E-08	113.15	146	0.26	2628
Alameda (SF)	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Gasoline	0.000171188	0.000157459	0.000188382	0.01288467	0.000269013	0.146337494	1.00884E-05	7.62233E-06	1.12093E-05	1.7792E-06	2.21595E-06	6325.45	2266.65	3.71	79332.75
Alameda (SF)	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Diesel	4.72492E-05	5.62305E-05	6.80389E-05	0.000422509	0.000383198	0.053585899	1.73707E-05	1.59811E-05	1.73707E-05	6.92732E-07	4.4993E-07	1788.5	1292.1	2.23	42639.3
Alameda (SF)	2021 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	100	Gasoline	7.03518E-05	6.47096E-05	7.74179E-05	0.003511822	0.000172196	0.156389945	1.09039E-05	8.23849E-06	1.21154E-05	1.51095E-06	2.15074E-06	6139.3	1299.4	2.13	85760.4
Alameda (SF)	2021 OFF - ConstMin - Cranes	Aggregated	50	Gasoline	4.77249E-05	4.38973E-05	5.25183E-05	0.003094327	6.91712E-05	0.019334679	1.33292E-06	1.00709E-06	1.48102E-06	2.35074E-07	3.24785E-07	927.1	470.85	1.15	17421.45
Alameda (SF)	2021 OFF - ConstMin - Cranes	Aggregated	100	Gasoline	9.91262E-05	9.11763E-05	0.000109082	0.003730279	0.000265317	0.076469853	5.33166E-06	4.02837E-06	5.92407E-06	7.38805E-07	1.09455E-06	3124.4	934.4	2.28	69145.6
Alameda (SF)	2021 OFF - ConstMin - Cranes	Aggregated	175	Gasoline	4.29807E-06	3.95336E-06	4.72976E-06	0.00019133	1.98529E-05	0.005025118	3.60247E-07	2.72187E-07	4.00275E-07	4.99193E-08	7.28848E-08	208.05	32.85	0.08	4106.25
Alameda (SF)	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	25	Gasoline	0.000162227	0.000149217	0.000178521	0.006996853	0.000119786	0.010800684	8.1488E-05	6.15687E-05	9.05422E-05	2.89546E-07	2.99211E-07	854.1	835.85	2.88	9847.7

Alameda (SF)	2021 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	100	Gasoline	6.24075E-05	5.74024E-05	6.86756E-05	0.002186745	0.000188619	0.060429333	4.21328E-06	3.18337E-06	4.68142E-06	5.83832E-07	8.49044E-07	2423.6	313.9	1.29	30134.4
Alameda (SF)	2021 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Gasoline	0.001306805	0.001201999	0.001438059	0.048387695	0.000903731	0.079396003	0.000524008	0.000395917	0.000582231	2.26454E-06	2.1354E-06	6095.5	17165.95	115.02	149438.3
Alameda (SF)	2021 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Diesel	8.86875E-06	1.05545E-05	1.2771E-05	4.35842E-05	8.07133E-05	0.01058499	3.05108E-06	2.80699E-06	3.05108E-06	1.34303E-07	8.72314E-08	346.75	1014.7	1.53	16235.2
Alameda (SF)	2021 OFF - ConstMin - Dumpers/Tenders	Aggregated	100	Gasoline	5.64043E-06	5.18806E-06	6.20695E-06	0.000183254	1.89672E-05	0.006554606	4.57003E-07	3.45291E-07	5.07781E-07	6.33266E-08	9.07864E-08	259.15	102.2	0.84	6745.2
Alameda (SF)	2021 OFF - ConstMin - Excavators	Aggregated	25	Diesel	6.21627E-05	7.39787E-05	8.95143E-05	0.000305524	0.000565659	0.074200616	2.1136E-05	1.94451E-05	2.1136E-05	9.41465E-07	6.2072E-07	2467.4	3295.95	2.36	75806.85
Alameda (SF)	2021 OFF - ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0.000200444	0.000238545	0.000288639	0.001415387	0.001810628	0.246337869	7.01677E-05	6.45543E-05	7.01677E-05	3.70503E-06	2.06509E-06	8208.85	17049.15	24.69	231508.6
Alameda (SF)	2021 OFF - ConstMin - Other Construction Equipment	Aggregated	175	Gasoline	6.57112E-05	6.04412E-05	7.23112E-05	0.005667696	0.000211246	0.161861668	1.16038E-05	8.76728E-06	1.28931E-05	1.60793E-06	2.26327E-06	6460.5	1178.95	3.16	148547.7
Alameda (SF)	2021 OFF - ConstMin - Pavers	Aggregated	25	Diesel	1.68345E-05	2.00344E-05	2.42417E-05	8.26786E-05	0.000153321	0.020079596	5.86706E-06	5.39769E-06	5.86706E-06	2.54772E-07	1.67117E-07	664.3	788.4	0.96	18921.6
Alameda (SF)	2021 OFF - ConstMin - Paving Equipment	Aggregated	25	Gasoline	0.023323347	0.021452815	0.025665921	0.863018205	0.016711294	1.456344335	0.009289521	0.007018749	0.01032169	4.27535E-05	3.85625E-05	110076.7	232191.1	1227.29	1903555
Alameda (SF)	2021 OFF - ConstMin - Paving Equipment	Aggregated	25	Diesel	1.9925E-05	2.37123E-05	2.86919E-05	9.79294E-05	0.00018131	0.02378346	6.77389E-06	6.23198E-06	6.77389E-06	3.01767E-07	1.97418E-07	784.75	1376.05	1.65	26144.95
Alameda (SF)	2021 OFF - ConstMin - Paving Equipment	Aggregated	50	Gasoline	0.000101338	9.32111E-05	0.000111517	0.007402475	0.000161452	0.079422354	5.47531E-06	4.1369E-06	6.08367E-06	9.65631E-07	1.21219E-06	3460.2	1533	8.78	56721
Alameda (SF)	2021 OFF - ConstMin - Paving Equipment	Aggregated	100	Gasoline	1.8866E-05	1.73529E-05	2.07608E-05	0.000884379	5.03808E-05	0.036103274	2.51721E-06	1.90189E-06	2.7969E-06	3.48808E-07	4.96128E-07	1416.2	397.85	2.28	26258.1
Alameda (SF)	2021 OFF - ConstMin - Plate Compactors	Aggregated	25	Gasoline	0.009834261	0.009045553	0.010822004	0.322205739	0.006599163	0.575740822	0.003146058	0.002377022	0.00349562	1.75315E-05	1.48826E-05	42482.35	131516.8	678.45	807146.4
Alameda (SF)	2021 OFF - ConstMin - Plate Compactors	Aggregated	25	Diesel	5.88699E-05	7.00601E-05	8.47727E-05	0.000444667	0.000530879	0.072825452	2.07443E-05	1.90848E-05	2.07443E-05	1.13323E-06	6.11538E-07	2430.9	12333.35	20.54	98666.8
Alameda (SF)	2021 OFF - ConstMin - Rollers	Aggregated	25	Gasoline	0.005026132	0.004623036	0.005530951	0.210483526	0.003623305	0.327273439	0.002382503	0.001800114	0.002647226	8.81641E-06	8.99808E-06	25685.05	33076.3	132.8	407077.2
Alameda (SF)	2021 OFF - ConstMin - Rollers	Aggregated	25	Diesel	0.000359461	0.000427788	0.000517624	0.002262	0.003255609	0.43721908	0.000124535	0.000114572	0.000124535	6.21458E-06	3.66096E-06	14552.55	38069.5	54.75	454863
Alameda (SF)	2021 OFF - ConstMin - Rollers	Aggregated	50	Gasoline	0.000230614	0.000212119	0.000253776	0.015788486	0.000307977	0.076331588	5.26223E-06	3.97591E-06	5.84692E-06	9.28053E-07	1.35412E-06	3865.35	1412.55	2.28	52264.35
Alameda (SF)	2021 OFF - ConstMin - Rollers	Aggregated	100	Gasoline	0.000462669	0.000425563	0.000509139	0.018324875	0.00111654	0.287617291	2.00534E-05	1.51514E-05	2.22815E-05	2.77878E-06	4.21709E-06	12037.7	2642.6	4.24	198195
Alameda (SF)	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	50	Gasoline	3.22775E-05	2.96888E-05	3.55194E-05	0.002091374	4.68259E-05	0.013105021	9.03448E-07	6.82605E-07	1.00383E-06	1.59333E-07	2.14818E-07	613.2	204.4	0.45	9606.8
Alameda (SF)	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	100	Gasoline	0.000430349	0.000395835	0.000473573	0.016184474	0.001153222	0.332767173	2.32013E-05	1.75299E-05	2.57792E-05	3.21499E-06	4.76948E-06	13614.5	2649.9	6.41	225241.5
Alameda (SF)	2021 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	175	Gasoline	1.62432E-05	1.49405E-05	1.78746E-05	0.000724381	7.51219E-05	0.019037471	1.36478E-06	1.03117E-06	1.51643E-06	1.89117E-07	2.69802E-07	770.15	98.55	0.25	13994.1
Alameda (SF)	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	1.6604E-05	1.97602E-05	2.39098E-05	8.16074E-05	0.000151091	0.019819444	5.64556E-06	5.19391E-06	5.64556E-06	2.51471E-07	1.66199E-07	660.65	857.75	0.89	21443.75
Alameda (SF)	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregated	50	Gasoline	7.65798E-05	7.04381E-05	8.42714E-05	0.005229667	0.000102591	0.029628727	2.04258E-06	1.54328E-06	2.26953E-06	3.60231E-07	5.06358E-07	1445.4	569.4	1.11	22776
Alameda (SF)	2021 OFF - ConstMin - Rubber Tired Loaders	Aggregated	100	Gasoline	0.00047058	0.00043284	0.000517845	0.018759121	0.001173331	0.350144175	2.44129E-05	1.84453E-05	2.71254E-05	3.38288E-06	5.05463E-06	14428.45	3843.45	7.5	276728.4
Alameda (SF)	2021 OFF - ConstMin - Signal Boards	Aggregated	25	Gasoline	0.000251087	0.00023095	0.000276306	0.010484213	0.000194613	0.016912506	0.000122861	9.28283E-05	0.000136512	4.86155E-07	4.56489E-07	1303.05	2197.3	8.27	17173.25
Alameda (SF)	2021 OFF - ConstMin - Signal Boards	Aggregated	25	Diesel	0.000920095	0.001094989	0.001324937	0.006949831	0.008297257	1.13821018	0.000324219	0.000298281	0.000324219	1.77116E-05	9.54679E-06	37949.05	134794.5	179.57	808767
Alameda (SF)	2021 OFF - ConstMin - Signal Boards	Aggregated	50	Diesel	2.06806E-05	2.46116E-05	2.978E-05	0.000182544	0.000166821	0.023686221	7.46318E-06	6.86613E-06	7.46318E-06	3.06204E-07	1.98337E-07	788.4	474.5	0.89	17556.5
Alameda (SF)	2021 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Gasoline	0.016526489	0.015201065	0.018186393	0.701145886	0.011486966	1.054040563	0.007952428	0.006008501	0.008836031	2.67507E-05	2.94813E-05	84154.4	74036.6	231.91	1401257
Alameda (SF)	2021 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0.001646748	0.001959766	0.002371317	0.008003732	0.014904577	1.930090441	0.000593932	0.000546418	0.000593932	2.44892E-05	1.61452E-05	64177.95	102236.5	122.48	2044730
Alameda (SF)	2021 OFF - ConstMin - Skid Steer Loaders	Aggregated	50	Gasoline	0.000524846	0.000482753	0.000577561	0.041681561	0.000798805	0.420507058	2.89894E-05	2.19031E-05	3.22104E-05	5.1126E-06	6.46629E-06	18458.05	9573.95	30.86	306366.4
Alameda (SF)	2021 OFF - ConstMin - Skid Steer Loaders	Aggregated	100	Gasoline	0.000301679	0.000277484	0.000331979	0.016038708	0.000740982	0.621845404	4.33566E-05	3.27583E-05	4.81739E-05	6.00789E-06	8.59274E-06	24528	5726.85	18.47	458148
Alameda (SF)	2021 OFF - ConstMin - Surfacing Equipment	Aggregated	25	Gasoline	0.01124545	0.010343565	0.012374932	0.428124665	0.008490246	0.700793134	0.004906537	0.003707161	0.005451708	2.02329E-05	1.88247E-05	53735.3	141711.25	331.23	1102618
Alameda (SF)	2021 OFF - ConstMin - Tampers/Rammers	Aggregated	25	Gasoline	0.00124063	0.001141132	0.001365238	0.057996918	0.001044086	0.108828017	0.000821076	0.000620368	0.000912306	4.35238E-06	2.71464E-06	7748.95	36145.95	198.42	152559.1
Alameda (SF)	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0.000308483	0.00036712	0.000444215	0.001516165	0.002807082	0.368220734	0.000105118	9.67086E-05	0.000105118	4.67202E-06	3.07881E-06	12238.45	16957.9	18	390031.7
Alameda (SF)	2021 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Gasoline	0.000217719	0.000200258	0.000239586	0.014891216	0.000546325	0.245316221	1.7104E-05	1.2923E-05	1.90045E-05	2.3701E-06	3.57391E-06	10201.75	3463.85	3.97	218222.6
Alameda (SF)	2021 OFF - ConstMin - Trenchers	Aggregated	25	Gasoline	0.010188428	0.009371316	0.011211744	0.426893188	0.007438839	0.655273715	0.004943849	0.003735353	0.005493166	1.73979E-05	1.81355E-05	51767.95	51713.2	119.06	765459.8
Alameda (SF)	2021 OFF - ConstMin - Trenchers	Aggregated	25	Diesel	0.000145361	0.000172992	0.00020932	0.000787556	0.001320466	0.174713262	4.9767E-05	4.57856E-05	4.9767E-05	2.31527E-06	1.46273E-06	5814.45	6069.95	9.82	135579.3
Alameda (SF)	2021 OFF - ConstMin - Trenchers	Aggregated	50	Gasoline	0.000944438	0.000868694	0.001039297	0.060966112	0.001377277	0.388107414	2.67558E-05	2.02155E-05	2.97286E-05	4.71868E-06	6.46501E-06	18454.4	8285.5	20.58	248565
Alameda (SF)	2021 OFF - ConstMin - Trenchers	Aggregated	100	Gasoline	0.000357663	0.000328978	0.000393586	0.013403261	0.000964795	0.280177644	1.95347E-05	1.47595E-05	2.17052E-05	2.70691E-06	4.00994E-06	11446.4	2752.1	6.81	181638.6
Alameda (SF)	2021 OFF - Industrial - Aerial Lifts	Aggregated	25	Gasoline	0.002615316	0.002405567	0.002877995	0.109789237	0.001818546	0.165020197	0.001245029	0.000940689	0.001383366	4.19063E-06	4.61987E-06	13187.45	14662.05	39.06	276564.1
Alameda (SF)	2021 OFF - Industrial - Aerial Lifts	Aggregated	25	Diesel	0.000267947	0.000318879	0.000385844	0.001527015	0.002417957	0.318768775	9.56367E-05	8.79857E-05	9.56367E-05	4.34305E-06	2.66836E-06	10606.9	23104.5	57.83	403872.5
Alameda (SF)	2021 OFF - Industrial - Aerial Lifts	Aggregated	25	Nat Gas	0	0	0.000185076	0.049496594	0.00136198	0.291406734	0	0	0.000149578	0	0	19472.75	16487.05	43.89	310998.3
Alameda (SF)	2021 OFF - Industrial - Aerial Lifts	Aggregated	50	Gasoline	0.000805111	0.000740541	0.000885975	0.066959754	0.001190714	0.605316344	4.173E-05	3.15293E-05	4.63666E-05	7.35954E-06	9.45713E-06	26995.4	16859.35	46.66	556358.5
Alameda (SF)	2021 OFF - Industrial - Aerial Lifts	Aggregated	100	Gasoline	0.000634317	0.000583445	0.000698027	0.035541791	0.00156418	1.215168633	8.47245E-05	6.4014E-05	9.41383E-05	1.17402E-05	1.68748E-05	48169.05	16859.35	46.66	1129576
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	25	Gasoline	7.70384E-05	7.08599E-05	8.4776E-05	0.004822464	6.33313E-05	0.007215803	3.62941E-06	2.74222E-06	4.03268E-06	1.82882E-07	2.00753E-07	573.05	810.3	0.89	18636.9
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	25	Nat Gas	0	0	8.95704E-06	0.001420403	3.96577E-05	0.007409273	0	0	4.87149E-06	0	0	514.65	525.6	0.42	12088.8
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	50	Gasoline	0.020176415	0.018558267	0.022202914	2.403502519	0.045947425	8.15651739	0.000562303	0.000424851	0.000624781	9.91684E-05	0.000159238	454545.45	280320	155.61	11493120
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	50	Nat Gas	0	0	0.001236516	0.206149982	0.053933071	12.88318827	0	0	0.001145749	0	0	686232.85	514069.65	285.35	21076856
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	100	Gasoline	0.042600594	0.039184027	0.046879355	4.08481357	0.208364922	48.32073933	0.003369038	0.002545495	0.003743376	0.000466846	0.00072766	2077109.15	983744.35	546.05	68862105
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	100	Nat Gas	0	0	0.007336637	3.475206904	0.348141667	77.197993	0	0	0.006865502	0	0	4294108.2	1804227.85	1001.47	1.26E+08
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	175	Gasoline	0.00222266	0.002044403	0.002445902	0.158171707	0.012928718	3.582337821	0.000256815	0.000194038	0.000285351	3.55868E-05	5.08813E-05	145240.8	35956.15	19.97	5249598
Alameda (SF)	2021 OFF - Industrial - Forklifts	Aggregated	175	Nat Gas	0	0	0.000336841	0.203683789	0.017360465	5.892266609	0	0	0.000524021	0	0	322305.95	66028.5	36.63	9640161
Alameda (SF)	2021 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Gasoline	0.00215671	0.001983742	0.002373328	0.13386469	0.00170654	0.209343153	0.000100855	7.62013E-05	0.000112061	5.8028E-06	5.67862E-06	16209.65	28298.45	72.92	298913.1
Alameda (SF)	2021 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	0.000326234	0.000388246	0.000469778	0.001848592	0.003038965	0.402819133	0.000114743	0.000105563	0.000114743	5.38547E-06	3.37172E-06	13402.8	25546.35	17.9	460323.4
Alameda (SF)	2021 OFF - Industrial - Other General Industrial Equipment	Aggregated	50	Gasoline	0.000631421	0.000580781	0.000694841	0.06131257	0.001376186	0.40753102	2.80948E-05	2.12272E-05	3.12165E-05	4.95483E-06	6.71308E-06	19162.5	10636.1	14.91	319083
Alameda (SF)	2021 OFF - Industrial - Other General Industrial Equipment	Aggregated	100	Gasoline	0.00019538	0.00017971	0.000215003	0.014373021	0.001139215	0.348703544	2.43124E-05	1.83694E-05	2.70138E-05	3.36896E-06	4.92932E-06	14070.75	3493.05	4.91	275950.9
Alameda (SF)	2021 OFF - Industrial - Other General Industrial Equipment	Aggregated	175	Gasoline	2.74007E-05	2.52031E-05	3.01528E-05	0.002694853	0.000229846	0.072286269	5.18215E-06	3.91541E-06	5.75795E-06	7.18088E-07	1.01655E-06	2901.75	335.8	0.47	58429.2
Alameda (SF)	2021 OFF - Industrial - Other Material Handling Equipment	Aggregated	50	Gasoline	8.75704E-06	8.05472E-06	9.63658E-06	0.000657006	1.70751E-05	0.004182892	2.88365E-07	2.17876E-07	3.20405E-07	5.08563E-08	6.26554E-08	178.85	62.05	0.17	2544.05
Alameda (SF)	2021 OFF - Industrial - Other Material Handling Equipment	Aggregated	100	Gasoline	0.000238821	0.000219668	0.000262808	0.011022144	0.001030261	0.241042251	1.6806E-05	1.26979E-05	1.86734E-05	2.3288E-06	3.43326E-06	9800.25	3609.85	9.35	194931.9
Alameda (SF)	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Gasoline	0.001647713	0.001515567	0.001813208	0.107916381	0.001313169	0.16512227	7.70332E-05	5.82029E-05	8.55925E-05	4.34868E-06	4.52653E-06	12921	13859.05	51.29	179346.4
Alameda (SF)	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Diesel	6.49695E-05	7.7319E-05	9.3556E-05	0.000398847	0.000614017	0.0819003	2.33293E-05	2.14629E-05	2.33293E-05	1.12819E-06	6.84996E-07	2722.9	3796	5.82	70226
Alameda (SF)	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregated	50	Gasoline	0.001755597	0.001614798	0.001931927	0.15371927	0.003744684	1.317264471	9.0811E-05	6.86128E-05	0.000100901	1.60155E-05	2.07517E-05	59235.85	22407.35	43.38	784257.3
Alameda (SF)	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregated	100	Gasoline	0.001024794	0.000942606	0.001127724	0.065651906	0.006383624	2.112848559	0.000147313	0.000111303	0.000163681	2.04131E-05	2.94186E-05	83975.55	18717.2	36.24	1272770
Alameda (SF)	2021 OFF - Industrial - Sweepers/Scrubbers	Aggregated	175	Gasoline	7.93101E-06	7.29494E-06	8.72759E-06	0.000878938	7.57728E-05	0.024596695	1.76332E-06	1.33229E-06	1.95925E-06	2.44342E-07	3.45244E-07	985.5	105.85	0.2	14819
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	25	Gasoline	0.026804736	0.024654996	0.029496977	0.626682806	0.015679284	1.299456681	0.00494909	0.003739313	0.005498989	4.05888E-05	3.17548E-05	90644.1	290299.1	600.56	1789237
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	25	Diesel	0.000112955	0.000134426	0.000162656	0.000584753	0.000984553	0.125178768	4.41051E-05	4.05767E-05	4.41051E-05	1.66076E-06	1.04861E-06	4168.3	7610.25	9.34	152029.8
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	50	Gasoline	0.00138409	0.001273086	0.001523106	0.097257297	0.001884395	0.557684649	3.84463E-05	2.90483E-05	4.27181E-05	6.78043E-06	9.48909E-06	27086.65	12023.1	24.89	420808.5
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	50	Diesel	0.001435766	0.00170868	0.002067503	0.012212465	0.010284103	1.40025559	0.000492299	0.000452915	0.000492299	1.81018E-05	1.18084E-05	46939	45938.9	56.44	1699739
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	100	Gasoline	0.00453916	0.00417512	0.004995069	0.18736256	0.011470822	3.576116701	0.000249335	0.000188387	0.000277039	3.45503E-05	5.15372E-05	147113.25	38996.6	80.69	2729762
Alameda (SF)	2021 OFF - Light Commercial - Air Compressors	Aggregated	175	Gasoline	0.000393786	0.000362204	0.000433338	0.017317022	0.001618172	0.447884768	3.21086E-05	2.42598E-05	3.56762E-05	4.44927E-06	6.31541E-06	18027.35	2624.35	5.42	351662.9
Alameda (SF)	2021 OFF - Light Commercial - Gas Compressors	Aggregated	50	Nat Gas	0	0	8.28312E-05	0.014681442	0.00300813	1.0004133	0	0	7.66307E-05	0	0	53154.95	15549	1.83	497568
Alameda (SF)	2021 OFF - Light Commercial - Gas Compressors	Aggregated	100	Nat Gas	0	0	0.000451711	0.23477915	0.017798086	5.6218061	0	0	0.000435518	0	0	311063.95	32130.95	3.78	2827524
Alameda (SF)	2021 OFF - Light Commercial - Gas Compressors	Aggregated	175	Nat Gas	0	0	0.000125972	0.047765617	0.004762684	1.4630935	0	0	0.000116542	0	0	79883.9	5183	0.61	756718
Alameda (SF)	2021 OFF - Light Commercial - Gas Compressors	Aggregated	300	Nat Gas	0	0	9.69284E-05	0.054963177	0.004611656	1.5079058	0	0	0.000134104	0	0	82734.55	4146.4	0.48	870744
Alameda (SF)	2021 OFF - Light Commercial - Gas Compressors	Aggregated	600	Nat Gas	0	0	0.000136507	0.07740646	0.006494748	2.1236347	0	0	0.000188863	0	0	116518.95	3628.1	0.43	1226298
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	25	Gasoline	0.199768812	0.183747353	0.219833392	10.81369918	0.137462977	17.14363859	0.011291716	0.008531518	0.012546351	0.000469599	0.000463399	1322774.6	1812316.25	15773.17	19439312
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	25	Diesel	0.002696698	0.003209293	0.003883245	0.016799242	0.025626022	3.273423316	0.001125757	0.001035697	0.001125757	4.56883E-05	2.74191E-05	108992.65	179244.2	530.99	2577440
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	50	Gasoline	0.007105829	0.006535941	0.007819531	0.44228697	0.014517282	4.840948248	0.000333731	0.000252152	0.000370812	5.88571E-05	7.37467E-05	210510.1	94049.55	818.77	3009586
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	50	Diesel	0.002721556	0.003238876	0.00391904	0.026284809	0.026408337	3.875573562	0.001062048	0.000977084	0.001062048	5.01015E-05	3.25235E-05	129283	92472.75	273.94	3051601
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	100	Gasoline	0.001632267	0.001501359	0.00179621	0.061928636	0.008933015	2.397771494	0.000167178	0.000126313	0.000185754	2.31658E-05	3.31473E-05	94618.95	18151.45	158.12	1506570
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	100	Nat Gas	0	0	7.29668E-06	0.004867906	0.000542679	0.15546265	0	0	1.38259E-05	0	0	8460.7	1346.85	11.75	111788.6
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	175	Gasoline	0.00016197	0.00014898	0.000178238	0.013298744	0.001569452	0.387582185	2.77855E-05	2.09935E-05	3.08728E-05	3.85022E-06	5.42033E-06	15472.35	1711.85	14.94	249930.1
Alameda (SF)	2021 OFF - Light Commercial - Generator Sets	Aggregated	175	Nat Gas	0	0	8.22013E-06	0.005838175	0.000753296	0.226706279	0	0	2.01618E-05	0	0	12227.5	1124.2	9.73	164133.2
Alameda (SF)	2021 OFF - Light Commercial - Pressure Washers	Aggregated	25	Gasoline	0.021256074	0.019551337	0.023391013	0.789018067	0.010683249	1.44400694	0.001990457	0.001503901	0.002211619	4.32528E-05	3.67455E-05	104890.05	189190.45	1646.64	1309948
Alameda (SF)	2021 OFF - Light Commercial - Pressure Washers	Aggregated	25	Diesel	1.46819E-05	1.74727E-05	2.1142E-05	0.000105682	0.000144066	0.018491787	6.40912E-06	5.89639E-06	6.40912E-06	2.74251E-07	1.56098E-07	620.5	2536.75	17.54	35824.75
Alameda (SF)	2021 OFF - Light Commercial - Pressure Washers	Aggregated	50	Gasoline	6.44926E-05	5.93203E-05	7.09702E-05	0.004178451	0.000107426	0.049014338	3.379E-06	2.55303E-06	3.75445E-06	5.95925E-07	7.42914E-07	2120.65	843.15	7.31	24451.35
Alameda (SF)	2021 OFF - Light Commercial - Pressure Washers	Aggregated	50	Diesel	9.38054E-06	1.11636E-05	1.3508E-05	0.000108049	0.000122092	0.018622168	4.21232E-06	3.87534E-06	4.21232E-06	2.40738E-07	1.56098E-07	620.5	945.35	6.57	35923.3
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	25	Gasoline	0.066102741	0.060801301	0.072742034	2.263180042	0.044350811	3.988641674	0.024803748	0.01874061	0.02755972	0.00012162	0.000103646	295858.05	803266.45	3639.66	4457044
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	25	Diesel	0.001491657	0.001775195	0.002147986	0.009006639	0.013162968	1.680472708	0.000603825	0.000555519	0.000603825	2.4028E-05	1.40865E-05	55994.65	120406.2	299.11	1323253
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	50	Gasoline	0.001105957	0.001017259	0.001217038	0.078536253	0.00171448	0.730852748	5.03843E-05	3.80682E-05	5.59826E-05	8.88584E-06	1.13828E-05	32492.3	14439.4	65.45	447621.4
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	50	Diesel	0.001744169	0.002075705	0.002511603	0.016131817	0.015653176	2.268319152	0.000658066	0.00060542	0.000658066	2.93237E-05	1.90523E-05	75733.85	48267.6	119.91	1785901
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	100	Gasoline	0.001858264	0.001709231	0.002044906	0.081542851	0.005150264	2.747790391	0.000191583	0.000144751	0.000212869	2.65475E-05	3.8207E-05	109062	18308.4	82.94	1702681
Alameda (SF)	2021 OFF - Light Commercial - Pumps	Aggregated	175	Gasoline	6.21343E-05	5.71511E-05	6.8375E-05	0.004403521	0.000259419	0.124745772	8.94294E-06	6.75689E-06	9.9366E-06	1.23922E-06	1.7454E-06	4982.25	554.8	2.51	79891.2
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	25	Gasoline	0.064902552	0.059697367	0.071421299	2.744266285	0.045911741	4.158136483	0.03137193	0.023703236	0.0348577	0.000107387	0.000115838	330660.8	400419.6	1927.5	6286504
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	25	Diesel	0.001321923	0.001573197	0.001903569	0.007419149	0.011594541	1.477253185	0.000525749	0.00048369	0.000525749	2.03756E-05	1.23758E-05	49194.7	125738.85	195.77	1912965
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	50	Gasoline	0.002626923	0.002416244	0.002890769	0.163478402	0.004180336	1.466426546	0.000101094	7.63822E-05	0.000112327	1.78291E-05	2.29792E-05	65594.15	27017.3	130.03	1215779
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	50	Diesel	0.006138911	0.007305812	0.008840032	0.052540704	0.046255248	6.435353439	0.002159409	0.001986656	0.002159409	8.31931E-05	5.41973E-05	215437.6	181131.25	282.06	8332037
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	100	Gasoline	0.002045912	0.00188183	0.002251401	0.074895935	0.006134298	2.30202908	0.000160503	0.000121269	0.000178337	2.22408E-05	3.21755E-05	91844.95	27568.45	132.71	1929792
Alameda (SF)	2021 OFF - Light Commercial - Welders	Aggregated	175	Gasoline	0.000170394	0.000156728	0.000187508	0.010146097	0.00086029	0.286619803	2.05476E-05	1.55248E-05	2.28307E-05	2.84727E-06	4.01634E-06	11464.65	1898	9.18	246740
Alameda (SF)	2021 OFF - Oil Drilling - Compressors (Workover)	Aggregated	25	Diesel	4.52136E-08	5.38079E-08	6.51075E-08	2.22363E-07	4.0835E-07	5.1609E-05	1.79795E-08	1.65411E-08	1.79795E-08	6.5482E-10	0	0	0	0	0
Alameda (SF)	2021 OFF - Oil Drilling - Generator (Drilling)	Aggregated	50	Diesel	4.02604E-08	4.79133E-08	5.7975E-08	3.27506E-07	2.60698E-07	3.34614E-05	1.35146E-08	1.24334E-08	1.35146E-08	4.32572E-10	0	0	0	0	0
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	25	Diesel	1.13696E-08	1.37572E-08	1.63722E-08	2.12079E-07	1.54886E-07	2.98192E-05	7.06581E-10	6.50054E-10	7.06581E-10	2.75352E-10	2.4338E-10	0.967449483	1.338595657	0.000839771	33.46489
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	50	Diesel	1.34627E-06	1.62899E-06	1.93863E-06	4.86246E-06	3.43547E-06	0.000289528	4.51834E-07	4.15687E-07	4.51834E-07	2.63644E-09	2.36309E-09	9.393411996	7.703223314	0.006718171	324.9479
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	75	Diesel	9.48881E-08	1.14815E-07	1.36639E-07	1.25625E-06	1.15586E-06	0.000172717	6.95049E-08	6.39445E-08	6.95049E-08	1.594E-09	1.40969E-09	5.603599775	3.079441829	0.003359086	215.5735
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	100	Diesel	8.84605E-07	1.07037E-06	1.27383E-06	7.48037E-06	9.65957E-06	0.000971703	7.23704E-07	6.65807E-07	7.23704E-07	8.95734E-09	7.93091E-09	31.52582916	13.52115977	0.010077257	1204.568
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	175	Diesel	4.0623E-06	4.91539E-06	5.84972E-06	4.59056E-05	3.90838E-05	0.006973828	2.4171E-06	2.22374E-06	2.4171E-06	6.43546E-08	5.69194E-08	226.2581688	60.06045257	0.050386286	8666.832
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	300	Diesel	3.39134E-06	4.10352E-06	4.88353E-06	1.8865E-05	4.36061E-05	0.00815676	1.32696E-06	1.2208E-06	1.32696E-06	7.53116E-08	6.65744E-08	264.6371068	45.3694912	0.036110171	10151.31
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	600	Diesel	5.92816E-06	7.17307E-06	8.53655E-06	3.27971E-05	8.29499E-05	0.015256815	2.61966E-06	2.41009E-06	2.61966E-06	1.40879E-07	1.24524E-07	494.9905492	45.65585326	0.032751086	19002.39
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	750	Diesel	1.30979E-06	1.58484E-06	1.8861E-06	6.56893E-06	1.28609E-05	0.003081464	5.36208E-07	4.93311E-07	5.36208E-07	2.84504E-08	2.51505E-08	99.97472103	6.011083886	0.004198857	3832.163
Alameda (SF)	2021 Oil Drilling - Drill Rig (Mobile)	Aggregated	9999	Diesel	1.08898E-06	1.31766E-06	1.56813E-06	5.30099E-06	2.25031E-05	0.002580723	5.67776E-07	5.22354E-07	5.67776E-07	2.38274E-08	2.10635E-08	83.72871454	4.187100343	0.002519314	3220.198
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	75	Diesel	8.90955E-09	1.07806E-08	1.28297E-08	8.12579E-08	1.15895E-07	1.03648E-05	8.549E-09	7.86508E-09	8.549E-09	9.55602E-11	8.45959E-11	0.336273759	0.174794521	0.000873973	12.93479
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	175	Diesel	1.32667E-07	1.60527E-07	1.9104E-07	1.60859E-06	1.32582E-06	0.000238802	9.57026E-08	8.80464E-08	9.57026E-08	2.20386E-09	1.94907E-09	7.747671557	1.755810959	0.001747945	298.029
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	300	Diesel	1.51704E-06	1.83562E-06	2.18454E-06	8.88734E-06	1.45998E-05	0.00340773	5.33285E-07	4.90623E-07	5.33285E-07	3.14606E-08	2.78134E-08	110.5600344	19.31829041	0.034958904	4200.666
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	600	Diesel	6.76684E-05	8.18787E-05	9.74424E-05	0.000426445	0.000700413	0.20720976	2.28203E-05	2.09947E-05	2.28203E-05	1.91373E-06	1.69122E-06	6722.692475	658.1363288	0.471071233	258782.8
Alameda (SF)	2021 Oil Drilling - Workover Rig (Mobile)	Aggregated	750	Diesel	5.59422E-07	6.76901E-07	8.05568E-07	3.33773E-06	4.67576E-06	0.001659052	2.39118E-07	2.19989E-07	2.39118E-07	1.5322E-08	1.3541E-08	53.82611532	3.036180822	0.001747945	2070.327
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	50	Diesel	1.97802E-06	2.3934E-06	2.84835E-06	3.61041E-05	3.23788E-05	0.004958696	9.30154E-07	8.55742E-07	9.30154E-07	4.57863E-08	4.04722E-08	160.8794161	182.2812973	0.457963245	9451.195
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	75	Diesel	0.000121535	0.000147057	0.00017501	0.001966941	0.001912546	0.295737722	7.89342E-05	7.26194E-05	7.89342E-05	2.7306E-06	2.41377E-06	9594.884702	9114.064864	22.89816224	626642.9
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	100	Diesel	0.000195173	0.00023616	0.000281049	0.004902167	0.002876182	0.728125736	0.0001889	0.000173788	0.0001889	6.72603E-06	5.94286E-06	23623.23761	17954.70778	45.10937962	1542836
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	175	Diesel	0.000125921	0.000152364	0.000181326	0.003322378	0.001954566	0.580256875	7.77934E-05	7.157E-05	7.77934E-05	5.36098E-06	4.73598E-06	18825.79526	9022.924215	22.66918062	1229515
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	300	Diesel	0.000146078	0.000176754	0.000210352	0.001261833	0.001957068	0.597692965	7.20069E-05	6.62464E-05	7.20069E-05	5.52159E-06	4.87829E-06	19391.49001	4557.032432	11.44908112	1266460
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	600	Diesel	0.000271498	0.000328513	0.000390957	0.002097537	0.004446493	1.091625422	0.000156971	0.000144413	0.000156971	1.00845E-05	8.9097E-06	35416.58462	4465.891783	11.2200995	2313061
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	750	Diesel	1.71189E-05	2.07139E-05	2.46512E-05	0.000107884	0.000352018	0.056768667	1.04307E-05	9.59624E-06	1.04307E-05	5.24341E-07	4.63338E-07	1841.796881	182.2812973	0.457963245	120287.9
Alameda (SF)	2021 Portable Equipment - Non-Rental Compressor	Aggregated	9999	Diesel	0.000493976	0.000597711	0.000711326	0.005446236	0.004712192	0.202745239	0.000239745	0.000220565	0.000239745	1.85966E-06	1.65478E-06	6577.846002	91.14064864	0.228981622	429599.8
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	50	Diesel	5.94395E-05	7.19218E-05	8.55929E-05	0.000858571	0.000460195	0.08355299	6.78144E-06	6.23892E-06	6.78144E-06	7.70706E-07	6.81948E-07	2710.784752	3040.687985	2.289816224	159250.7
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	75	Diesel	0.000451706	0.000546565	0.000650457	0.006822402	0.005401558	0.933446635	0.000259356	0.000238607	0.000259356	8.61663E-06	7.61867E-06	30284.64807	29190.60466	21.98223575	1977893
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	100	Diesel	0.000700497	0.000847601	0.001008716	0.012481693	0.008174057	1.684112093	0.000656441	0.000603926	0.000656441	1.55494E-05	1.37455E-05	54639.16215	37400.46222	28.16473956	3568489
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	175	Diesel	0.001307356	0.001581901	0.001882593	0.023883046	0.013555854	3.738746885	0.000692988	0.000637549	0.000692988	3.45273E-05	3.05151E-05	121299.5252	54732.38374	41.21669204	7922084
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	300	Diesel	0.001458221	0.001764448	0.002099839	0.009011283	0.013870592	3.878237783	0.000595757	0.000548097	0.000595757	3.58125E-05	3.16537E-05	125825.1537	31927.22385	24.04307035	8217653
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	600	Diesel	0.003329697	0.004028933	0.004794763	0.019141921	0.034166585	8.451975981	0.001388897	0.001277785	0.001388897	7.80428E-05	6.89839E-05	274215.0525	42569.6318	32.05742714	17909013
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	750	Diesel	0.001237065	0.001496848	0.001781373	0.006783449	0.011233309	3.184240502	0.000554493	0.000510134	0.000554493	2.94028E-05	2.59893E-05	103309.1763	9730.201553	7.327411917	6747133
Alameda (SF)	2021 Portable Equipment - Non-Rental Generator	Aggregated	9999	Diesel	0.006730502	0.008143907	0.009691923	0.036400203	0.110459733	17.33986102	0.003370622	0.003100973	0.003370622	0.000160114	0.000141526	562572.6943	19460.40311	14.65482383	36741679
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	50	Diesel	7.36616E-07	8.91306E-07	1.06073E-06	1.38056E-05	9.52727E-06	0.001950826	1.07091E-07	9.85242E-08	1.07091E-07	1.80143E-08	1.59224E-08	63.29240782	70.99511086	0.228981622	3718.244
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	75	Diesel	6.08593E-05	7.36398E-05	8.76374E-05	0.001195906	0.001108654	0.189481932	4.35052E-05	4.00247E-05	4.35052E-05	1.75003E-06	1.54653E-06	6147.532622	5750.60398	18.54751142	401496
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	100	Diesel	0.000111631	0.000135074	0.000160749	0.003298843	0.002361927	0.523172285	0.000148007	0.000136167	0.000148007	4.83364E-06	4.27006E-06	16973.74862	11927.17862	38.46891257	1108557
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	175	Diesel	0.000406847	0.000492285	0.00058586	0.010743672	0.006996566	1.925808869	0.000285952	0.000263076	0.000285952	1.77929E-05	1.57182E-05	62480.74784	29037.00034	93.65348357	4080624
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	300	Diesel	0.000283201	0.000342673	0.000407809	0.002420894	0.0040379	1.134013744	0.00014987	0.00013788	0.00014987	1.0476E-05	9.25567E-06	36791.82702	9868.32041	31.82844552	2402878
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	600	Diesel	0.000239627	0.000289948	0.000345062	0.002120138	0.003614921	1.097794934	0.000131845	0.000121298	0.000131845	1.01425E-05	8.96005E-06	35616.74762	5182.643093	16.71565844	2326133
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	750	Diesel	0.000106306	0.000128631	0.000153081	0.000817534	0.002189904	0.43469591	7.25483E-05	6.67444E-05	7.25483E-05	4.01579E-06	3.54793E-06	14103.23005	1277.911995	4.121669204	921083.4
Alameda (SF)	2021 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	9999	Diesel	0.008183103	0.009901554	0.011783668	0.084730547	0.107416425	7.491467743	0.004542665	0.004179252	0.004542665	6.90168E-05	6.11444E-05	243052.4205	4259.706652	13.73889735	15873778
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	50	Diesel	1.03643E-06	1.25408E-06	1.49246E-06	2.26427E-05	2.27436E-05	0.003675394	6.43702E-07	5.92206E-07	6.43702E-07	3.39497E-08	2.99981E-08	119.2441022	142.2937675	0.457963245	7005.242
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	75	Diesel	6.82128E-05	8.25375E-05	9.82265E-05	0.001544875	0.001350967	0.244788583	4.70921E-05	4.33247E-05	4.70921E-05	2.26115E-06	1.99793E-06	7941.895993	7470.422796	24.04307035	518686
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	100	Diesel	8.2978E-05	0.000100403	0.000119488	0.00216224	0.001630827	0.339820013	9.69712E-05	8.92135E-05	9.69712E-05	3.13932E-06	2.77357E-06	11025.08608	7968.450982	25.64594171	720049.5
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	175	Diesel	0.000129349	0.000156512	0.000186262	0.003656994	0.002270205	0.653226775	9.41522E-05	8.66201E-05	9.41522E-05	6.03553E-06	5.33155E-06	21193.22332	9675.976193	31.14150065	1384132
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	300	Diesel	0.000133518	0.000161556	0.000192265	0.001414021	0.001902426	0.742384686	6.59575E-05	6.06809E-05	6.59575E-05	6.85971E-06	6.05924E-06	24085.85354	6118.632004	19.69241953	1573050
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	600	Diesel	0.000201989	0.000244407	0.000290864	0.00179788	0.003613416	0.968251393	0.000136421	0.000125507	0.000136421	8.9459E-06	7.90274E-06	31413.8501	4482.253678	14.42584221	2051642
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	750	Diesel	3.84232E-05	4.64921E-05	5.53294E-05	0.000306624	0.000756231	0.164950927	2.88305E-05	2.65241E-05	2.88305E-05	1.5239E-06	1.34631E-06	5351.651179	498.0281864	1.602871357	349516.9
Alameda (SF)	2021 Portable Equipment - Non-Rental Pump	Aggregated	9999	Diesel	6.18142E-05	7.47951E-05	8.90124E-05	0.000512678	0.001585849	0.276547792	4.23207E-05	3.8935E-05	4.23207E-05	2.55497E-06	2.25715E-06	8972.288533	498.0281864	1.602871357	585981.1
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	75	Diesel	1.83642E-05	2.22207E-05	2.64444E-05	0.000438519	0.000350541	0.069311247	5.94985E-06	5.47386E-06	5.94985E-06	6.40266E-07	5.65709E-07	2248.727081	2149.720932	4.121669204	146864.6
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	100	Diesel	2.16002E-05	2.61362E-05	3.11043E-05	0.000630349	0.000363785	0.095288205	2.33434E-05	2.14759E-05	2.33434E-05	8.80339E-07	7.7773E-07	3091.520876	2269.149873	4.350650826	201907.5
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	175	Diesel	0.000255235	0.000308835	0.000367539	0.008602118	0.004353003	1.561333255	0.000141966	0.000130609	0.000141966	1.44276E-05	1.27434E-05	50655.73797	24363.5039	46.71225097	3308331
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	300	Diesel	0.00024004	0.000290448	0.000345657	0.003268549	0.002998869	1.747776968	9.84728E-05	9.0595E-05	9.84728E-05	1.61519E-05	1.42651E-05	56704.69889	13137.18347	25.18797847	3703390
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	600	Diesel	0.001333389	0.001613401	0.00192008	0.018249895	0.009257139	9.79171914	0.000440767	0.000405505	0.000440767	9.04893E-05	7.99187E-05	317681.5439	37500.68737	71.90022944	20747814
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	750	Diesel	1.83341E-05	2.21842E-05	2.64011E-05	0.00024232	0.000212569	0.130179983	1.28979E-05	1.18661E-05	1.28979E-05	1.20303E-06	1.06251E-06	4223.546178	358.286822	0.686944867	275840.2
Alameda (SF)	2021 Portable Equipment - Rental Compressor	Aggregated	9999	Diesel	1.87971E-05	2.27445E-05	2.70679E-05	0.000162042	0.000524275	0.089148197	1.20088E-05	1.10481E-05	1.20088E-05	8.23655E-07	7.27616E-07	2892.31507	238.8578814	0.457963245	188897.4
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	50	Diesel	1.56412E-05	1.89258E-05	2.25233E-05	0.000251401	0.000223486	0.029352282	8.70865E-06	8.01196E-06	8.70865E-06	2.70907E-07	2.39569E-07	952.3024537	1302.680388	0.91592649	55944.98
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	75	Diesel	0.000841175	0.001017822	0.001211292	0.013993896	0.011073776	1.994528162	0.00039794	0.000366105	0.00039794	1.84152E-05	1.62791E-05	64710.26963	61225.97825	43.04854501	4226234
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	100	Diesel	0.001258939	0.001523316	0.001812872	0.030528721	0.017779274	4.287374241	0.001275058	0.001173053	0.001275058	3.96011E-05	3.4993E-05	139099.1356	90861.95708	63.88587265	9084579
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	175	Diesel	0.002000223	0.00242027	0.002880321	0.042679203	0.022123933	6.886748824	0.000821811	0.000756066	0.000821811	6.36114E-05	5.62087E-05	223432.9812	100306.3899	70.52633971	14592430
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	300	Diesel	0.001653089	0.002000238	0.002380448	0.010987544	0.013543587	4.910734726	0.000555495	0.000511056	0.000555495	4.53526E-05	4.00808E-05	159323.38	42988.45281	30.22557416	10405426
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	600	Diesel	0.006792396	0.008218799	0.00978105	0.048165542	0.05224399	23.46182683	0.002249302	0.002069358	0.002249302	0.000216712	0.000191492	761193.1329	113658.8639	79.91458622	49713600
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	750	Diesel	0.001525316	0.001845632	0.002196454	0.014504933	0.014714136	7.280373923	0.000639597	0.000588429	0.000639597	6.72649E-05	5.94214E-05	236203.714	22145.5666	15.57075032	15426488
Alameda (SF)	2021 Portable Equipment - Rental Generator	Aggregated	9999	Diesel	0.015453506	0.018698742	0.022253048	0.097102609	0.247893843	46.63274137	0.007278255	0.006695995	0.007278255	0.000430679	0.00038061	1512947.937	70996.08116	49.91799369	98810782
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	75	Diesel	0.000137762	0.000166692	0.000198377	0.002227237	0.001624835	0.311333946	3.1188E-05	2.86929E-05	3.1188E-05	2.8743E-06	2.54107E-06	10100.887	9858.17867	8.014356785	659689.9
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	100	Diesel	0.000105351	0.000127475	0.000151706	0.00209742	0.001250204	0.278891724	9.42783E-05	8.6736E-05	9.42783E-05	2.57533E-06	2.27628E-06	9048.334826	6759.893945	5.495558938	590947.7
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	175	Diesel	0.000261284	0.000316153	0.000376248	0.00502336	0.002659121	0.790309248	0.000121718	0.000111981	0.000121718	7.29896E-06	6.4504E-06	25640.71317	11266.48991	9.159264897	1674598
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	300	Diesel	0.000246586	0.000298369	0.000355084	0.001509589	0.002674701	0.68602073	9.92565E-05	9.1316E-05	9.92565E-05	6.3352E-06	5.59921E-06	22257.18706	5633.244955	4.579632448	1453619
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	600	Diesel	0.00035193	0.000425836	0.00050678	0.002428402	0.003006262	1.173767963	0.000120387	0.000110756	0.000120387	1.08415E-05	9.58014E-06	38081.60888	6478.231698	5.266577316	2487114
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	750	Diesel	0.000151221	0.000182977	0.000217758	0.001028296	0.000670533	0.477582931	4.23504E-05	3.89624E-05	4.23504E-05	4.41095E-06	3.89797E-06	15494.65225	1408.311239	1.144908112	1011957
Alameda (SF)	2021 Portable Equipment - Rental Other Portable Equipment	Aggregated	9999	Diesel	0.014729311	0.017822466	0.021210208	0.147757708	0.160239786	11.39515659	0.007269298	0.006687754	0.007269298	0.000104912	9.30057E-05	369703.3061	7886.542936	6.411485428	24145360
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	75	Diesel	0.000265864	0.000321695	0.000382844	0.005776827	0.004625447	0.887226	0.000150271	0.000138249	0.000150271	8.19487E-06	7.24142E-06	28785.07045	25488.86423	26.5618682	1879956
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	100	Diesel	0.00021195	0.00025646	0.000305208	0.005149708	0.002861387	0.707239041	0.000213664	0.000196571	0.000213664	6.53242E-06	5.77239E-06	22945.59179	17139.06388	17.86056655	1498579
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	175	Diesel	0.000365809	0.000442629	0.000526765	0.009464969	0.00412329	1.548626478	0.000146992	0.000135233	0.000146992	1.43068E-05	1.26397E-05	50243.48059	20874.50088	21.75325413	3281407
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	300	Diesel	0.000328093	0.000396993	0.000472454	0.003147575	0.002950375	1.541674659	0.000104818	9.64322E-05	0.000104818	1.42437E-05	1.25829E-05	50017.93645	12964.1637	13.50991572	3266676
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	600	Diesel	0.000409139	0.000495058	0.00058916	0.003817207	0.002130266	1.918050526	0.000111818	0.000102873	0.000111818	1.77211E-05	1.56549E-05	62229.03698	10327.38465	10.76213625	4064185
Alameda (SF)	2021 Portable Equipment - Rental Pump	Aggregated	750	Diesel	3.23249E-05	3.91131E-05	4.65478E-05	0.000256323	0.000417575	0.131432843	2.65528E-05	2.44286E-05	2.65528E-05	1.21419E-06	1.07274E-06	4264.193835	439.4631764	0.457963245	278494.9
Alameda (SF)	2021 TRU - Instate Genset TRU	Aggregated	50	Diesel	0.001376568	0.001665647	0.001982257	0.026911472	0.020337645	0.562977478	8.91761E-05	8.2042E-05	8.91761E-05	5.19862E-06	4.62577E-06	357.3577095	215282.8348	275.7488608	6781409
Alameda (SF)	2021 TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.027060789	0.032743555	0.038967537	0.410271735	0.279654392	6.615294274	0.004889624	0.004498454	0.004889624	6.07601E-05	5.43553E-05	4199.149169	1681339.032	1269.047203	57165527
Alameda (SF)	2021 TRU - Instate Truck TRU	Aggregated	25	Diesel	0.003833728	0.00463881	0.005520568	0.037463589	0.045019579	0.898724603	0.001846461	0.001698745	0.001846461	8.24988E-06	7.38447E-06	570.4778223	452441.431	332.4330867	6379424
Alameda (SF)	2021 TRU - Instate Van TRU	Aggregated	25	Diesel	8.87535E-05	0.000107392	0.000127805	0.000867308	0.001042235	0.020806104	4.27469E-05	3.93271E-05	4.27469E-05	1.9099E-07	1.70956E-07	13.20696094	16409.79283	12.05715858	147688.1
Alameda (SF)	2021 TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.000861043	0.001041862	0.001239902	0.016896611	0.012802724	0.354747435	5.59663E-05	5.1489E-05	5.59663E-05	3.27598E-06	2.91482E-06	225.1808211	135655.5749	1097.147109	4273151
Alameda (SF)	2021 TRU - Out-of-State Trailer TRU	Aggregated	50	Diesel	0.014301655	0.017305002	0.020594383	0.236988759	0.161897637	4.105851061	0.001408925	0.001296211	0.001408925	3.77862E-05	3.37362E-05	2606.24552	1043540.523	4973.414924	35480378
Alameda (SF)	2021 TRU - Railcar TRU	Aggregated	50	Diesel	0.001480405	0.001791291	0.002131784	0.024531389	0.016758491	0.425008477	0.000145842	0.000134175	0.000145842	3.91136E-06	3.49213E-06	269.7799857	108019.8873	335.0181041	3672676

OFFROAD 2022

	Equipment Type	Horsepower	Gas				Diesel				Natural Gas			
		HP	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Hrs/Yr	Gal/Hr
Air Compressors25	Air Compressors	25	91859.55	608.47	294149.85	0.312288278	4223.05	9.49	7705.15	0.548081478	0	0	0	0
Air Compressors50	Air Compressors	50	27517.35	25.21	12176.4	2.259892086	47530.3	57.18	46548.45	1.021093076	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	149018.55	81.76	39500.3	3.772592866	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	18279.2	5.49	2664.5	6.860273973	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	13355.35	39.6	14862.8	0.898575639	10745.6	58.6	23411.1	0.458995946	19735.55	44.49	16695.1	1.18211631
Aerial Lifts50	Aerial Lifts	50	27353.1	47.26	17082	1.601282051	48631.74707	196.5468584	59481.79862	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	59968.2552	172.3379249	52020.30971	1.152785432	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	48807.8	47.26	17082	2.857264957	24888.39128	65.76296488	19877.52512	1.252087024	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	5186.097036	8.25515356	2494.438681	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	309.9096676	0.278263603	84.55365165	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	220.0807784	0.092754534	28.18455055	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	1960.05	11.59	1438.1	1.362944162	1390.65	2.59	2098.75	0.662608696	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	270.1	1	105.85	2.551724138	1059.701277	2.603107177	926.5506276	1.143705746	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	1651.913239	2.000282357	905.9856548	1.823332666	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	3146.3	4.54	485.45	6.481203008	4986.871675	5.946044815	2269.815843	2.197038007	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	1095	1.15	109.5	10	7734.240931	6.274858353	1986.31971	3.89375431	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	11098.78892	6.384462866	2065.605975	5.373139432	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	18693.32465	5.288417739	1785.772097	10.46792291	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	10118.01696	1.068643999	602.8322874	16.78413245	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	5790.887491	0.164406769	119.9153898	48.29144532	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	64316.65	1749.15	161067.2	0.399315627	3569.7	36.03	10822.25	0.329848229	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	57717.45	246.2	69959.55	0.825011739	116.8	0.26	153.3	0.761904762	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	6325.45	3.71	2266.65	2.790660225	1814.05	2.26	1303.05	1.392156863	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	6139.3	2.13	1299.4	4.724719101	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	20.47290534	0.103240661	49.45434891	0.413975834	0	0	0	0
Cranes50	Cranes	50	927.1	1.15	470.85	1.968992248	331.6945962	1.101233713	481.0988251	0.689452102	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	133.7975638	0.344135535	128.3139864	1.042735617	0	0	0	0
Cranes100	Cranes	100	3128.05	2.27	945.35	3.308880309	7495.617166	12.93949613	5742.876439	1.305202584	0	0	0	0
Cranes175	Cranes	175	215.35	0.09	32.85	6.555555556	22952.41827	23.02266731	10517.26533	2.182356112	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	39577.12012	25.56927028	12053.14129	3.283552327	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	69004.88235	25.46602962	12625.75818	5.465405039	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	1384.766323	0.344135535	146.9871308	9.421003835	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	3812.0405	0.550616857	272.9424042	13.96646487	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	1074.286407	3.054296167	1042.314672	1.030673784	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	115.6224825	0.36651554	74.38625161	1.554352854	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	47329.60299	52.1062926	24363.90484	1.942611552	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	51766.21872	34.48300372	15634.23162	3.311081734	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	54305.51178	26.72509146	11926.29329	4.553427494	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	189896.7548	46.76127431	22206.70354	8.551325705	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	1950.319095	0.335972578	141.9339923	13.74102893	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	10951.74054	0.91628885	507.3058623	21.58804254	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	865.05	2.93	843.15	1.025974026	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	2416.3	1.32	324.85	7.438202247	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	6153.9	116.57	17388.6	0.353904282	350.4	1.56	1022	0.342857143	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	255.5	0.84	105.85	2.413793103	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	2517.05268	2.471812109	3367.382649	0.747480445	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	42955.30309	74.6738483	54643.52164	0.786100562	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	10.12274246	0.030604036	9.683955906	1.045310672	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	55751.26609	53.80189562	34846.5092	1.599909643	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	117671.9837	68.95089354	40785.25634	2.885159842	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	150231.6041	59.64726653	34759.5284	4.322026536	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	267181.923	62.21800557	40001.97464	6.679218349	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	2127.733941	0.336644398	165.1866125	12.88078924	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	7418.049358	0.459060543	311.5996353	23.80634801	0	0	0	0
Forklifts25	Forklifts	25	576.7	0.91	817.6	0.705357143	12.64614738	0.070905084	21.86932943	0.578259494	521.95	0.42	532.9	0.979452055
Forklifts50	Forklifts	50	461250.5	158.1	284247.4	1.622707895	34131.048	95.54691043	68056.84504	0.501507938	695325	289.12	520880.55	1.334902983
Forklifts75	Forklifts	75	0	0	0	0	3035.775826	8.337217337	3984.253109	0.761943517	0	0	0	0
Forklifts100	Forklifts	100	2118354.15	559.72	999417.45	2.119588917	487500.3464	769.8139147	505224.4964	0.964918269	4351106.6	1014.72	1828124.4	2.38009328
Forklifts175	Forklifts	175	147930.85	20.48	36532.85	4.04925567	145771.8524	142.8916693	93005.13525	1.567352727	326580.1	37.15	66904.5	4.881287507
Forklifts300	Forklifts	300	0	0	0	0	28716.55589	17.98441532	12780.8299	2.24684595	0	0	0	0
Forklifts600	Forklifts	600	0	0	0	0	7411.354101	2.843868808	1921.995632	3.856072292	0	0	0	0
Forklifts750	Forklifts	750	0	0	0	0	99.3794271	0.035452542	7.6542653	12.98353574	0	0	0	0
Forklifts9999	Forklifts	9999	0	0	0	0	542.7597508	0.075301426	59.35353867	9.144522179	0	0	0	0
Generator Sets25	Generator Sets	25	1338889.35	15982.21	1836304.05	0.729121819	110438.05	538.07	181634.95	0.608022024	0	0	0	0
Generator Sets50	Generator Sets	50	213181.9	829.62	95286.9	2.237263464	130932.8	277.59	93717.4	1.397102352	0	0	0	0
Generator Sets75	Generator Sets	75	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets100	Generator Sets	100	95801.55	160.22	18396	5.207738095	0	0	0	0	8562.9	11.91	1365.1	6.272727273
Generator Sets175	Generator Sets	175	15676.75	15.16	1726.45	9.080338266	0	0	0	0	12380.8	9.88	1135.15	10.90675241
Generator Sets300	Generator Sets	300	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets600	Generator Sets	600	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets750	Generator Sets	750	0	0	0	0	0	0	0	0	0	0	0	0
Generator Sets9999	Generator Sets	9999	0	0	0	0	0	0	0	0	0	0	0	0
Graders25	Graders	25	0	0	0	0	8.258348856	0.061508166	14.05261346	0.587673523	0	0	0	0
Graders50	Graders	50	0	0	0	0	275.8786216	0.891868406	314.3218316	0.877694751	0	0	0	0
Graders75	Graders	75	0	0	0	0	119.0049517	0.246032664	78.30818851	1.519699969	0	0	0	0
Graders100	Graders	100	0	0	0	0	6320.634674	9.041700395	3384.361163	1.867600522	0	0	0	0
Graders175	Graders	175	0	0	0	0	71870.04936	48.34541844	22809.35901	3.150901756	0	0	0	0
Graders300	Graders	300	0	0	0	0	151572.722	43.60928966	33113.54323	4.577363434	0	0	0	0
Graders600	Graders	600	0	0	0	0	6514.582991	1.13790107	872.0349283	7.470552818	0	0	0	0
Graders750	Graders	750	0	0	0	0	0	0	0	0	0	0	0	0
Graders9999	Graders	9999	0	0	0	0	5144.488764	0.184524498	134.4835108	38.25367684	0	0	0	0
Pavers25	Pavers	25	5263.3	11.36	4511.4	1.166666667	675.25	0.97	792.05	0.852534562	0	0	0	0
Pavers50	Pavers	50	2963.8	3.21	1255.6	2.360465116	1178.280754	3.583914888	1271.676862	0.926556729	0	0	0	0
Pavers75	Pavers	75	0	0	0	0	1799.874335	3.464451058	1171.338781	1.536595872	0	0	0	0
Pavers100	Pavers	100	2646.25	1.74	689.85	3.835978836	9567.691982	13.85780423	5509.041727	1.73672527	0	0	0	0
Pavers175	Pavers	175	0	0	0	0	15555.98119	11.85678509	4576.590143	3.399033058	0	0	0	0
Pavers300	Pavers	300	0	0	0	0	12148.16515	5.704397863	2566.280345	4.733763859	0	0	0	0
Pavers600	Pavers	600	0	0	0	0	2209.310587	0.627185105	272.935958	8.094611657	0	0	0	0
Pavers750	Pavers	750	0	0	0	0	455.7178237	0.059731915	28.28298865	16.11278884	0	0	0	0
Pavers9999	Pavers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Paving Equipment25	Paving Equipment	25	111525.75	1243.56	235253.45	0.474066374	806.65	1.67	1390.65	0.580052493	0	0	0	0
Paving Equipment50	Paving Equipment	50	3460.2	8.78	1540.3	2.246445498	1467.020307	4.413053386	2079.186435	0.705574201	0	0	0	0
Paving Equipment75	Paving Equipment	75	0	0	0	0	227.0985146	0.447268924	179.2008623	1.26728472	0	0	0	0
Paving Equipment100	Paving Equipment	100	1416.2	2.26	397.85	3.559633028	6099.884562	8.080658564	3726.533194	1.63687917	0	0	0	0
Paving Equipment175	Paving Equipment	175	0	0	0	0	6612.391261	5.397045019	2484.048904	2.661940855	0	0	0	0
Paving Equipment300	Paving Equipment	300	0	0	0	0	4437.86375	2.236344621	1046.592985	4.240295716	0	0	0	0
Paving Equipment600	Paving Equipment	600	0	0	0	0	4752.948866	1.401442629	652.0854033	7.288844132	0	0	0	0
Paving Equipment750	Paving Equipment	750	0	0	0	0	948.6910724	0.149089641	80.65912219	11.76173316	0	0	0	0
Paving Equipment9999	Paving Equipment	9999	0	0	0	0	430.5303863	0.059635857	27.79469751	15.489659	0	0	0	0
Rollers25	Rollers	25	26024.5	134.56	33507	0.776688453	14760.6	55.5	38598.75	0.382411348	0	0	0	0
Rollers50	Rollers	50	3858.05	2.27	1405.25	2.745454545	24160.85291	90.56501547	31361.35175	0.770402153	0	0	0	0
Rollers75	Rollers	75	0	0	0	0	268.0683727	0.860183322	197.927627	1.354375722	0	0	0	0
Rollers100	Rollers	100	12030.4	4.23	2642.6	4.552486188	37539.30153	66.78709078	22161.82304	1.693872452	0	0	0	0
Rollers175	Rollers	175	0	0	0	0	39074.24745	39.07689948	14015.9431	2.787842899	0	0	0	0
Rollers300	Rollers	300	0	0	0	0	6471.447757	5.007495767	1541.940439	4.19695054	0	0	0	0
Rollers600	Rollers	600	0	0	0	0	3792.993824	1.812529143	556.6539041	6.813917582	0	0	0	0
Rollers750	Rollers	750	0	0	0	0	0	0	0	0	0	0	0	0
Rollers9999	Rollers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rough Terrain Forklifts25	Rough Terrain Forklifts	25	0	0	0	0	12.64614738	0.070905084	21.86932943	0.578259494	0	0	0	0
Rough Terrain Forklifts50	Rough Terrain Forklifts	50	620.5	0.45	200.75	3.090909091	1218.07023	4.041589781	1103.672158	1.103652222	0	0	0	0
Rough Terrain Forklifts75	Rough Terrain Forklifts	75	0	0	0	0	33.57907692	0.106357626	24.33975368	1.379598059	0	0	0	0
Rough Terrain Forklifts100	Rough Terrain Forklifts	100	13599.9	6.42	2646.25	5.139310345	96231.39283	170.0303911	48037.52104	2.003254763	0	0	0	0
Rough Terrain Forklifts175	Rough Terrain Forklifts	175	762.85	0.25	102.2	7.464285714	21165.77375	29.63832506	8120.972989	2.606310079	0	0	0	0
Rough Terrain Forklifts300	Rough Terrain Forklifts	300	0	0	0	0	1553.448295	1.418101677	355.2956057	4.372269935	0	0	0	0
Rough Terrain Forklifts600	Rough Terrain Forklifts	600	0	0	0	0	577.5481069	0.283620335	72.57377469	7.958082784	0	0	0	0
Rough Terrain Forklifts750	Rough Terrain Forklifts	750	0	0	0	0	99.3794271	0.035452542	7.6542653	12.98353574	0	0	0	0
Rough Terrain Forklifts9999	Rough Terrain Forklifts	9999	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers25	Rubber Tired Dozers	25	0	0	0	0	0	0	0	0	0	0	0	0
Rubber Tired Dozers50	Rubber Tired Dozers	50	0	0	0	0	1073.284505	1.198346764	1138.437382	0.942769907	0	0	0	0
Rubber Tired Dozers75	Rubber Tired Dozers	75	0	0	0	0	1079.002184	1.022978945	766.6597986	1.407406762	0	0	0	0
Rubber Tired Dozers100	Rubber Tired Dozers	100	0	0	0	0	3423.313262	2.279781649	1967.032287	1.740344215	0	0	0	0
Rubber Tired Dozers175	Rubber Tired Dozers	175	0	0	0	0	4820.487256	2.10441383	1653.717439	2.914940088	0	0	0	0
Rubber Tired Dozers300	Rubber Tired Dozers	300	0	0	0	0	5212.003523	1.636766312	1148.487229	4.538146696	0	0	0	0
Rubber Tired Dozers600	Rubber Tired Dozers	600	0	0	0	0	54230.97514	9.820597872	7135.725641	7.599924362	0	0	0	0
Rubber Tired Dozers750	Rubber Tired Dozers	750	0	0	0	0	1550.496099	0.116911879	116.5915868	13.29852471	0	0	0	0
Rubber Tired Dozers9999	Rubber Tired Dozers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Scrapers25	Scrapers	25	0	0	0	0	8.591626865	0.030121475	12.38719743	0.693589241	0	0	0	0
Scrapers50	Scrapers	50	0	0	0	0	68.38276045	0.180728849	64.72310657	1.056543236	0	0	0	0
Scrapers75	Scrapers	75	0	0	0	0	603.4590459	0.813279819	356.4071971	1.693173008	0	0	0	0
Scrapers100	Scrapers	100	0	0	0	0	2719.752366	1.988017335	1202.349555	2.262031333	0	0	0	0
Scrapers175	Scrapers	175	0	0	0	0	36691.80497	19.60908007	8758.264716	4.189392095	0	0	0	0
Scrapers300	Scrapers	300	0	0	0	0	43245.67549	19.15725795	7780.192252	5.55843276	0	0	0	0
Scrapers600	Scrapers	600	0	0	0	0	535901.0329	105.7263764	50772.78246	10.55488801	0	0	0	0
Scrapers750	Scrapers	750	0	0	0	0	8233.966464	1.445830789	527.9698815	15.59552306	0	0	0	0
Scrapers9999	Scrapers	9999	0	0	0	0	12383.90297	0.783158344	310.8498377	39.83885938	0	0	0	0
Skid Steer Loaders25	Skid Steer Loaders	25	85271.3	234.96	75014.8	1.136726353	65068.55	124.17	103649.05	0.627777582	0	0	0	0
Skid Steer Loaders50	Skid Steer Loaders	50	18458.05	30.86	9581.25	1.92647619	18286.71585	62.72757788	19750.24679	0.925898093	0	0	0	0
Skid Steer Loaders75	Skid Steer Loaders	75	0	0	0	0	95783.92137	199.4096328	71216.66073	1.344965074	0	0	0	0
Skid Steer Loaders100	Skid Steer Loaders	100	24524.35	18.47	5730.5	4.279617834	1395.537342	3.016646036	977.4993216	1.427660676	0	0	0	0
Skid Steer Loaders175	Skid Steer Loaders	175	0	0	0	0	656.195358	0.839684979	226.727264	2.89420578	0	0	0	0
Skid Steer Loaders300	Skid Steer Loaders	300	0	0	0	0	609.8057608	0.528690542	156.0304205	3.908249166	0	0	0	0
Skid Steer Loaders600	Skid Steer Loaders	600	0	0	0	0	176.2967448	0.062198887	19.53932862	9.022661336	0	0	0	0
Skid Steer Loaders750	Skid Steer Loaders	750	0	0	0	0	0	0	0	0	0	0	0	0
Skid Steer Loaders9999	Skid Steer Loaders	9999	0	0	0	0	238.6419558	0.062198887	12.54069637	19.02940227	0	0	0	0
Surfacing Equipment25	Surfacing Equipment	25	54443.4	335.62	143594.65	0.379146438	0	0	0	0	0	0	0	0
Surfacing Equipment50	Surfacing Equipment	50	0	0	0	0	169.4910399	1.100331342	268.3425921	0.631621833	0	0	0	0
Surfacing Equipment75	Surfacing Equipment	75	0	0	0	0	102.1997618	0.394990738	98.23543368	1.040355379	0	0	0	0
Surfacing Equipment100	Surfacing Equipment	100	0	0	0	0	1048.569695	2.70850792	751.8169165	1.394714154	0	0	0	0
Surfacing Equipment175	Surfacing Equipment	175	0	0	0	0	860.7445134	1.608176577	399.6132356	2.153943955	0	0	0	0
Surfacing Equipment300	Surfacing Equipment	300	0	0	0	0	1745.370566	2.003167316	493.0464779	3.539971674	0	0	0	0
Surfacing Equipment600	Surfacing Equipment	600	0	0	0	0	6120.548291	3.329207651	952.6387627	6.424836497	0	0	0	0
Surfacing Equipment750	Surfacing Equipment	750	0	0	0	0	2369.939476	0.818195101	237.8857402	9.962511727	0	0	0	0
Surfacing Equipment9999	Surfacing Equipment	9999	0	0	0	0	1011.358755	0.282136242	74.99798366	13.48514594	0	0	0	0
Tractors/Loaders/Backhoes25	Tractors/Loaders/Backhoes	25	0	0	0	0	12413.65	18.24	17191.5	0.722080679	0	0	0	0
Tractors/Loaders/Backhoes50	Tractors/Loaders/Backhoes	50	0	0	0	0	36114.99032	87.78917815	45386.05589	0.795728768	0	0	0	0
Tractors/Loaders/Backhoes75	Tractors/Loaders/Backhoes	75	0	0	0	0	5318.430128	16.97665292	3891.680978	1.366615136	0	0	0	0
Tractors/Loaders/Backhoes100	Tractors/Loaders/Backhoes	100	10198.1	3.99	3467.5	2.941052632	576803.6891	579.1026902	362599.707	1.59074505	0	0	0	0
Tractors/Loaders/Backhoes175	Tractors/Loaders/Backhoes	175	0	0	0	0	100646.7681	66.68306912	37017.93195	2.718865232	0	0	0	0
Tractors/Loaders/Backhoes300	Tractors/Loaders/Backhoes	300	0	0	0	0	63449.41161	28.32501009	15960.31573	3.9754484	0	0	0	0
Tractors/Loaders/Backhoes600	Tractors/Loaders/Backhoes	600	0	0	0	0	82823.76422	23.82849121	12916.16399	6.412411941	0	0	0	0
Tractors/Loaders/Backhoes750	Tractors/Loaders/Backhoes	750	0	0	0	0	1567.424265	0.275297074	130.6498391	11.99713888	0	0	0	0
Tractors/Loaders/Backhoes9999	Tractors/Loaders/Backhoes	9999	0	0	0	0	28282.66618	1.28471968	801.8245139	35.27288789	0	0	0	0
Trenchers25	Trenchers	25	52454.15	120.64	52406.7	1.000905419	5894.75	9.97	6161.2	0.956753555	0	0	0	0
Trenchers50	Trenchers	50	18447.1	20.6	8285.5	2.226431718	12804.82313	28.78690109	11089.7234	1.154656673	0	0	0	0
Trenchers75	Trenchers	75	0	0	0	0	764.4411175	1.537482218	416.4728009	1.835512705	0	0	0	0
Trenchers100	Trenchers	100	11428.15	6.85	2759.4	4.141534392	8441.240559	11.74374715	3875.868902	2.177896305	0	0	0	0
Trenchers175	Trenchers	175	0	0	0	0	1973.216882	1.831893706	540.7233225	3.649217262	0	0	0	0
Trenchers300	Trenchers	300	0	0	0	0	4260.988179	2.355291908	726.2956805	5.866740357	0	0	0	0
Trenchers600	Trenchers	600	0	0	0	0	6465.325183	1.766468931	651.0353645	9.930835613	0	0	0	0
Trenchers750	Trenchers	750	0	0	0	0	2076.80063	0.261699101	123.3910443	16.83104833	0	0	0	0
Trenchers9999	Trenchers	9999	0	0	0	0	167.0969269	0.032712388	7.473715584	22.35794566	0	0	0	0
Welders25	Welders	25	335004.3	1953.04	405730.35	0.825682131	49844.4	198.39	127417.85	0.391188519	0	0	0	0
Welders50	Welders	50	66473.8	131.74	27367.7	2.428914377	218167.8	285.82	183562.15	1.188522797	0	0	0	0
Welders75	Welders	75	0	0	0	0	0	0	0	0	0	0	0	0
Welders100	Welders	100	92994.7	134.46	27926.15	3.330022219	0	0	0	0	0	0	0	0
Welders175	Welders	175	11617.95	9.27	1930.85	6.017013233	0	0	0	0	0	0	0	0
Welders300	Welders	300	0	0	0	0	0	0	0	0	0	0	0	0
Welders600	Welders	600	0	0	0	0	0	0	0	0	0	0	0	0
Welders750	Welders	750	0	0	0	0	0	0	0	0	0	0	0	0
Welders9999	Welders	9999	0	0	0	0	0	0	0	0	0	0	0	0

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2022
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	SOx_tpd	NH3_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	50	Diesel	0.002347017	0.002839891	0.003379705	0.007421807	0.006742676	0.094660586	0.000629368	0.000579018	0.000629368	8.10644E-07	7.77789E-07	21931.79554	19662.56002	63.87535343	802819.0728
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	75	Diesel	0.002279143	0.002757764	0.003281967	0.009215854	0.017055763	0.178518228	0.001321825	0.001216079	0.001321825	1.59319E-06	1.46681E-06	41360.67013	23403.83398	68.35337257	1476313.194
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	100	Diesel	0.00250964	0.003036665	0.003613882	0.017197185	0.020555333	0.383946244	0.001661364	0.001528455	0.001661364	3.49829E-06	3.15474E-06	88956.03619	37177.07133	69.277675	3185343.228
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	175	Diesel	0.001464804	0.001772412	0.002109317	0.009495818	0.013477209	0.205961048	0.000780342	0.000717915	0.000780342	1.87304E-06	1.6923E-06	47718.86354	15288.18587	24.10737047	1852214.535
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	300	Diesel	0.001135044	0.001373403	0.001634463	0.004255808	0.011859841	0.207861972	0.000503788	0.000463485	0.000503788	1.90063E-06	1.70792E-06	48159.28638	8727.003464	10.81211458	1891530.459
Alameda (SF)	2022	Agricultural - Agricultural Tractors	Aggregated	600	Diesel	0.000629216	0.000761351	0.000906071	0.002833198	0.005524154	0.17797788	0.000251423	0.000231309	0.000251423	1.63765E-06	1.46237E-06	41235.47758	4459.613383	3.978622808	1644426.247
Alameda (SF)	2022	Agricultural - Bale Wagons (Self Propelled)	Aggregated	50	Diesel	6.07918E-07	7.35581E-07	8.75402E-07	4.17963E-06	4.32662E-06	7.42975E-05	2.24806E-07	2.06822E-07	2.24806E-07	6.73287E-10	6.10473E-10	17.21388639	16.87635954	0.026475715	590.6725839
Alameda (SF)	2022	Agricultural - Bale Wagons (Self Propelled)	Aggregated	100	Diesel	6.26188E-06	7.57688E-06	9.01711E-06	6.37265E-05	5.6058E-05	0.001482467	4.684E-06	4.30928E-06	4.684E-06	1.36102E-08	1.21809E-08	343.4708845	140.5067361	0.226242881	11783.30716
Alameda (SF)	2022	Agricultural - Bale Wagons (Self Propelled)	Aggregated	175	Diesel	1.48978E-05	1.80264E-05	2.14529E-05	0.000161482	0.000140927	0.003883612	8.69762E-06	8.00181E-06	8.69762E-06	3.56998E-08	3.19101E-08	899.7893568	268.97344	0.431327222	34439.34504
Alameda (SF)	2022	Agricultural - Bale Wagons (Self Propelled)	Aggregated	300	Diesel	4.07209E-06	4.92723E-06	5.86381E-06	1.82602E-05	4.39462E-05	0.001240767	1.77987E-06	1.63748E-06	1.77987E-06	1.14263E-08	1.01949E-08	287.471806	56.68427244	0.091505521	10966.22622
Alameda (SF)	2022	Agricultural - Balers (Self Propelled)	Aggregated	50	Diesel	1.41279E-05	1.70947E-05	2.03441E-05	6.62525E-05	7.33445E-05	0.001223496	4.62107E-06	4.25138E-06	4.62107E-06	1.09639E-08	1.0053E-08	283.4702444	210.6691619	0.649045626	9698.18779
Alameda (SF)	2022	Agricultural - Balers (Self Propelled)	Aggregated	75	Diesel	6.5297E-06	7.90094E-06	9.40277E-06	4.73322E-05	6.42654E-05	0.001114264	3.98379E-06	3.66509E-06	3.98379E-06	1.01751E-08	9.15547E-09	258.1624119	136.7966826	0.418308084	8884.202005
Alameda (SF)	2022	Agricultural - Balers (Self Propelled)	Aggregated	100	Diesel	1.59894E-06	1.93471E-06	2.30247E-06	1.18336E-05	1.44746E-05	0.00027858	1.07504E-06	9.89036E-07	1.07504E-06	2.54492E-09	2.28898E-09	64.54383256	27.98486222	0.086042789	2219.347561
Alameda (SF)	2022	Agricultural - Balers (Self Propelled)	Aggregated	175	Diesel	4.39219E-07	5.31455E-07	6.32475E-07	3.82782E-06	4.83278E-06	9.43501E-05	2.51953E-07	2.31796E-07	2.51953E-07	8.64988E-10	7.75238E-10	21.8598521	8.003540234	0.024699936	837.91954
Alameda (SF)	2022	Agricultural - Combine Harvesters	Aggregated	75	Diesel	1.43558E-06	1.73705E-06	2.06723E-06	9.045E-06	1.26245E-05	0.000205986	9.21543E-07	8.47819E-07	9.21543E-07	1.87415E-09	1.69251E-09	47.72459941	34.14349025	0.093504702	1845.275163
Alameda (SF)	2022	Agricultural - Combine Harvesters	Aggregated	100	Diesel	1.16391E-05	1.40833E-05	1.67603E-05	7.36526E-05	9.98403E-05	0.001675352	8.03407E-06	7.39134E-06	8.03407E-06	1.52442E-08	1.37657E-08	388.1602494	172.5304353	0.479091243	14620.17887
Alameda (SF)	2022	Agricultural - Combine Harvesters	Aggregated	175	Diesel	1.75341E-05	2.12162E-05	2.52491E-05	0.00013116	0.000184248	0.003178759	9.99928E-06	9.19934E-06	9.99928E-06	2.90603E-08	2.61186E-08	736.4826868	231.5735383	0.650500438	32325.1799

Alameda (SF)	2022 ConstMin - Off-Highway Trucks	Aggregated	300	Diesel	0.000873286	0.001056676	0.001257532	0.006372029	0.00801778	2.561752052	0.000316855	0.000291506	0.000316855	2.36585E-05	2.09087E-05	83113.22408	20042.69676	15.73750339	4226113.929
Alameda (SF)	2022 ConstMin - Off-Highway Trucks	Aggregated	600	Diesel	0.00334373	0.004045913	0.004814971	0.025601017	0.030905659	10.95694581	0.001118603	0.001029115	0.001118603	0.000101202	8.94291E-05	355486.0398	47854.45741	35.15506935	17994868.22
Alameda (SF)	2022 ConstMin - Off-Highway Trucks	Aggregated	750	Diesel	0.001537877	0.001860831	0.002214543	0.012398708	0.015867183	3.729409303	0.000618479	0.000569001	0.000618479	3.44341E-05	3.04389E-05	120996.5776	9254.090389	7.569559613	6135920.24
Alameda (SF)	2022 ConstMin - Off-Highway Trucks	Aggregated	9999	Diesel	0.002150943	0.002602641	0.003097358	0.01542085	0.043873437	6.58756741	0.000912004	0.000839044	0.000912004	6.08408E-05	5.37668E-05	213726.3697	8507.920117	6.0137608	10787126.54
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	50	Diesel	0.000381154	0.000461196	0.000548861	0.002591346	0.002377638	0.296842887	0.000174413	0.00016046	0.000174413	2.73303E-06	2.42279E-06	9630.740567	10523.07259	22.12346971	401306.0964
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	75	Diesel	6.60883E-05	7.99668E-05	9.51671E-05	0.000341792	0.000662994	0.038713881	5.2015E-05	4.78538E-05	5.2015E-05	3.55946E-07	3.15977E-07	1256.029235	808.3786717	2.679828095	59214.47089
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	100	Diesel	0.000572698	0.000692964	0.000824684	0.006107946	0.006538915	0.891094016	0.000454727	0.000418349	0.000454727	8.22143E-06	7.27299E-06	28910.56399	16401.89644	36.32655862	1346848.287
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	175	Diesel	0.000236104	0.000285686	0.00033999	0.003040523	0.002894629	0.5056543	0.000151353	0.000139245	0.000151353	4.66794E-06	4.12708E-06	16405.39688	5035.240608	12.1783299	766586.0691
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	300	Diesel	0.000244713	0.000296102	0.000352386	0.001752957	0.003398668	0.664191689	0.000131086	0.000120599	0.000131086	6.13344E-06	5.42104E-06	21548.96786	4567.580995	11.22550213	1000326.981
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	600	Diesel	0.000716769	0.00086729	0.001032147	0.006709052	0.00916244	2.558179088	0.000337781	0.000310758	0.000337781	2.36301E-05	2.08795E-05	82997.30317	10144.42783	22.71898707	3865576.474
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	750	Diesel	0.000148937	0.000180214	0.000214469	0.001051234	0.002078956	0.50617088	6.83543E-05	6.28859E-05	6.83543E-05	4.67533E-06	4.1313E-06	16422.15676	1249.269202	2.501172888	767205.3824
Alameda (SF)	2022 ConstMin - Other Construction Equipment	Aggregated	9999	Diesel	3.28518E-05	3.97507E-05	4.73066E-05	0.00030678	0.000893481	0.163730185	1.62507E-05	1.49506E-05	1.62507E-05	1.51278E-06	1.33634E-06	5312.045536	269.4595572	0.565741487	247416.5954
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	50	Diesel	5.55896E-05	6.72634E-05	8.00491E-05	0.000315151	0.000272422	0.036317483	2.03148E-05	1.86897E-05	2.03148E-05	3.34105E-07	2.96418E-07	1178.280754	1271.676862	3.583914888	49316.90913
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	75	Diesel	9.13126E-05	0.000110488	0.00013149	0.000438759	0.000825483	0.055476512	7.95727E-05	7.32069E-05	7.95727E-05	5.10168E-07	4.52792E-07	1799.874335	1171.338781	3.464451058	84549.28639
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	100	Diesel	0.000111475	0.000134885	0.000160524	0.001905408	0.001589179	0.294899576	8.36484E-05	7.69565E-05	8.36484E-05	2.72315E-06	2.40693E-06	9567.691982	5509.041727	13.85780423	447139.9789
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	175	Diesel	0.000163971	0.000198405	0.000236119	0.002721185	0.002003651	0.479473239	9.62646E-05	8.85635E-05	9.62646E-05	4.42805E-06	3.9134E-06	15555.98119	4576.590143	11.85678509	722619.63
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	300	Diesel	8.76459E-05	0.000106052	0.00012621	0.000718572	0.001412156	0.374436046	4.31864E-05	3.97314E-05	4.31864E-05	3.45922E-06	3.0561E-06	12148.16515	2566.280345	5.704397863	565381.3739
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	600	Diesel	1.17633E-05	1.42337E-05	1.69392E-05	0.000125484	0.000164158	0.068096335	4.75502E-06	4.37462E-06	4.75502E-06	6.29231E-07	5.55793E-07	2209.310587	272.935958	0.627185105	102835.6162
Alameda (SF)	2022 ConstMin - Pavers	Aggregated	750	Diesel	1.15051E-06	1.39211E-06	1.65673E-06	2.48902E-05	6.89036E-06	0.014046334	2.33961E-07	2.15244E-07	2.33961E-07	1.29831E-07	1.14644E-07	455.7178237	28.28298865	0.059731915	21212.24148
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	50	Diesel	3.66706E-05	4.43714E-05	5.28057E-05	0.000329544	0.000297838	0.04521714	1.46168E-05	1.34475E-05	1.46168E-05	4.16955E-07	3.69056E-07	1467.020307	2079.186435	4.413053386	72243.25243
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	75	Diesel	5.70225E-06	6.89972E-06	8.21124E-06	5.13744E-05	7.28757E-05	0.006999729	5.35158E-06	4.92345E-06	5.35158E-06	6.45449E-08	5.71309E-08	227.0985146	179.2008623	0.447268924	12265.50756
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	100	Diesel	7.64695E-05	9.25281E-05	0.000110116	0.00122444	0.000967134	0.188013303	5.12875E-05	4.71845E-05	5.12875E-05	1.73598E-06	1.53454E-06	6099.884562	3726.533194	8.080658564	331700.71
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	175	Diesel	7.71236E-05	9.33195E-05	0.000111058	0.001197987	0.000885065	0.203810008	4.68474E-05	4.30996E-05	4.68474E-05	1.88201E-06	1.66347E-06	6612.391261	2484.048904	5.397045019	360690.835
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	300	Diesel	4.22528E-05	5.11258E-05	6.0844E-05	0.000300158	0.000581811	0.136785773	2.22388E-05	2.04597E-05	2.22388E-05	1.26338E-06	1.11643E-06	4437.86375	1046.592985	2.236344621	241560.1798
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	600	Diesel	3.85961E-05	4.67012E-05	5.55783E-05	0.00030462	0.000518073	0.146497464	1.66757E-05	1.53417E-05	1.66757E-05	1.35328E-06	1.19569E-06	4752.948866	652.0854033	1.401442629	259178.5874
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	750	Diesel	5.63416E-06	6.81734E-06	8.11319E-06	5.41338E-05	6.45251E-05	0.02924097	1.62388E-06	1.49397E-06	1.62388E-06	2.70178E-07	2.38661E-07	948.6910724	80.65912219	0.149089641	51600.71968
Alameda (SF)	2022 ConstMin - Paving Equipment	Aggregated	9999	Diesel	2.09517E-06	2.53516E-06	3.01705E-06	2.47874E-05	5.88303E-05	0.013269995	9.68962E-07	8.91445E-07	9.68962E-07	1.22625E-07	1.08308E-07	430.5303863	27.79469751	0.059635857	23431.33875
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	50	Diesel	0.0007705	0.000932304	0.001109519	0.005570053	0.005224728	0.744696349	0.000316091	0.000290804	0.000316091	6.86197E-06	6.07811E-06	24160.85291	31361.35175	90.56501547	1119872.741
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	75	Diesel	2.51992E-05	3.0491E-05	3.62869E-05	9.88706E-05	0.000226787	0.00826252	1.63974E-05	1.50856E-05	1.63974E-05	7.56351E-08	6.74376E-08	268.0683727	197.927627	0.860183322	13737.72143
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	100	Diesel	0.000540668	0.000654209	0.000778562	0.007534145	0.00685244	1.157052729	0.000392069	0.000360704	0.000392069	1.06813E-05	9.44371E-06	37539.30153	22161.82304	66.78709078	1934595.533
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	175	Diesel	0.000309807	0.000374867	0.000446123	0.006646453	0.003910511	1.204363502	0.000179528	0.000165165	0.000179528	1.11256E-05	9.82985E-06	39074.24745	14015.9431	39.07689948	2015254.335
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	300	Diesel	6.89755E-05	8.34604E-05	9.93247E-05	0.000583737	0.000973184	0.199465786	3.65887E-05	3.36616E-05	3.65887E-05	1.84209E-06	1.62801E-06	6471.447757	1541.940439	5.007495767	333458.9328
Alameda (SF)	2022 ConstMin - Rollers	Aggregated	600	Diesel	2.764E-05	3.34444E-05	3.98017E-05	0.000307128	0.000382062	0.11690931	1.29283E-05	1.18941E-05	1.29283E-05	1.08006E-06	9.54198E-07	3792.993824	556.6539041	1.812529143	194418.1817
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	25	Diesel	2.13443E-07	2.58267E-07	3.07359E-07	2.65391E-06	3.30979E-06	0.000389785	1.852E-07	1.70384E-07	1.852E-07	3.59735E-09	3.18137E-09	12.64614738	21.86932943	0.070905084	546.7332357
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	50	Diesel	4.18974E-05	5.06959E-05	6.03323E-05	0.000275346	0.000257735	0.037543892	1.51572E-05	1.39447E-05	1.51572E-05	3.45855E-07	3.06428E-07	1218.07023	1103.672158	4.041589781	52719.45907
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	75	Diesel	2.86191E-06	3.46291E-06	4.12114E-06	1.16059E-05	2.85411E-05	0.001034989	1.94662E-06	1.79089E-06	1.94662E-06	9.48313E-09	8.44744E-09	33.57907692	24.33975368	0.106357626	1614.705739
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	100	Diesel	0.000602257	0.000728731	0.00086725	0.018048389	0.010827389	2.966085973	0.000290833	0.000267566	0.000290833	2.74049E-05	2.42088E-05	96231.39283	48037.52104	170.0303911	4625459.385
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	175	Diesel	0.000257338	0.000311379	0.000370567	0.003711652	0.002764194	0.652380713	0.000184522	0.00016976	0.000184522	6.02386E-06	5.32464E-06	21165.77375	8120.972989	29.63832506	1018074.16
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	300	Diesel	8.73148E-06	1.05651E-05	1.25733E-05	8.9528E-05	0.000142029	0.047881061	3.27191E-06	3.01016E-06	3.27191E-06	4.42422E-07	3.90799E-07	1553.448295	355.2956057	1.418101677	74704.52573
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	600	Diesel	1.92805E-06	2.33295E-06	2.7764E-06	3.19164E-05	2.00193E-05	0.01780144	3.03038E-07	2.78795E-07	3.03038E-07	1.64525E-07	1.45293E-07	577.5481069	72.57377469	0.283620335	27955.6853
Alameda (SF)	2022 ConstMin - Rough Terrain Forklifts	Aggregated	750	Diesel	5.23544E-07	6.33488E-07	7.53903E-07	5.65633E-06	7.77031E-06	0.003063116	5.50309E-08	5.06284E-08	5.50309E-08	2.83043E-08	2.50007E-08	99.3794271	7.6542653	0.035452542	4783.915812
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	50	Diesel	5.88345E-05	7.11897E-05	8.47216E-05	0.000353099	0.000257136	0.033081243	2.09303E-05	1.92558E-05	2.09303E-05	3.04087E-07	2.70005E-07	1073.284505	1138.437382	1.198346764	47220.96158
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	75	Diesel	4.61622E-05	5.58562E-05	6.64735E-05	0.000282368	0.000450858	0.033257476	3.38928E-05	3.11814E-05	3.38928E-05	3.06097E-07	2.71443E-07	1079.002184	766.6597986	1.022978945	52465.43502
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	100	Diesel	0.000113489	0.000137321	0.000163423	0.000835949	0.001149365	0.105514855	8.78572E-05	8.08286E-05	8.78572E-05	9.72133E-07	8.61198E-07	3423.313262	1967.032287	2.279781649	166260.092
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	175	Diesel	0.000149677	0.000181109	0.000215535	0.001070741	0.001647922	0.148579161	0.000105216	9.67985E-05	0.000105216	1.3692E-06	1.21268E-06	4820.487256	1653.717439	2.10441383	235692.728
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	300	Diesel	0.000133894	0.000162012	0.000192808	0.000917979	0.001789512	0.160646646	8.19071E-05	7.53546E-05	8.19071E-05	1.48124E-06	1.31118E-06	5212.003523	1148.487229	1.636766312	254079.5028
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	600	Diesel	0.001222967	0.00147979	0.001761073	0.011749996	0.015292483	1.671530775	0.000686032	0.000631149	0.000686032	1.54174E-05	1.36428E-05	54230.97514	7135.725641	9.820597872	2633735.532
Alameda (SF)	2022 ConstMin - Rubber Tired Dozers	Aggregated	750	Diesel	1.87342E-05	2.26684E-05	2.69773E-05	9.85374E-05	0.000327356	0.047790067	9.18089E-06	8.44642E-06	9.18089E-06	4.41281E-07	3.90056E-07	1550.496099	116.5915868	0.116911879	75837.28479
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	50	Diesel	0.000171945	0.000208053	0.000247601	0.001095237	0.000838168	0.103622083	6.25474E-05	5.75436E-05	6.25474E-05	9.52879E-07	8.4575E-07	3361.904357	3874.631257	4.508731257	161059.146
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	100	Diesel	0.001756955	0.002125916	0.002530015	0.018553786	0.018203723	2.521918421	0.001287456	0.001184459	0.001287456	2.32637E-05	2.05836E-05	81820.86577	51346.8857	56.02403231	4413580.443
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	175	Diesel	0.002768094	0.003349393	0.003986055	0.037489678	0.028597328	5.980134661	0.00154252	0.001419118	0.00154252	5.52063E-05	4.88091E-05	194018.8831	69271.81424	73.48013374	10393574.74
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	300	Diesel	0.003063461	0.003706788	0.004411384	0.020332517	0.038172867	8.669087988	0.001287201	0.001184225	0.001287201	8.00581E-05	7.07559E-05	281259.0125	72231.11963	67.75282646	15074213.22
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	600	Diesel	0.004297588	0.005200082	0.006188527	0.029748903	0.048437805	11.17129271	0.001818578	0.001673092	0.001818578	0.000103155	9.11786E-05	362440.2891	59019.03004	60.62415677	19464979.93
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	750	Diesel	0.000301996	0.000365415	0.000434874	0.003034934	0.002671468	1.086570182	9.43509E-05	8.68028E-05	9.43509E-05	1.00368E-05	8.86844E-06	35252.5729	2939.01663	2.924582437	1899101.453
Alameda (SF)	2022 ConstMin - Rubber Tired Loaders	Aggregated	9999	Diesel	0.000246962	0.000298824	0.000355625	0.00167343	0.00553441	0.775478693	0.00011619	0.000106894	0.00011619	7.16228E-06	6.32935E-06	25159.55217	1400.968497	1.188111615	1342168.132
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	25	Diesel	4.92606E-08	5.96053E-08	7.09352E-08	1.38786E-06	1.27337E-06	0.000264815	4.43925E-09	4.08411E-09	4.43925E-09	2.44687E-09	2.16138E-09	8.591626865	12.38719743	0.030121475	309.6799357
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	50	Diesel	1.01353E-05	1.22637E-05	1.45948E-05	3.45569E-05	2.45224E-05	0.002107723	3.41648E-06	3.14317E-06	3.41648E-06	1.91829E-08	1.7203E-08	68.38276045	64.72310657	0.180728849	2506.721444
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	75	Diesel	2.95063E-05	3.57027E-05	4.24891E-05	0.000154399	0.000274167	0.018600078	2.36966E-05	2.18009E-05	2.36966E-05	1.71082E-07	1.51811E-07	603.4590459	356.4071971	0.813279819	24165.20281
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	100	Diesel	7.18398E-05	8.69262E-05	0.000103449	0.000630445	0.000907126	0.083829394	6.74269E-05	6.20327E-05	6.74269E-05	7.72889E-07	6.84204E-07	2719.752366	1202.349555	1.988017335	108431.6068
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	175	Diesel	0.000697268	0.000843694	0.001004066	0.007256223	0.008282635	1.13093082	0.000441948	0.000406592	0.000441948	1.04351E-05	9.23051E-06	36691.80497	8758.264716	19.60908007	1461928.32
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	300	Diesel	0.000708348	0.000857101	0.001020021	0.004458775	0.009201258	1.332937077	0.000401169	0.000369075	0.000401169	1.23024E-05	1.08793E-05	43245.67549	7780.192252	19.15725795	1737699.085
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	600	Diesel	0.006314712	0.007640802	0.009093186	0.056626125	0.082780429	16.51777543	0.003158277	0.002905615	0.003158277	0.000152526	0.000134816	535901.0329	50772.78246	105.7263764	21445940.59
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	750	Diesel	0.000272424	0.000329633	0.000392291	0.003059094	0.004525918	0.253790907	0.000183256	0.000168596	0.000183256	2.33825E-06	2.07141E-06	8233.966464	527.9698815	1.445830789	328554.7672
Alameda (SF)	2022 ConstMin - Scrapers	Aggregated	9999	Diesel	0.000299028	0.000361824	0.0004306	0.003633469	0.004961072	0.38170206	0.000184675	0.000169901	0.000184675	3.52005E-06	3.1154E-06	12383.90297	310.8498377	0.783158344	496478.873
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	50	Diesel	0.000288239	0.000348769	0.000415064	0.003493887	0.003280382	0.563641134	9.84217E-05	9.05479E-05	9.84217E-05	5.20249E-06	4.60036E-06	18286.71585	19750.24679	62.72757788	860606.3736
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	75	Diesel	0.00075429	0.000912691	0.001086177	0.018256277	0.012150566	2.952293812	0.000444259	0.000408718	0.000444259	2.72728E-05	2.40962E-05	95783.92137	71216.66073	199.4096328	5025162.944
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	100	Diesel	1.44945E-05	1.75384E-05	2.08721E-05	0.000280688	0.000258251	0.043013861	1.68836E-05	1.55329E-05	1.68836E-05	3.9725E-07	3.51073E-07	1395.537342	977.4993216	3.016646036	73833.83739
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	175	Diesel	4.95288E-06	5.99299E-06	7.13215E-06	0.000109906	6.04211E-05	0.02022554	2.73933E-06	2.52018E-06	2.73933E-06	1.86847E-07	1.65078E-07	656.195358	226.727264	0.839684979	34515.63782
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	300	Diesel	3.0526E-06	3.69365E-06	4.39574E-06	3.49474E-05	4.42092E-05	0.018795699	1.26719E-06	1.16582E-06	1.26719E-06	1.73684E-07	1.53408E-07	609.8057608	156.0304205	0.528690542	32001.05057
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	600	Diesel	1.3573E-06	1.64234E-06	1.95451E-06	1.02027E-05	2.13622E-05	0.005433895	9.2509E-07	8.51083E-07	9.2509E-07	5.01983E-08	4.43507E-08	176.2967448	19.53932862	0.062198887	9238.194569
Alameda (SF)	2022 ConstMin - Skid Steer Loaders	Aggregated	9999	Diesel	3.64949E-06	4.41589E-06	5.25527E-06	2.43639E-05	6.50461E-05	0.007355526	2.16639E-06	1.99307E-06	2.16639E-06	6.7896E-08	6.00348E-08	238.6419558	12.54069637	0.062198887	12540.69637
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	50	Diesel	3.08188E-06	3.72907E-06	4.4379E-06	3.28807E-05	3.4092E-05	0.005224127	1.34609E-06	1.23841E-06	1.34609E-06	4.82072E-08	4.26386E-08	169.4910399	268.3425921	1.100331342	9707.891128
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	75	Diesel	2.78441E-06	3.36913E-06	4.00955E-06	2.26083E-05	3.90435E-05	0.003150046	2.39668E-06	2.20494E-06	2.39668E-06	2.90402E-08	2.57102E-08	102.1997618	98.23543368	0.394990738	6524.33469
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	100	Diesel	1.03992E-05	1.25831E-05	1.49749E-05	0.000201098	0.000151535	0.032319473	7.15689E-06	6.58434E-06	7.15689E-06	2.98498E-07	2.63787E-07	1048.569695	751.8169165	2.70850792	67005.51286
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	175	Diesel	1.34499E-05	1.62743E-05	1.93678E-05	0.000156543	0.000168982	0.026530243	9.17442E-06	8.44047E-06	9.17442E-06	2.44882E-07	2.16536E-07	860.7445134	399.6132356	1.608176577	55164.16472
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	300	Diesel	1.75147E-05	2.11928E-05	2.52212E-05	0.000136102	0.000296543	0.053796573	9.78057E-06	8.99812E-06	9.78057E-06	4.96851E-07	4.3908E-07	1745.370566	493.0464779	2.003167316	111798.1793
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	600	Diesel	3.33246E-05	4.03227E-05	4.79874E-05	0.000379595	0.000447427	0.18865021	1.68215E-05	1.54758E-05	1.68215E-05	1.74317E-06	1.53974E-06	6120.548291	952.6387627	3.329207651	392564.7847
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	750	Diesel	1.46874E-05	1.77717E-05	2.11498E-05	0.00014128	0.000208596	0.073047308	8.38942E-06	7.71827E-06	8.38942E-06	6.74918E-07	5.96202E-07	2369.939476	237.8857402	0.818195101	151983.2688
Alameda (SF)	2022 ConstMin - Surfacing Equipment	Aggregated	9999	Diesel	7.07297E-06	8.55829E-06	1.01851E-05	6.57929E-05	0.000194054	0.031172541	3.77041E-06	3.46877E-06	3.77041E-06	2.87993E-07	2.54426E-07	1011.358755	74.99798366	0.282136242	64842.21888
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	50	Diesel	0.000487341	0.000589683	0.000701771	0.00318842	0.002626508	0.343697609	0.000195682	0.000180028	0.000195682	3.16303E-06	2.80521E-06	11150.89039	11945.54765	16.89698677	425712.237
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	75	Diesel	8.11882E-05	9.82377E-05	0.000116911	0.000737517	0.000837889	0.101894773	6.15198E-05	5.65982E-05	6.15198E-05	9.39632E-07	8.31651E-07	3305.863685	1921.869933	3.229866497	140550.0169
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	100	Diesel	0.000227104	0.000274796	0.00032703	0.002960481	0.002639967	0.429301279	0.000170926	0.000157252	0.000170926	3.96229E-06	3.5039E-06	13928.20722	7468.017055	10.52697229	590858.129
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	175	Diesel	6.64958E-05	8.04599E-05	9.5754E-05	0.000806641	0.000751725	0.132501514	3.62072E-05	3.33106E-05	3.62072E-05	1.22305E-06	1.08146E-06	4298.865695	1141.041947	1.585027077	182375.3991
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	300	Diesel	2.19084E-05	2.65091E-05	3.1548E-05	0.000166994	0.000298719	0.079573189	9.5139E-06	8.75279E-06	9.5139E-06	7.35036E-07	6.49466E-07	2581.664472	522.2829128	0.71774811	109524.7219
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	600	Diesel	8.76882E-06	1.06103E-05	1.26271E-05	0.000142654	0.000120151	0.010746267	6.06736E-06	5.58197E-06	6.06736E-06	9.90915E-08	8.77096E-08	348.6507892	44.8217675	0.059812343	14791.18328
Alameda (SF)	2022 ConstMin - Sweepers/Scrubbers	Aggregated	9999	Diesel	1.08587E-06	1.31391E-06	1.56366E-06	2.43694E-05	5.89907E-05	0.013807325	4.60196E-07	4.2338E-07	4.60196E-07	1.27623E-07	1.12694E-07	447.9634383	22.41088375	0.029906171	19004.42942
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	50	Diesel	0.001099739	0.001330685	0.001583625	0.009206737	0.007796002	1.113151988	0.000421172	0.000387479	0.000421172	1.02586E-05	9.0854E-06	36114.99032	45386.05589	87.78917815	1718261.128
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	75	Diesel	0.000408419	0.000494187	0.000588123	0.001648396	0.003876738	0.163926974	0.000313852	0.000288744	0.000313852	1.50333E-06	1.33795E-06	5318.430128	3891.680978	16.97665292	279202.9514
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Diesel	0.006839981	0.008276377	0.009849572	0.11751925	0.085348901	17.77849495	0.004484872	0.004126083	0.004484872	0.000164166	0.000145106	576803.6891	362599.707	579.1026902	30155889.85
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	175	Diesel	0.000979623	0.001185343	0.001410657	0.018256463	0.010391122	3.102178597	0.000528638	0.000486347	0.000528638	2.86518E-05	2.53196E-05	100646.7681	37017.93195	66.68306912	5308838.148
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	0.00058663	0.000709822	0.000844747	0.00457852	0.007432363	1.955665446	0.000261437	0.000240522	0.000261437	1.80635E-05	1.59619E-05	63449.41161	15960.31573	28.32501009	3334776.434
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	600	Diesel	0.000658789	0.000797134	0.000948656	0.005948333	0.007231315	2.552830194	0.000265624	0.000244374	0.000265624	2.35824E-05	2.08359E-05	82823.76422	12916.16399	23.82849121	4378617.924
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	750	Diesel	1.90146E-05	2.30076E-05	2.7381E-05	0.000228214	0.000207849	0.048311835	7.92757E-06	7.29336E-06	7.92757E-06	4.46096E-07	3.94315E-07	1567.424265	130.6498391	0.275297074	84832.58747
Alameda (SF)	2022 ConstMin - Tractors/Loaders/Backhoes	Aggregated	9999	Diesel	0.000223326	0.000270224	0.000321589	0.001682581	0.005245765	0.871740676	9.94569E-05	9.15003E-05	9.94569E-05	8.05298E-06	7.11503E-06	28282.66618	801.8245139	1.28471968	1483978.877
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	50	Diesel	0.000399668	0.000483598	0.000575521	0.003025	0.002857896	0.394675845	0.000184377	0.000169627	0.000184377	3.63698E-06	3.22129E-06	12804.82313	11089.7234	28.78690109	442081.3999
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	75	Diesel	3.21989E-05	3.89607E-05	4.63665E-05	0.000195746	0.000325042	0.023561938	2.2307E-05	2.05224E-05	2.2307E-05	2.16876E-07	1.92309E-07	764.4411175	416.4728009	1.537482218	29375.01144
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	100	Diesel	0.000202835	0.00024543	0.000292082	0.001823729	0.002313303	0.260179599	0.000165024	0.000151822	0.000165024	2.3994E-06	2.12355E-06	8441.240559	3875.868902	11.74374715	324379.2072
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	175	Diesel	3.67414E-05	4.44571E-05	5.29076E-05	0.000383932	0.000464175	0.060819352	2.36476E-05	2.17558E-05	2.36476E-05	5.61203E-07	4.96399E-07	1973.216882	540.7233225	1.831893706	76032.93931
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	300	Diesel	6.5379E-05	7.91086E-05	9.41458E-05	0.000398865	0.000903361	0.131334037	3.78713E-05	3.48416E-05	3.78713E-05	1.21229E-06	1.07193E-06	4260.988179	726.2956805	2.355291908	163346.6302
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	600	Diesel	6.11674E-05	7.40126E-05	8.80811E-05	0.000688729	0.000758764	0.199277073	3.15589E-05	2.90342E-05	3.15589E-05	1.84058E-06	1.62647E-06	6465.325183	651.0353645	1.766468931	247518.5062
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	750	Diesel	5.20547E-06	6.29862E-06	7.49588E-06	0.000113349	3.13849E-05	0.064012055	1.06478E-06	9.79599E-07	1.06478E-06	5.91667E-07	5.22458E-07	2076.80063	123.3910443	0.261699101	79861.17261
Alameda (SF)	2022 ConstMin - Trenchers	Aggregated	9999	Diesel	9.4186E-06	1.13965E-05	1.35628E-05	0.000136863	0.000130293	0.005150334	6.05406E-06	5.56974E-06	6.05406E-06	4.73348E-08	4.20363E-08	167.0969269	7.473715584	0.032712388	6427.395402
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	50	Diesel	0.000341463	0.00041317	0.000491707	0.007943057	0.007418479	1.498948925	6.19468E-05	5.69911E-05	6.19468E-05	1.38483E-05	1.22342E-05	48631.74707	59481.79862	196.5468584	2743830.02
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	75	Diesel	0.000308507	0.000373294	0.00044425	0.011145565	0.005795937	1.848367724	0.000105454	9.70173E-05	0.000105454	1.70798E-05	1.50861E-05	59968.2552	52020.30971	172.3379249	3761688.45
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	100	Diesel	0.000120085	0.000145303	0.000172923	0.004584421	0.002260122	0.767120854	4.40577E-05	4.05331E-05	4.40577E-05	7.08881E-06	6.26114E-06	24888.39128	19877.52512	65.76296488	1561039.317
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	175	Diesel	2.28777E-05	2.7682E-05	3.29439E-05	0.00086331	0.000217481	0.159848145	8.22088E-06	7.56321E-06	8.22088E-06	1.47719E-06	1.30466E-06	5186.097036	2494.438681	8.25515356	325432.807
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	300	Diesel	1.1127E-06	1.34637E-06	1.60229E-06	1.73075E-05	1.23044E-05	0.009552171	1.64374E-07	1.51224E-07	1.64374E-07	8.82812E-08	7.79635E-08	309.9096676	84.55365165	0.278263603	19447.33988
Alameda (SF)	2022 Industrial - Aerial Lifts	Aggregated	600	Diesel	6.35107E-07	7.68479E-07	9.14553E-07	1.2192E-05	3.36112E-06	0.006783426	1.16002E-07	1.06722E-07	1.16002E-07	6.26971E-08	5.53654E-08	220.0807784	28.18455055	0.092754534	13810.42977
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	50	Diesel	0.001218842	0.001474798	0.001755132	0.009103881	0.007401185	1.008852837	0.00046301	0.000425969	0.00046301	9.29078E-06	8.23412E-06	32731.11925	66717.67845	91.11472506	2828740.471
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	75	Diesel	0.000230198	0.000278539	0.000331485	0.00092751	0.002183185	0.091630985	0.000176664	0.000162531	0.000176664	8.40268E-07	7.4788E-07	2972.866379	3940.55885	8.207855398	288682.4167
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	100	Diesel	0.00665207	0.008049005	0.009578981	0.083724921	0.07516339	12.05950309	0.004946425	0.004550711	0.004946425	0.000111297	9.8428E-05	391257.2967	457180.5239	599.7758554	37691052.82
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	175	Diesel	0.001645364	0.00199089	0.002369324	0.023272092	0.018106768	3.840662917	0.000968333	0.000890866	0.000968333	3.54595E-05	3.1347E-05	124606.0786	84884.16226	113.2533442	11993427.58
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	300	Diesel	0.000308069	0.000372763	0.000443619	0.002070021	0.003639251	0.837233153	0.000141931	0.000130577	0.000141931	7.73139E-06	6.83338E-06	27163.10759	12425.53429	16.56631365	2609381.928
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	600	Diesel	7.63168E-05	9.23433E-05	0.000109896	0.000492598	0.000803776	0.21063455	2.99665E-05	2.75692E-05	2.99665E-05	1.94513E-06	1.71917E-06	6833.805995	1849.421857	2.560248473	653336.5142
Alameda (SF)	2022 Industrial - Forklifts	Aggregated	9999	Diesel	2.42898E-06	2.93906E-06	3.49773E-06	3.19316E-05	7.52327E-05	0.016729178	6.70181E-07	6.16566E-07	6.70181E-07	1.54597E-07	1.36541E-07	542.7597508	59.35353867	0.075301426	52231.11403
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	1.31691E-06	1.59346E-06	1.89635E-06	4.37872E-06	3.0151E-06	0.000230402	4.14517E-07	3.81355E-07	4.14517E-07	2.09067E-09	1.88051E-09	7.475130034	15.21396058	0.066591372	380.3490144
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	50	Diesel	0.00213682	0.002585552	0.003077021	0.018706998	0.015467949	2.169388111	0.000875877	0.000805807	0.000875877	1.9993E-05	1.77063E-05	70383.40811	101719.6276	121.4626627	3573428.882
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	75	Diesel	0.000544222	0.000658509	0.00078368	0.009725882	0.006955952	1.441361922	0.000346219	0.000318522	0.000346219	1.33098E-05	1.17642E-05	46763.40017	37019.21743	43.68394009	2644561.21
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	100	Diesel	0.000365877	0.000442711	0.000526863	0.002422496	0.00349146	0.305416947	0.000301212	0.000277115	0.000301212	2.81275E-06	2.49277E-06	9908.916473	7023.068481	9.256200721	557829.2728
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	175	Diesel	0.000332661	0.00040252	0.000479032	0.005050588	0.003526608	0.816824957	0.000186995	0.000172036	0.000186995	7.54197E-06	6.66682E-06	26500.98617	10088.37726	12.11962972	1497871.528
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	300	Diesel	0.000280286	0.000339146	0.000403612	0.002038486	0.003647477	0.824266164	0.000117994	0.000108555	0.000117994	7.61234E-06	6.72755E-06	26742.40791	7030.523321	8.723469744	1509820.655
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	600	Diesel	0.000639024	0.000773219	0.000920194	0.005398705	0.005629689	2.591885735	0.000195558	0.000179913	0.000195558	2.39441E-05	2.11546E-05	84090.87821	12517.89462	14.65010186	4755224.855
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	750	Diesel	0.000110479	0.00013368	0.00015909	0.001468552	0.001010793	0.427776538	5.23079E-05	4.81233E-05	5.23079E-05	3.95169E-06	3.49145E-06	13878.73868	1238.87281	1.465010186	783102.2592
Alameda (SF)	2022 Industrial - Other General Industrial Equipment	Aggregated	9999	Diesel	3.21762E-05	3.89332E-05	4.63337E-05	0.000283352	0.000909159	0.147845057	1.50321E-05	1.38295E-05	1.50321E-05	1.36594E-06	1.20669E-06	4796.670065	233.077876	0.266365488	271244.3782
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	25	Diesel	2.56513E-06	3.10381E-06	3.69379E-06	2.15145E-05	1.52057E-05	0.002459698	5.99773E-07	5.51792E-07	5.99773E-07	2.26642E-08	2.00757E-08	79.8021845	140.4476186	0.227962174	3511.190465
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	50	Diesel	0.000155378	0.000188007	0.000223744	0.001014908	0.000837036	0.099002971	6.61025E-05	6.08143E-05	6.61025E-05	9.1067E-07	8.08049E-07	3212.042353	3919.86005	5.167142609	140454.8956
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	75	Diesel	1.72727E-05	2.08999E-05	2.48726E-05	0.00016636	0.000186069	0.021593033	1.46778E-05	1.35036E-05	1.46778E-05	1.9912E-07	1.76239E-07	700.5621615	482.8863426	0.759873913	34411.16391
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	100	Diesel	0.000355413	0.000430049	0.000511794	0.007325758	0.004845079	1.107941534	0.000180976	0.000166498	0.000180976	1.02328E-05	9.04287E-06	35945.9429	18881.26397	24.23997783	1756634.02
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	175	Diesel	0.000339185	0.000410414	0.000488427	0.004811992	0.00333563	0.774042559	0.000215827	0.000198561	0.000215827	7.14623E-06	6.31763E-06	25112.95836	8874.935365	12.15798261	1226639.275
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	300	Diesel	0.000486956	0.000589217	0.000701217	0.00278095	0.005652809	1.229810066	0.000224923	0.000206929	0.000224923	1.13556E-05	1.00375E-05	39899.83318	8305.245798	11.01817174	1951033.389
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	600	Diesel	0.000528967	0.00064005	0.000761712	0.004400429	0.006018926	1.690892596	0.000220484	0.000202845	0.000220484	1.56173E-05	1.38008E-05	54859.14808	7374.194403	9.650398696	2680048.801
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	750	Diesel	3.49569E-05	4.22978E-05	5.03379E-05	0.000151696	0.00036096	0.072516141	1.82691E-05	1.68076E-05	1.82691E-05	6.69399E-07	5.91867E-07	2352.706331	184.6304603	0.227962174	115086.3203
Alameda (SF)	2022 Industrial - Other Material Handling Equipment	Aggregated	9999	Diesel	1.53734E-05	1.86018E-05	2.21377E-05	0.000220198	0.000521624	0.117227965	4.52961E-06	4.16724E-06	4.52961E-06	1.08337E-06	9.56799E-07	3803.332214	184.6304603	0.227962174	186045.9605
Alameda (SF)	2022 Locomotive - Line haul	Aggregated	9999	Diesel	0.005805961	0.007025213	0.008360584	0.076668472	0.197478539	0	0.002943711	0.0026934	0.002943711	0.000299116	0.000239877	0	0	0	0
Alameda (SF)	2022 Locomotive - Passenger	Aggregated	9999	Diesel	0.010000107	8.87382E-06	1.05606E-05	0.031637921	0.24320587	0	0.004491357	0.004132048	0.004491357	0.000139104	0.000122954	0	0	0	0
Alameda (SF)	2022 Locomotive - Short line	Aggregated	9999	Diesel	6.59446E-05	3.72872E-10	4.43749E-10	0.000175852	0.001786	0	3.02964E-05	2.78726E-05	3.02964E-05	8.51652E-07	7.52904E-07	0	0	0	0
Alameda (SF)	2022 Locomotive - Switcher	Aggregated	9999	Diesel	0.013291085	2.05171E-06	2.44171E-06	0.035705477	0.206153767	0	0.004354465	0.004006107	0.004354465	0.000118884	0.000106926	0	0	0	0
Alameda (SF)	2022 Ocean Going Vessels	Aggregated		Diesel	0.119715613	0.153821969	0.183463691	0.242491216	2.239815767	210.4930035	0.059307516	0.054562915	0.059307516	0.214874545	0.001327435	6642012.978	0	0	122140967.6
Alameda (SF)	2022 OFF - Agricultural - 2-Wheel Tractors	Aggregated	25	Gasoline	0.000371676	0.000341867	0.000409007	0.01363987	0.000265992	0.023010978	0.000146205	0.000110466	0.00016245	6.75753E-07	6.09931E-07	1741.05	4084.35	16.09	28586.8
Alameda (SF)	2022 OFF - Agricultural - Agricultural Mowers	Aggregated	25	Gasoline	0.000295727	0.00027201	0.00032543	0.012665327	0.000215181	0.01942394	0.000146548	0.000110725	0.000162831	5.13959E-07	5.39603E-07	1540.3	2500.25	13.83	31244
Alameda (SF)	2022 OFF - Agricultural - Agricultural Tractors	Aggregated	25	Diesel	0.001498673	0.001783545	0.002158089	0.008512165	0.013601846	1.807751492	0.000514937	0.000473742	0.000514937	2.44809E-05	1.51305E-05	60144.7	83249.2	156.28	1504639.5
Alameda (SF)	2022 OFF - Agricultural - Agricultural Tractors	Aggregated	100	Gasoline	0.000226794	0.000208605	0.000249573	0.009266935	0.000552584	0.159090104	1.10921E-05	8.38073E-06	1.23246E-05	1.53703E-06	2.31186E-06	6599.2	1343.2	2.42	110142.4
Alameda (SF)	2022 OFF - Agricultural - Agricultural Tractors	Aggregated	175	Gasoline	3.14119E-05	2.88927E-05	3.45669E-05	0.001283666	0.00012688	0.03232363	2.31726E-06	1.75082E-06	2.57473E-06	3.21101E-07	4.56489E-07	1303.05	189.8	0.3	23725
Alameda (SF)	2022 OFF - Agricultural - Balers	Aggregated	50	Gasoline	4.08129E-05	3.75397E-05	4.49121E-05	0.002219454	7.32358E-05	0.027499754	1.89581E-06	1.43239E-06	2.10645E-06	3.34347E-07	4.11735E-07	1175.3	602.25	8.88	21078.75
Alameda (SF)	2022 OFF - Agricultural - Balers	Aggregated	100	Gasoline	1.85024E-05	1.70185E-05	2.03607E-05	0.000587097	6.39389E-05	0.025428815	1.77296E-06	1.33957E-06	1.96995E-06	2.45678E-07	3.50359E-07	1000.1	324.85	4.52	20790.4
Alameda (SF)	2022 OFF - Agricultural - Combines	Aggregated	100	Gasoline	5.72279E-06	5.26382E-06	6.29758E-06	0.000268574	1.40795E-05	0.013580722	9.4688E-07	7.15421E-07	1.05209E-06	1.31209E-07	1.8413E-07	525.6	69.35	0.6	7143.05
Alameda (SF)	2022 OFF - Agricultural - Combines	Aggregated	175	Gasoline	3.65467E-06	3.36156E-06	4.02174E-06	0.000397504	1.33767E-05	0.011683546	8.37586E-07	6.32843E-07	9.30651E-07	1.16064E-07	1.63671E-07	467.2	32.85	0.33	5387.4
Alameda (SF)	2022 OFF - Agricultural - Combines	Aggregated	300	Gasoline	6.63995E-07	6.10742E-07	7.30686E-07	8.68094E-05	7.58711E-06	0.002479547	1.82917E-07	1.38204E-07	2.03242E-07	2.53468E-08	3.58031E-08	102.2	0	0.08	0
Alameda (SF)	2022 OFF - Agricultural - Hydro Power Units	Aggregated	25	Gasoline	0.000290481	0.000267184	0.000319656	0.01139926	0.000210104	0.018095871	0.000128491	9.70824E-05	0.000142768	4.98547E-07	4.93571E-07	1408.9	2540.4	6.53	24987.9
Alameda (SF)	2022 OFF - Agricultural - Hydro Power Units	Aggregated	25	Diesel	1.01554E-05	1.20857E-05	1.46237E-05	5.37729E-05	9.22905E-05	0.012185467	3.47102E-06	3.19334E-06	3.47102E-06	1.5981E-07	1.00087E-07	397.85	876	1.09	14673
Alameda (SF)	2022 OFF - Agricultural - Hydro Power Units	Aggregated	50	Gasoline	2.40506E-06	2.21217E-06	2.64662E-06	0.000193932	3.62419E-06	0.001887856	1.30147E-07	9.83334E-08	1.44608E-07	2.29529E-08	2.8131E-08	80.3	40.15	0.07	1525.7
Alameda (SF)	2022 OFF - Agricultural - Hydro Power Units	Aggregated	100	Gasoline	1.81904E-07	1.67315E-07	2.00174E-07	9.06496E-06	4.45314E-07	0.000405259	2.82556E-08	2.13487E-08	3.13951E-08	3.91537E-09	3.83604E-09	10.95	0	0	0
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Gasoline	3.81593E-05	3.50989E-05	4.1992E-05	0.00136704	2.56375E-05	0.002303279	1.37298E-05	1.03736E-05	1.52553E-05	6.6481E-08	5.88193E-08	167.9	354.05	2.53	2982.05
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	25	Diesel	2.3521E-05	2.7992E-05	3.38703E-05	0.000125308	0.000214059	0.028200979	8.27469E-06	7.61271E-06	8.27469E-06	3.71093E-07	2.35984E-07	938.05	1664.4	3.73	32236.8
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	50	Gasoline	1.7745E-06	1.63219E-06	1.95273E-06	0.000114855	2.92642E-06	0.001291585	8.90407E-08	6.72752E-08	9.89341E-08	1.57033E-08	1.66229E-08	47.45	43.8	0.26	1270.2
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	100	Gasoline	1.04825E-05	9.64176E-06	1.15353E-05	0.000413028	3.07868E-05	0.017090535	1.19159E-06	9.00315E-07	1.32399E-06	1.65118E-07	2.33999E-07	667.95	208.05	1.6	13939.35
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	175	Gasoline	1.64025E-06	1.5087E-06	1.80499E-06	0.00013238	7.74024E-06	0.003846512	2.75754E-07	2.08347E-07	3.06393E-07	3.82111E-08	5.11472E-08	146	0	0.13	0
Alameda (SF)	2022 OFF - Agricultural - Other Agricultural Equipment	Aggregated	300	Gasoline	8.77337E-07	8.06975E-07	9.65456E-07	8.89394E-05	8.91053E-06	0.002511369	1.85265E-07	1.39978E-07	2.0585E-07	2.56721E-08	3.32457E-08	94.9	0	0.03	0
Alameda (SF)	2022 OFF - Agricultural - Sprayers	Aggregated	25	Gasoline	0.000633059	0.000582288	0.000696643	0.022591496	0.000387912	0.036531095	0.000222099	0.000167808	0.000246776	1.00614E-06	9.88421E-07	2821.45	6011.55	61.16	56447.25
Alameda (SF)	2022 OFF - Agricultural - Sprayers	Aggregated	25	Diesel	2.36645E-06	2.81627E-06	3.40769E-06	1.11136E-05	2.04095E-05	0.002587221	8.99752E-07	8.27771E-07	8.99752E-07	3.28269E-08	1.74463E-08	69.35	149.65	1.42	2843.35
Alameda (SF)	2022 OFF - Agricultural - Sprayers	Aggregated	50	Gasoline	7.91097E-06	7.27651E-06	8.70554E-06	0.000435744	1.40273E-05	0.00522088	3.59923E-07	2.71942E-07	3.99914E-07	6.34764E-08	7.79995E-08	222.65	135.05	1.65	4456.65
Alameda (SF)	2022 OFF - Agricultural - Sprayers	Aggregated	100	Gasoline	1.33553E-05	1.22842E-05	1.46967E-05	0.000429573	4.55052E-05	0.017927686	1.24996E-06	9.44415E-07	1.38885E-06	1.73206E-07	2.45507E-07	700.8	222.65	2.85	15140.2
Alameda (SF)	2022 OFF - Agricultural - Sprayers	Aggregated	175	Gasoline	3.89088E-06	3.57884E-06	4.28168E-06	0.000275555	2.31573E-05	0.008095126	5.80334E-07	4.38475E-07	6.44816E-07	8.04166E-08	1.13803E-07	324.85	36.5	0.61	5110
Alameda (SF)	2022 OFF - Agricultural - Swathers	Aggregated	100	Gasoline	7.09735E-05	6.52815E-05	7.81021E-05	0.002319396	0.000237746	0.092578271	6.45478E-06	4.87694E-06	7.17198E-06	8.94435E-07	1.28124E-06	3657.3	857.75	9.1	75482
Alameda (SF)	2022 OFF - Agricultural - Swathers	Aggregated	175	Gasoline	5.02149E-05	4.61877E-05	5.52584E-05	0.003462306	0.000292875	0.101180592	7.25357E-06	5.48048E-06	8.05952E-06	1.00512E-06	1.41678E-06	4044.2	667.95	6.98	86165.55
Alameda (SF)	2022 OFF - Agricultural - Tillers	Aggregated	25	Gasoline	0.004914195	0.004520077	0.005407772	0.285598724	0.003551399	0.450752228	0.000206366	0.000155921	0.000229296	1.28522E-05	1.21922E-05	34802.75	69923.05	983.49	489461.35
Alameda (SF)	2022 OFF - AirGrSupp - A/C Tug Narrow Body	Aggregated	175	Gasoline	0.000511007	0.000470025	0.000562332	0.029873268	0.003251645	0.716163075	5.13413E-05	3.87912E-05	5.70458E-05	7.11433E-06	1.01374E-05	28937.2	3025.85	4.17	393360.5
Alameda (SF)	2022 OFF - AirGrSupp - A/C Tug Wide Body	Aggregated	600	Gasoline	0.000216032	0.000198706	0.00023773	0.023206859	0.001995855	0.624854784	4.60958E-05	3.4828E-05	5.12176E-05	6.38748E-06	8.77559E-06	25049.95	708.1	1.36	354050
Alameda (SF)	2022 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Gasoline	2.13901E-07	1.96746E-07	2.35385E-07	2.13448E-05	2.35547E-06	0.000641576	4.59942E-08	3.47512E-08	5.11046E-08	6.37339E-09	0	0	0	0.15	0
Alameda (SF)	2022 OFF - AirGrSupp - Air Conditioner	Aggregated	175	Nat Gas	0	0	9.92879E-08	8.50681E-05	1.04805E-05	0.003447826	0	0	3.06628E-07	0	0	175.2	0	0.8	0
Alameda (SF)	2022 OFF - AirGrSupp - Air Start Unit	Aggregated	175	Gasoline	2.19713E-05	2.02092E-05	2.4178E-05	0.00205722	0.000226612	0.060688446	4.35071E-06	3.28721E-06	4.83413E-06	6.02876E-07	8.47766E-07	2419.95	219	3.03	28470
Alameda (SF)	2022 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Gasoline	0.003645823	0.003353428	0.004012006	0.274443554	0.02099298	6.32307072	0.00044086	0.000333094	0.000489844	6.10897E-05	8.96982E-05	256043.85	49147.25	56.01	4914725
Alameda (SF)	2022 OFF - AirGrSupp - Baggage Tug	Aggregated	100	Nat Gas	0	0	0.000127057	0.046223189	0.005359069	1.038628327	0	0	9.2369E-05	0	0	57794.1	9263.7	11.13	926370
Alameda (SF)	2022 OFF - AirGrSupp - Belt Loader	Aggregated	100	Gasoline	0.00088706	0.000815918	0.000976155	0.067847908	0.005063781	1.507823766	0.000105129	7.94309E-05	0.00011681	1.45677E-05	2.14384E-05	61195.9	21491.2	26.48	1289472
Alameda (SF)	2022 OFF - AirGrSupp - Belt Loader	Aggregated	100	Nat Gas	0	0	9.18968E-06	0.003942954	0.000444698	0.100130425	0	0	8.90497E-06	0	0	5522.45	1638.85	2.97	98331
Alameda (SF)	2022 OFF - AirGrSupp - Bobtail	Aggregated	100	Gasoline	0.000585937	0.000538944	0.000644787	0.044107086	0.003373873	1.016207698	7.08524E-05	5.3533E-05	7.87249E-05	9.81798E-06	1.44159E-05	41150.1	7894.95	9.01	789495
Alameda (SF)	2022 OFF - AirGrSupp - Bobtail	Aggregated	100	Nat Gas	0	0	1.32524E-06	0.000901274	8.1876E-05	0.025053096	0	0	2.22806E-06	0	0	1376.05	219	0.25	21900
Alameda (SF)	2022 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Gasoline	0.000244521	0.000224911	0.000269081	0.018697144	0.001396383	0.41598378	2.90034E-05	2.19137E-05	3.2226E-05	4.01898E-06	5.9139E-06	16881.25	5077.15	7.06	355400.5
Alameda (SF)	2022 OFF - AirGrSupp - Cargo Loader	Aggregated	100	Nat Gas	0	0	1.27632E-05	0.004258594	0.000501718	0.088293978	0	0	7.85231E-06	0	0	4938.45	1233.7	1.18	86359
Alameda (SF)	2022 OFF - AirGrSupp - Cargo Tractor	Aggregated	100	Gasoline	0.007062619	0.006496197	0.007771982	0.649130953	0.032538265	7.067728275	0.000492779	0.000372322	0.000547532	5.83519E-05	0.000107554	307012.45	58900.05	43.6	5595504.75
Alameda (SF)	2022 OFF - AirGrSupp - Cargo Tractor	Aggregated	175	Nat Gas	0	0	4.50409E-06	0.003310819	0.000400817	0.126098074	0	0	1.12144E-05	0	0	6814.55	737.3	4.73	114723.88
Alameda (SF)	2022 OFF - AirGrSupp - Cart	Aggregated	25	Gasoline	2.76071E-05	2.5393E-05	3.03799E-05	0.001762108	2.11891E-05	0.002809977	1.27306E-06	9.61869E-07	1.41451E-06	8.012E-08	7.67209E-08	219	357.7	2.41	4292.4
Alameda (SF)	2022 OFF - AirGrSupp - Catering Truck	Aggregated	300	Gasoline	0.001017595	0.000935984	0.001119801	0.05300534	0.005708077	1.138108669	8.39588E-05	6.34356E-05	9.32876E-05	9.94189E-06	1.62418E-05	46362.3	4854.5	4.78	989832.55
Alameda (SF)	2022 OFF - AirGrSupp - Catering Truck	Aggregated	300	Nat Gas	0	0	4.44987E-06	0.00259412	0.00030386	0.087159156	0	0	7.75138E-06	0	0	4737.7	401.5	0.89	82307.5
Alameda (SF)	2022 OFF - AirGrSupp - Deicer	Aggregated	100	Gasoline	8.22063E-06	7.56134E-06	9.0463E-06	0.000283914	5.19114E-05	0.015564137	1.08517E-06	8.19905E-07	1.20574E-06	1.50371E-07	2.10982E-07	602.25	58.4	3.4	5431.2
Alameda (SF)	2022 OFF - AirGrSupp - Forklift	Aggregated	50	Gasoline	0.000255694	0.000235187	0.000281376	0.024186247	0.000554216	0.172104961	1.18648E-05	8.96449E-06	1.31831E-05	2.09248E-06	2.79903E-06	7989.85	4854.5	6.67	242725
Alameda (SF)	2022 OFF - AirGrSupp - Forklift	Aggregated	50	Nat Gas	0	0	1.59961E-05	0.004296598	0.001161745	0.346869438	0	0	3.08484E-05	0	0	18344.9	11351.5	15.6	567575
Alameda (SF)	2022 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Gasoline	2.27148E-06	2.08931E-06	2.49962E-06	0.00022334	2.50124E-05	0.006716608	4.81509E-07	3.63807E-07	5.3501E-07	6.67225E-08	9.33437E-08	266.45	76.65	4.13	9964.5
Alameda (SF)	2022 OFF - AirGrSupp - Fuel Truck	Aggregated	175	Nat Gas	0	0	1.20055E-06	0.000656227	7.60381E-05	0.021101691	0	0	1.87665E-06	0	0	1149.75	299.3	0.5	41902
Alameda (SF)	2022 OFF - AirGrSupp - Generator	Aggregated	100	Gasoline	8.63029E-05	7.93814E-05	9.49711E-05	0.005044547	0.00030424	0.059345855	4.13774E-06	3.12629E-06	4.59748E-06	4.89965E-07	8.98913E-07	2565.95	306.6	0.3	32806.2
Alameda (SF)	2022 OFF - AirGrSupp - Ground Power Unit	Aggregated	175	Gasoline	0.0003795	0.000349065	0.000417617	0.039227019	0.003359649	1.070984111	7.67782E-05	5.80102E-05	8.53091E-05	1.06391E-05	1.50309E-05	42905.75	4182.9	5.25	627435
Alameda (SF)	2022 OFF - AirGrSupp - Hydrant truck	Aggregated	175	Gasoline	0.001359529	0.001250495	0.001496079	0.061218591	0.006493569	1.184237592	8.48972E-05	6.41446E-05	9.43302E-05	1.0053E-05	1.70397E-05	48639.9	6113.75	4	742820.625
Alameda (SF)	2022 OFF - AirGrSupp - Lav Cart	Aggregated	25	Gasoline	2.38827E-06	2.19673E-06	2.62814E-06	0.000152438	1.83305E-06	0.000243089	1.10132E-07	8.32105E-08	1.22368E-07	6.93112E-09	6.39341E-09	18.25	29.2	0.2	350.4
Alameda (SF)	2022 OFF - AirGrSupp - Lav Truck	Aggregated	175	Gasoline	0.000322342	0.000296491	0.000354718	0.02420799	0.00202116	0.576093812	4.12998E-05	3.12043E-05	4.58887E-05	5.72289E-06	8.15287E-06	23272.4	7796.4	6.42	1013532
Alameda (SF)	2022 OFF - AirGrSupp - Lav Truck	Aggregated	175	Nat Gas	0	0	5.73662E-07	0.000348848	4.11359E-05	0.012033681	0	0	1.0702E-06	0	0	646.05	171.55	0.47	22301.5
Alameda (SF)	2022 OFF - AirGrSupp - Lift	Aggregated	100	Gasoline	0.000465673	0.000428326	0.000512445	0.023228986	0.002095865	0.51555368	3.59456E-05	2.71589E-05	3.99396E-05	4.98097E-06	7.33963E-06	20951	4405.55	11.71	440555
Alameda (SF)	2022 OFF - AirGrSupp - Lift	Aggregated	100	Nat Gas	0	0	1.04817E-06	0.000541801	5.94861E-05	0.015259946	0	0	1.35712E-06	0	0	835.85	138.7	0.43	13870
Alameda (SF)	2022 OFF - AirGrSupp - Maint. Truck	Aggregated	175	Gasoline	0.000246533	0.000226761	0.000271294	0.020547633	0.001935629	0.546633291	3.91878E-05	2.96085E-05	4.3542E-05	5.43023E-06	7.68487E-06	21936.5	3690.15	8.22	479719.5
Alameda (SF)	2022 OFF - AirGrSupp - Other	Aggregated	50	Nat Gas	0	0	1.66519E-06	0.002028451	0.000653949	0.118999627	0	0	1.05831E-05	0	0	6354.65	2332.35	2.28	116617.5
Alameda (SF)	2022 OFF - AirGrSupp - Other GSE	Aggregated	50	Gasoline	0.00020529	0.000188826	0.000225909	0.014239039	0.000414817	0.131604213	9.07268E-06	6.85491E-06	1.00808E-05	1.60007E-06	2.04717E-06	5843.65	2233.8	12.13	111690
Alameda (SF)	2022 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Gasoline	7.51163E-05	6.9092E-05	8.26609E-05	0.00621747	0.000689751	0.176524853	1.2655E-05	9.56152E-06	1.40611E-05	1.56229E-06	2.47169E-06	7055.45	1047.55	5.59	131048.505
Alameda (SF)	2022 OFF - AirGrSupp - Passenger Stand	Aggregated	175	Nat Gas	0	0	1.36417E-08	1.18449E-05	1.46134E-06	0.000482394	0	0	4.2901E-08	0	0	0	0	0.16	0
Alameda (SF)	2022 OFF - AirGrSupp - Service Truck	Aggregated	300	Gasoline	0.001264696	0.001163267	0.00139172	0.070384138	0.00762892	1.585985968	0.000116999	8.83992E-05	0.000129999	1.62125E-05	2.25521E-05	64375.05	19921.7	23.68	3585906
Alameda (SF)	2022 OFF - AirGrSupp - Service Truck	Aggregated	300	Nat Gas	0	0	1.43534E-05	0.007819504	0.000702728	0.221436464	0	0	1.96932E-05	0	0	12125.3	3014.9	2.31	542682
Alameda (SF)	2022 OFF - AirGrSupp - Sweeper	Aggregated	50	Nat Gas	0	0	1.28779E-07	3.16454E-05	9.84111E-06	0.002634582	0	0	2.34303E-07	0	0	138.7	51.1	0.16	2299.5
Alameda (SF)	2022 OFF - AirGrSupp - Sweeper	Aggregated	100	Gasoline	1.10225E-05	1.01385E-05	1.21296E-05	0.000546324	5.01373E-05	0.012428976	8.66578E-07	6.54748E-07	9.62864E-07	1.02615E-07	1.76458E-07	503.7	186.15	0.52	9921.795
Alameda (SF)	2022 OFF - AirGrSupp - Water Truck	Aggregated	175	Gasoline	2.16355E-05	1.99004E-05	2.38086E-05	0.001617055	0.000178525	0.044088615	3.16068E-06	2.38807E-06	3.51187E-06	4.37974E-07	6.2016E-07	1770.25	638.75	2.07	95812.5
Alameda (SF)	2022 OFF - ConstMin - Asphalt Pavers	Aggregated	25	Gasoline	0.001026647	0.00094431	0.001129763	0.043660699	0.000731096	0.066296587	0.000500188	0.00037792	0.000555765	1.72081E-06	1.84386E-06	5263.3	4511.4	11.36	77613.6
Alameda (SF)	2022 OFF - ConstMin - Asphalt Pavers	Aggregated	50	Gasoline	0.00013107	0.000120558	0.000144234	0.009512028	0.000182774	0.062992323	4.34263E-06	3.2811E-06	4.82515E-06	7.65872E-07	1.03829E-06	2963.8	1255.6	3.21	40179.2
Alameda (SF)	2022 OFF - ConstMin - Asphalt Pavers	Aggregated	100	Gasoline	6.6144E-05	6.08392E-05	7.27874E-05	0.002881304	0.000171642	0.065217934	4.54715E-06	3.43563E-06	5.05239E-06	6.30096E-07	9.27044E-07	2646.25	689.85	1.74	42080.85
Alameda (SF)	2022 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Gasoline	0.000364626	0.000335383	0.000401249	0.016264276	0.000256545	0.024578194	0.000185435	0.000140107	0.000206039	6.30756E-07	6.86652E-07	1960.05	1438.1	11.59	23958.6
Alameda (SF)	2022 OFF - ConstMin - Bore/Drill Rigs	Aggregated	25	Diesel	3.48812E-05	4.15115E-05	5.02289E-05	0.000187292	0.000316915	0.041896767	1.19343E-05	1.09795E-05	1.19343E-05	5.52945E-07	3.49844E-07	1390.65	2098.75	2.59	32547.05
Alameda (SF)	2022 OFF - ConstMin - Bore/Drill Rigs	Aggregated	50	Gasoline	1.01099E-05	9.29913E-06	1.11254E-05	0.000571766	1.74734E-05	0.006377241	4.39641E-07	3.32173E-07	4.8849E-07	7.75356E-08	9.46224E-08	270.1	105.85	1	3387.2
Alameda (SF)	2022 OFF - ConstMin - Bore/Drill Rigs	Aggregated	100	Gasoline	6.24108E-05	5.74054E-05	6.86792E-05	0.002063993	0.000206336	0.079608146	5.55047E-06	4.19369E-06	6.16719E-06	7.69126E-07	1.10222E-06	3146.3	485.45	4.54	42719.6
Alameda (SF)	2022 OFF - ConstMin - Bore/Drill Rigs	Aggregated	175	Gasoline	1.39615E-05	1.28418E-05	1.53638E-05	0.000942906	8.01713E-05	0.02743985	1.96714E-06	1.48629E-06	2.18572E-06	2.72586E-07	3.83604E-07	1095	109.5	1.15	13797
Alameda (SF)	2022 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Gasoline	0.01426813	0.013123826	0.015701207	0.500296386	0.009450622	0.854603157	0.004793702	0.003621908	0.005326336	2.57143E-05	2.25316E-05	64316.65	161067.2	1749.15	1116878.1
Alameda (SF)	2022 OFF - ConstMin - Cement and Mortar Mixers	Aggregated	25	Diesel	8.78747E-05	0.000104578	0.000126539	0.000613554	0.000791906	0.10730212	3.1085E-05	2.85982E-05	3.1085E-05	1.60805E-06	8.98024E-07	3569.7	10822.25	36.03	111708.25
Alameda (SF)	2022 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Gasoline	0.011202368	0.010303938	0.012327522	0.470551121	0.00834381	0.739502299	0.005443199	0.004112639	0.006047999	2.035E-05	2.02198E-05	57717.45	69959.55	246.2	730996.45
Alameda (SF)	2022 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	25	Diesel	2.89605E-06	3.44654E-06	4.17031E-06	1.42338E-05	2.6353E-05	0.003456876	9.8469E-07	9.05915E-07	9.8469E-07	4.38612E-08	2.93832E-08	116.8	153.3	0.26	2759.4
Alameda (SF)	2022 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Gasoline	0.000171188	0.000157459	0.000188382	0.012884667	0.000269013	0.146337495	1.00884E-05	7.62233E-06	1.12093E-05	1.7792E-06	2.21595E-06	6325.45	2266.65	3.71	79332.75
Alameda (SF)	2022 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	50	Diesel	4.37989E-05	5.21243E-05	6.30704E-05	0.000422778	0.00037638	0.054329983	1.51611E-05	1.39482E-05	1.51611E-05	7.02351E-07	4.56358E-07	1814.05	1303.05	2.26	43000.65
Alameda (SF)	2022 OFF - ConstMin - Concrete/Industrial Saws	Aggregated	100	Gasoline	7.03518E-05	6.47096E-05	7.74179E-05	0.003511821	0.000172195	0.156389934	1.09039E-05	8.23849E-06	1.21154E-05	1.51094E-06	2.15074E-06	6139.3	1299.4	2.13	85760.4
Alameda (SF)	2022 OFF - ConstMin - Cranes	Aggregated	50	Gasoline	4.6129E-05	4.24294E-05	5.07621E-05	0.003102155	6.47217E-05	0.01933468	1.33292E-06	1.00709E-06	1.48102E-06	2.35074E-07	3.24785E-07	927.1	470.85	1.15	17421.45
Alameda (SF)	2022 OFF - ConstMin - Cranes	Aggregated	100	Gasoline	9.40387E-05	8.64968E-05	0.000103484	0.003699781	0.000245047	0.07646985	5.33166E-06	4.02837E-06	5.92407E-06	7.38805E-07	1.09583E-06	3128.05	945.35	2.27	69955.9
Alameda (SF)	2022 OFF - ConstMin - Cranes	Aggregated	175	Gasoline	4.17333E-06	3.83862E-06	4.59249E-06	0.000191328	1.81866E-05	0.005025118	3.60247E-07	2.72187E-07	4.00275E-07	4.99193E-08	7.54422E-08	215.35	32.85	0.09	4106.25
Alameda (SF)	2022 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	25	Gasoline	0.000164445	0.000151256	0.000180961	0.007089533	0.000121423	0.01094375	8.25674E-05	6.23843E-05	9.17416E-05	2.93381E-07	3.03047E-07	865.05	843.15	2.93	9913.4

Alameda (SF)	2022 OFF - ConstMin - Crushing/Proc. Equipment	Aggregated	100	Gasoline	5.90772E-05	5.43392E-05	6.50109E-05	0.002156212	0.000172711	0.060429332	4.21328E-06	3.18337E-06	4.68142E-06	5.83832E-07	8.46487E-07	2416.3	324.85	1.32	31185.6
Alameda (SF)	2022 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Gasoline	0.001312827	0.001207538	0.001444686	0.048905544	0.000916983	0.080447689	0.000530949	0.000401161	0.000589943	2.29454E-06	2.15586E-06	6153.9	17388.6	116.57	151296.15
Alameda (SF)	2022 OFF - ConstMin - Dumpers/Tenders	Aggregated	25	Diesel	8.99087E-06	1.06999E-05	1.29469E-05	4.41894E-05	8.18138E-05	0.010731972	3.07462E-06	2.82865E-06	3.07462E-06	1.36168E-07	8.81496E-08	350.4	1022	1.56	16352
Alameda (SF)	2022 OFF - ConstMin - Dumpers/Tenders	Aggregated	100	Gasoline	5.32809E-06	4.90078E-06	5.86324E-06	0.000179484	1.72492E-05	0.006554606	4.57003E-07	3.45291E-07	5.07781E-07	6.33266E-08	8.95077E-08	255.5	105.85	0.84	6986.1
Alameda (SF)	2022 OFF - ConstMin - Excavators	Aggregated	25	Diesel	6.30259E-05	7.5006E-05	9.07573E-05	0.000309767	0.000573513	0.075230942	2.14295E-05	1.97151E-05	2.14295E-05	9.54538E-07	6.29903E-07	2503.9	3343.4	2.38	76898.2
Alameda (SF)	2022 OFF - ConstMin - Other Construction Equipment	Aggregated	25	Diesel	0.000203227	0.000241857	0.000292647	0.00143504	0.00183577	0.249758475	7.11436E-05	6.54521E-05	7.11436E-05	3.75648E-06	2.09447E-06	8325.65	17286.4	25.03	234738.8
Alameda (SF)	2022 OFF - ConstMin - Other Construction Equipment	Aggregated	175	Gasoline	6.56863E-05	6.04183E-05	7.22838E-05	0.005667434	0.000211201	0.161861678	1.16038E-05	8.76728E-06	1.28931E-05	1.60793E-06	2.26454E-06	6464.15	1175.3	3.17	148087.8
Alameda (SF)	2022 OFF - ConstMin - Pavers	Aggregated	25	Diesel	1.70612E-05	2.03042E-05	2.45681E-05	8.38267E-05	0.000155311	0.020358422	5.8942E-06	5.42266E-06	5.8942E-06	2.5831E-07	1.69872E-07	675.25	792.05	0.97	19009.2
Alameda (SF)	2022 OFF - ConstMin - Paving Equipment	Aggregated	25	Gasoline	0.023637717	0.021741972	0.026011865	0.874357538	0.016935988	1.475635141	0.00941257	0.007111719	0.010458411	4.33198E-05	3.90701E-05	111525.75	235253.45	1243.56	1928528.6
Alameda (SF)	2022 OFF - ConstMin - Paving Equipment	Aggregated	25	Diesel	2.02016E-05	2.40416E-05	2.90903E-05	9.92893E-05	0.000183828	0.024113712	6.86878E-06	6.31928E-06	6.86878E-06	3.05957E-07	2.02928E-07	806.65	1390.65	1.67	26422.35
Alameda (SF)	2022 OFF - ConstMin - Paving Equipment	Aggregated	50	Gasoline	9.8431E-05	9.05368E-05	0.000108317	0.007370679	0.000155822	0.079422354	5.47531E-06	4.1369E-06	6.08367E-06	9.65631E-07	1.21219E-06	3460.2	1540.3	8.78	56991.1
Alameda (SF)	2022 OFF - ConstMin - Paving Equipment	Aggregated	100	Gasoline	1.78371E-05	1.64065E-05	1.96286E-05	0.000871434	4.6232E-05	0.036103273	2.51721E-06	1.90189E-06	2.7969E-06	3.48808E-07	4.96128E-07	1416.2	397.85	2.26	26258.1
Alameda (SF)	2022 OFF - ConstMin - Plate Compactors	Aggregated	25	Gasoline	0.009967445	0.009168056	0.010968565	0.326413624	0.00668827	0.583367137	0.003187731	0.002408508	0.003541923	1.77637E-05	1.50795E-05	43044.45	133265.15	687.42	817877.4
Alameda (SF)	2022 OFF - ConstMin - Plate Compactors	Aggregated	25	Diesel	5.96874E-05	7.10329E-05	8.59498E-05	0.000450842	0.00053825	0.073836701	2.10324E-05	1.93498E-05	2.10324E-05	1.14896E-06	6.17966E-07	2456.45	12508.55	20.84	100068.4
Alameda (SF)	2022 OFF - ConstMin - Rollers	Aggregated	25	Gasoline	0.005094597	0.004686011	0.005606294	0.213268843	0.003672659	0.331608508	0.002414062	0.001823958	0.002682292	8.93319E-06	9.117E-06	26024.5	33507	134.56	412377
Alameda (SF)	2022 OFF - ConstMin - Rollers	Aggregated	25	Diesel	0.000364452	0.000433728	0.000524811	0.002293409	0.003300816	0.443290241	0.000126271	0.000116169	0.000126271	6.30088E-06	3.7133E-06	14760.6	38598.75	55.5	461195.75
Alameda (SF)	2022 OFF - ConstMin - Rollers	Aggregated	50	Gasoline	0.000223076	0.000205185	0.000245481	0.015870565	0.000286576	0.076331591	5.26223E-06	3.97591E-06	5.84692E-06	9.28053E-07	1.35157E-06	3858.05	1405.25	2.27	51994.25
Alameda (SF)	2022 OFF - ConstMin - Rollers	Aggregated	100	Gasoline	0.000439641	0.000404381	0.000483798	0.018246463	0.001039681	0.287617306	2.00534E-05	1.51514E-05	2.22815E-05	2.77878E-06	4.21453E-06	12030.4	2642.6	4.23	198195
Alameda (SF)	2022 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	50	Gasoline	3.11979E-05	2.86958E-05	3.43313E-05	0.002096595	4.38165E-05	0.013105021	9.03448E-07	6.82606E-07	1.00383E-06	1.59333E-07	2.17376E-07	620.5	200.75	0.45	9435.25
Alameda (SF)	2022 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	100	Gasoline	0.000408254	0.000375512	0.000449259	0.016051349	0.001065022	0.332767171	2.32013E-05	1.75299E-05	2.57792E-05	3.21499E-06	4.76437E-06	13599.9	2646.25	6.42	224931.25
Alameda (SF)	2022 OFF - ConstMin - Rough Terrain Forklifts	Aggregated	175	Gasoline	1.57706E-05	1.45058E-05	1.73546E-05	0.000724373	6.8813E-05	0.019037469	1.36478E-06	1.03117E-06	1.51643E-06	1.89117E-07	2.67244E-07	762.85	102.2	0.25	14512.4
Alameda (SF)	2022 OFF - ConstMin - Rubber Tired Loaders	Aggregated	25	Diesel	1.68346E-05	2.00346E-05	2.42418E-05	8.27406E-05	0.000153189	0.020094654	5.72395E-06	5.26604E-06	5.72395E-06	2.54963E-07	1.68035E-07	667.95	868.7	0.89	21717.5
Alameda (SF)	2022 OFF - ConstMin - Rubber Tired Loaders	Aggregated	50	Gasoline	7.43047E-05	6.83455E-05	8.17678E-05	0.005327974	9.81494E-05	0.02962873	2.04258E-06	1.54328E-06	2.26953E-06	3.60231E-07	5.08915E-07	1452.7	573.05	1.13	22922
Alameda (SF)	2022 OFF - ConstMin - Rubber Tired Loaders	Aggregated	100	Gasoline	0.000446706	0.00041088	0.000491573	0.018896833	0.001100934	0.350144178	2.44129E-05	1.84453E-05	2.71254E-05	3.38288E-06	5.05591E-06	14432.1	3858.05	7.54	277779.6
Alameda (SF)	2022 OFF - ConstMin - Signal Boards	Aggregated	25	Gasoline	0.000254524	0.000234111	0.000280088	0.010622836	0.000197275	0.01713653	0.000124488	9.40579E-05	0.000138321	4.92595E-07	4.61604E-07	1317.65	2222.85	8.39	17377.65
Alameda (SF)	2022 OFF - ConstMin - Signal Boards	Aggregated	25	Diesel	0.000932871	0.001110194	0.001343335	0.007046336	0.008412471	1.15401507	0.000328721	0.000302423	0.000328721	1.79575E-05	9.68085E-06	38481.95	136659.65	182.06	819957.9
Alameda (SF)	2022 OFF - ConstMin - Signal Boards	Aggregated	50	Diesel	1.92175E-05	2.28705E-05	2.76733E-05	0.000182795	0.00016399	0.024015125	6.53138E-06	6.00887E-06	6.53138E-06	3.10456E-07	2.03846E-07	810.3	481.8	0.9	17826.6
Alameda (SF)	2022 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Gasoline	0.016750963	0.015407536	0.018433413	0.710433379	0.011642981	1.068002534	0.008057767	0.006088091	0.008953075	2.7105E-05	2.98725E-05	85271.3	75014.8	234.96	1419769.7
Alameda (SF)	2022 OFF - ConstMin - Skid Steer Loaders	Aggregated	25	Diesel	0.001658079	0.001973251	0.002387634	0.008089516	0.015062133	1.95689134	0.000592376	0.000544986	0.000592376	2.48292E-05	1.63692E-05	65068.55	103649.05	124.17	2072981
Alameda (SF)	2022 OFF - ConstMin - Skid Steer Loaders	Aggregated	50	Gasoline	0.000524927	0.000482828	0.00057765	0.041692932	0.000798868	0.420507053	2.89894E-05	2.19031E-05	3.22104E-05	5.1126E-06	6.46629E-06	18458.05	9581.25	30.86	306600
Alameda (SF)	2022 OFF - ConstMin - Skid Steer Loaders	Aggregated	100	Gasoline	0.000301732	0.000277533	0.000332038	0.016043765	0.000741119	0.62184539	4.33566E-05	3.27583E-05	4.81739E-05	6.00789E-06	8.59146E-06	24524.35	5730.5	18.47	458440
Alameda (SF)	2022 OFF - ConstMin - Surfacing Equipment	Aggregated	25	Gasoline	0.011394934	0.010481061	0.01253943	0.433779706	0.00860296	0.710075766	0.004971529	0.003756267	0.005523922	2.05009E-05	1.90728E-05	54443.4	143594.65	335.62	1117359.9
Alameda (SF)	2022 OFF - ConstMin - Tampers/Rammers	Aggregated	25	Gasoline	0.0012574	0.001156557	0.001383692	0.058765154	0.001058197	0.110269565	0.000831952	0.000628586	0.000924391	4.41003E-06	2.753E-06	7858.45	36627.75	201.07	154595.75
Alameda (SF)	2022 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	25	Diesel	0.000312766	0.000372217	0.000450383	0.001537218	0.002846061	0.373333781	0.000106307	9.78026E-05	0.000106307	4.7369E-06	3.12288E-06	12413.65	17191.5	18.24	395404.5
Alameda (SF)	2022 OFF - ConstMin - Tractors/Loaders/Backhoes	Aggregated	100	Gasoline	0.000213035	0.000195949	0.000234432	0.014947953	0.000535366	0.245316211	1.7104E-05	1.29231E-05	1.90045E-05	2.3701E-06	3.57264E-06	10198.1	3467.5	3.99	218452.5
Alameda (SF)	2022 OFF - ConstMin - Trenchers	Aggregated	25	Gasoline	0.010324844	0.009496792	0.011361861	0.432547768	0.007538437	0.663953489	0.005009336	0.003784832	0.005565929	1.76283E-05	1.83759E-05	52454.15	52406.7	120.64	775727.2
Alameda (SF)	2022 OFF - ConstMin - Trenchers	Aggregated	25	Diesel	0.000147379	0.000175394	0.000212226	0.000798492	0.001338802	0.177139284	5.0458E-05	4.64214E-05	5.0458E-05	2.34742E-06	1.48293E-06	5894.75	6161.2	9.97	137634.2
Alameda (SF)	2022 OFF - ConstMin - Trenchers	Aggregated	50	Gasoline	0.000912802	0.000839595	0.001004483	0.061106841	0.001289194	0.38810742	2.67558E-05	2.02155E-05	2.97286E-05	4.71868E-06	6.46245E-06	18447.1	8285.5	20.6	248565
Alameda (SF)	2022 OFF - ConstMin - Trenchers	Aggregated	100	Gasoline	0.000339262	0.000312053	0.000373337	0.013289291	0.000890566	0.28017766	1.95347E-05	1.47595E-05	2.17052E-05	2.70691E-06	4.00355E-06	11428.15	2759.4	6.85	182120.4
Alameda (SF)	2022 OFF - Industrial - Aerial Lifts	Aggregated	25	Gasoline	0.00265057	0.002437995	0.002916791	0.111243513	0.001843059	0.167206066	0.001261521	0.000953149	0.00140169	4.24614E-06	4.67869E-06	13355.35	14862.8	39.6	280334.6
Alameda (SF)	2022 OFF - Industrial - Aerial Lifts	Aggregated	25	Diesel	0.000269933	0.000321242	0.000388703	0.001543797	0.002443968	0.323016532	9.57476E-05	8.80878E-05	9.57476E-05	4.40092E-06	2.70326E-06	10745.6	23411.1	58.6	409259.9
Alameda (SF)	2022 OFF - Industrial - Aerial Lifts	Aggregated	25	Nat Gas	0	0	0.000187647	0.050156757	0.001380162	0.295266708	0	0	0.00015159	0	0	19735.55	16695.1	44.49	314929.3
Alameda (SF)	2022 OFF - Industrial - Aerial Lifts	Aggregated	50	Gasoline	0.000815762	0.000750338	0.000897696	0.067856642	0.001204363	0.613334423	4.22827E-05	3.19469E-05	4.69808E-05	7.45703E-06	9.58244E-06	27353.1	17082	47.26	563706
Alameda (SF)	2022 OFF - Industrial - Aerial Lifts	Aggregated	100	Gasoline	0.00064264	0.0005911	0.000707186	0.036018577	0.001582204	1.23126484	8.58467E-05	6.4862E-05	9.53853E-05	1.18957E-05	1.70985E-05	48807.8	17082	47.26	1144494
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	25	Gasoline	7.80588E-05	7.17985E-05	8.5899E-05	0.004886344	6.41702E-05	0.007311384	3.67748E-06	2.77854E-06	4.08609E-06	1.85304E-07	2.02032E-07	576.7	817.6	0.91	18804.8
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	25	Nat Gas	0	0	9.08914E-06	0.00143973	4.0199E-05	0.007507417	0	0	4.9394E-06	0	0	521.95	532.9	0.42	12256.7
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	50	Gasoline	0.020451357	0.018811158	0.022505471	2.436543089	0.046574982	8.26455857	0.000569751	0.000430479	0.000633057	0.000100482	0.00016137	460630	284046.65	157.65	11645912.65
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	50	Nat Gas	0	0	0.001253973	0.208958877	0.054665587	13.05383965	0	0	0.001160926	0	0	695325	520880.55	289.12	21356102.55
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	100	Gasoline	0.043180702	0.03971761	0.047517729	4.14106541	0.211176329	48.96080186	0.003413664	0.002579213	0.00379296	0.00047303	0.000737345	2104754.25	996771.2	553.3	69773984
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	100	Nat Gas	0	0	0.00743998	3.522561532	0.352934689	78.2205647	0	0	0.006956444	0	0	4351106.6	1828124.4	1014.72	127968708
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	175	Gasoline	0.002252984	0.002072295	0.002479272	0.160290454	0.013101493	3.629790017	0.000260217	0.000196609	0.00028913	3.60582E-05	5.15564E-05	147168	36430.65	20.23	5318874.9
Alameda (SF)	2022 OFF - Industrial - Forklifts	Aggregated	175	Nat Gas	0	0	0.000341548	0.206446707	0.017594286	5.970316208	0	0	0.000530962	0	0	326580.1	66904.5	37.15	9768057
Alameda (SF)	2022 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Gasoline	0.00218578	0.002010481	0.002405318	0.135637883	0.001729551	0.212116133	0.000102213	7.7228E-05	0.000113571	5.87967E-06	5.7579E-06	16435.95	28674.4	73.89	302869.7
Alameda (SF)	2022 OFF - Industrial - Other General Industrial Equipment	Aggregated	25	Diesel	0.000330582	0.000393419	0.000476038	0.001873225	0.00307946	0.408186842	0.000116272	0.00010697	0.000116272	5.45723E-06	3.4158E-06	13578	25874.85	18.13	466214.5
Alameda (SF)	2022 OFF - Industrial - Other General Industrial Equipment	Aggregated	50	Gasoline	0.000639936	0.000588613	0.00070421	0.062148204	0.001394787	0.412929218	2.8467E-05	2.15084E-05	3.163E-05	5.02047E-06	6.80003E-06	19410.7	10767.5	15.08	323025
Alameda (SF)	2022 OFF - Industrial - Other General Industrial Equipment	Aggregated	100	Gasoline	0.000198012	0.000182132	0.0002179	0.01456945	0.001154451	0.353322499	2.46345E-05	1.86127E-05	2.73717E-05	3.41359E-06	4.99325E-06	14253.25	3536.85	4.96	279411.15
Alameda (SF)	2022 OFF - Industrial - Other General Industrial Equipment	Aggregated	175	Gasoline	2.77706E-05	2.55434E-05	3.05599E-05	0.002730735	0.000232903	0.073243779	5.2508E-06	3.96727E-06	5.83422E-06	7.276E-07	1.02806E-06	2934.6	343.1	0.47	59699.4
Alameda (SF)	2022 OFF - Industrial - Other Material Handling Equipment	Aggregated	50	Gasoline	8.57014E-06	7.88282E-06	9.43092E-06	0.00066971	1.68878E-05	0.004238299	2.92185E-07	2.20762E-07	3.2465E-07	5.153E-08	6.39341E-08	182.5	65.7	0.16	2693.7
Alameda (SF)	2022 OFF - Industrial - Other Material Handling Equipment	Aggregated	100	Gasoline	0.000226643	0.000208466	0.000249407	0.011134129	0.001006357	0.244235129	1.70287E-05	1.28661E-05	1.89207E-05	2.35965E-06	3.47801E-06	9928	3646.35	9.45	196902.9
Alameda (SF)	2022 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Gasoline	0.001670419	0.001536451	0.001838194	0.109345855	0.001331372	0.167309493	7.8096E-05	5.90059E-05	8.67733E-05	4.40629E-06	4.58663E-06	13092.55	14041.55	51.96	181718.9
Alameda (SF)	2022 OFF - Industrial - Sweepers/Scrubbers	Aggregated	25	Diesel	6.58352E-05	7.83493E-05	9.48027E-05	0.000404162	0.000622199	0.082991655	2.36401E-05	2.17489E-05	2.36401E-05	1.14322E-06	6.94178E-07	2759.4	3839.8	5.91	71036.3
Alameda (SF)	2022 OFF - Industrial - Sweepers/Scrubbers	Aggregated	50	Gasoline	0.001779185	0.001636495	0.001957885	0.155807544	0.003795113	1.3347132	9.20139E-05	6.95216E-05	0.000102238	1.62277E-05	2.10266E-05	60020.6	22699.35	43.94	794477.25
Alameda (SF)	2022 OFF - Industrial - Sweepers/Scrubbers	Aggregated	100	Gasoline	0.001038555	0.000955263	0.001142866	0.066546655	0.006468789	2.140835601	0.000149264	0.000112777	0.000165849	2.06835E-05	2.98112E-05	85096.1	18954.45	36.71	1288902.6
Alameda (SF)	2022 OFF - Industrial - Sweepers/Scrubbers	Aggregated	175	Gasoline	8.03769E-06	7.39307E-06	8.84499E-06	0.000890624	7.67793E-05	0.024922505	1.78668E-06	1.34993E-06	1.9852E-06	2.47579E-07	3.50359E-07	1000.1	109.5	0.22	15330
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	25	Gasoline	0.027160723	0.024982433	0.029888719	0.63498396	0.015887673	1.316669438	0.005014646	0.003788844	0.005571829	4.11264E-05	3.21806E-05	91859.55	294149.85	608.47	1812944.05
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	25	Diesel	0.000112718	0.000134143	0.000162314	0.000588624	0.000990936	0.126846832	4.28558E-05	3.94274E-05	4.28558E-05	1.68289E-06	1.06239E-06	4223.05	7705.15	9.49	153869.4
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	50	Gasoline	0.001354539	0.001245905	0.001490588	0.099634005	0.00179652	0.565071783	3.89555E-05	2.94331E-05	4.32839E-05	6.87024E-06	9.63998E-06	27517.35	12176.4	25.21	426174
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	50	Diesel	0.001335902	0.001589834	0.001923699	0.012228406	0.01010591	1.418914542	0.000428418	0.000394144	0.000428418	1.8343E-05	1.19571E-05	47530.3	46548.45	57.18	1722292.65
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	100	Gasoline	0.004341566	0.003993372	0.004777628	0.189892146	0.010779266	3.623486077	0.000252638	0.000190882	0.000280709	3.50079E-05	5.22047E-05	149018.55	39500.3	81.76	2765021
Alameda (SF)	2022 OFF - Light Commercial - Air Compressors	Aggregated	175	Gasoline	0.000390733	0.000359396	0.000429978	0.017575872	0.001505209	0.453817501	3.25339E-05	2.45812E-05	3.61488E-05	4.5082E-06	6.40364E-06	18279.2	2664.5	5.49	357043
Alameda (SF)	2022 OFF - Light Commercial - Gas Compressors	Aggregated	50	Nat Gas	0	0	8.39492E-05	0.014877698	0.003048655	1.0136648	0	0	7.76457E-05	0	0	53859.4	15753.4	1.85	504108.8
Alameda (SF)	2022 OFF - Light Commercial - Gas Compressors	Aggregated	100	Nat Gas	0	0	0.000457803	0.23791763	0.018038186	5.6962733	0	0	0.000441286	0	0	315184.8	32558	3.83	2865104
Alameda (SF)	2022 OFF - Light Commercial - Gas Compressors	Aggregated	175	Nat Gas	0	0	0.000127673	0.048403237	0.004826934	1.482474	0	0	0.000118086	0	0	80946.05	5248.7	0.62	766310.2
Alameda (SF)	2022 OFF - Light Commercial - Gas Compressors	Aggregated	300	Nat Gas	0	0	9.82337E-05	0.055696876	0.004673078	1.5278802	0	0	0.00013588	0	0	83833.2	4201.15	0.49	882241.5
Alameda (SF)	2022 OFF - Light Commercial - Gas Compressors	Aggregated	600	Nat Gas	0	0	0.000138346	0.07843977	0.006581252	2.151764	0	0	0.000191364	0	0	118062.9	3679.2	0.44	1243569.6
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	25	Gasoline	0.199536004	0.183533217	0.219577201	10.94096628	0.138488736	17.37072453	0.011448357	0.00864987	0.012720397	0.00047582	0.000469045	1338889.35	1836304.05	15982.21	19696852.7
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	25	Diesel	0.002707164	0.003221748	0.003898315	0.016932021	0.025763833	3.317043391	0.001097825	0.001009999	0.001097825	4.62972E-05	2.77827E-05	110438.05	181634.95	538.07	2611856.05
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	50	Gasoline	0.006955949	0.006398082	0.007654597	0.446861322	0.014215764	4.905072019	0.000338151	0.000255492	0.000375724	5.96367E-05	7.46826E-05	213181.9	95286.9	829.62	3049180.8
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	50	Diesel	0.002520197	0.002999242	0.003629083	0.026324424	0.025944603	3.92721734	0.000929396	0.000855044	0.000929396	5.07691E-05	3.29386E-05	130932.8	93717.4	277.59	3092674.2
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	100	Gasoline	0.00155318	0.001428615	0.00170918	0.061633545	0.008684665	2.429532525	0.000169393	0.000127986	0.000188214	2.34727E-05	3.35615E-05	95801.55	18396	160.22	1526868
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	100	Nat Gas	0	0	6.98455E-06	0.004933324	0.000526293	0.15752193	0	0	1.4009E-05	0	0	8562.9	1365.1	11.91	113303.3
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	175	Gasoline	0.000154384	0.000142002	0.00016989	0.013490914	0.001519053	0.392716136	2.81536E-05	2.12716E-05	3.12817E-05	3.90122E-06	5.49194E-06	15676.75	1726.45	15.16	252061.7
Alameda (SF)	2022 OFF - Light Commercial - Generator Sets	Aggregated	175	Nat Gas	0	0	7.8166E-06	0.005916387	0.00072695	0.229709233	0	0	2.04289E-05	0	0	12380.8	1135.15	9.88	165731.9
Alameda (SF)	2022 OFF - Light Commercial - Pressure Washers	Aggregated	25	Gasoline	0.021344739	0.019632891	0.023488583	0.797570023	0.010752903	1.463134373	0.002019203	0.00152562	0.002243559	4.38257E-05	3.71751E-05	106116.45	191672.45	1668.4	1327052.4
Alameda (SF)	2022 OFF - Light Commercial - Pressure Washers	Aggregated	25	Diesel	1.47184E-05	1.75161E-05	2.11945E-05	0.000106657	0.000144609	0.018738198	6.2436E-06	5.74411E-06	6.2436E-06	2.77906E-07	1.57935E-07	627.8	2573.25	17.78	36408.75
Alameda (SF)	2022 OFF - Light Commercial - Pressure Washers	Aggregated	50	Gasoline	6.30255E-05	5.79709E-05	6.93557E-05	0.004217185	0.000104033	0.049663582	3.42376E-06	2.58684E-06	3.80418E-06	6.03819E-07	7.48028E-07	2135.25	854.1	7.39	24768.9
Alameda (SF)	2022 OFF - Light Commercial - Pressure Washers	Aggregated	50	Diesel	8.61755E-06	1.02556E-05	1.24093E-05	0.000108299	0.000119912	0.018870317	3.6684E-06	3.37493E-06	3.6684E-06	2.43946E-07	1.57017E-07	624.15	949	6.66	36062
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	25	Gasoline	0.066928744	0.061561059	0.073651	2.292009646	0.044961538	4.041475551	0.025122656	0.018981562	0.027914062	0.000123231	0.000104985	299679.6	813920.8	3687.91	4516152.3
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	25	Diesel	0.001489792	0.001772976	0.0021453	0.009082802	0.013219965	1.702865723	0.000585146	0.000538334	0.000585146	2.43482E-05	1.42711E-05	56728.3	121993.95	303.08	1340699.75
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	50	Gasoline	0.001080728	0.000994054	0.001189276	0.079598788	0.001664458	0.74053368	5.10517E-05	3.85724E-05	5.67241E-05	9.00354E-06	1.15311E-05	32915.7	14636.5	66.3	453731.5
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	50	Diesel	0.001617991	0.001925543	0.002329907	0.016152738	0.015379811	2.298545497	0.000576607	0.000530478	0.000576607	2.97145E-05	1.92983E-05	76712.05	48913.65	121.52	1809805.05
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	100	Gasoline	0.001762525	0.00162117	0.001939551	0.081621997	0.004770049	2.784188047	0.00019412	0.000146669	0.000215689	2.68991E-05	3.86827E-05	110419.8	18552.95	84.05	1725424.35
Alameda (SF)	2022 OFF - Light Commercial - Pumps	Aggregated	175	Gasoline	6.07748E-05	5.59007E-05	6.6879E-05	0.004462769	0.00023915	0.126398172	9.0614E-06	6.84639E-06	1.00682E-05	1.25563E-06	1.77097E-06	5055.25	562.1	2.52	80942.4
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	25	Gasoline	0.065741334	0.060468879	0.072344328	2.780097461	0.046543553	4.213215575	0.031787486	0.024017212	0.035319429	0.000108809	0.00011736	335004.3	405730.35	1953.04	6369888.75
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	25	Diesel	0.001319712	0.001570567	0.001900386	0.007475679	0.011657007	1.496938178	0.000510151	0.000469339	0.000510151	2.06471E-05	1.25393E-05	49844.4	127417.85	198.39	1938431.05
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	50	Gasoline	0.002566296	0.002360479	0.002824053	0.166134584	0.004001817	1.485850847	0.000102433	7.7394E-05	0.000113815	1.80652E-05	2.32873E-05	66473.8	27367.7	131.74	1231546.5
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	50	Diesel	0.005687684	0.006768814	0.008190265	0.052554673	0.045449918	6.521107435	0.001885925	0.001735051	0.001885925	8.43016E-05	5.48842E-05	218167.8	183562.15	285.82	8443858.9
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	100	Gasoline	0.001950362	0.001793943	0.002146255	0.075071838	0.005660526	2.332521971	0.000162629	0.000122875	0.000180699	2.25354E-05	3.25782E-05	92994.7	27926.15	134.46	1954830.5
Alameda (SF)	2022 OFF - Light Commercial - Welders	Aggregated	175	Gasoline	0.000166352	0.000153011	0.00018306	0.010294098	0.000789798	0.290416397	2.08198E-05	1.57305E-05	2.31331E-05	2.88498E-06	4.07004E-06	11617.95	1930.85	9.27	251010.5
Alameda (SF)	2022 OFF - Oil Drilling - Compressors (Workover)	Aggregated	25	Diesel	4.47344E-08	5.32376E-08	6.44175E-08	2.20282E-07	4.0583E-07	5.1609E-05	1.72556E-08	1.58752E-08	1.72556E-08	6.5482E-10	0	0	0	0	0
Alameda (SF)	2022 OFF - Oil Drilling - Generator (Drilling)	Aggregated	50	Diesel	3.70843E-08	4.41334E-08	5.34014E-08	3.23185E-07	2.5227E-07	3.34614E-05	1.15982E-08	1.06703E-08	1.15982E-08	4.32572E-10	0	0	0	0	0
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	25	Diesel	1.38212E-08	1.67237E-08	1.99026E-08	2.35574E-07	1.59728E-07	2.98192E-05	7.93614E-10	7.30125E-10	7.93614E-10	2.75278E-10	2.4338E-10	0.967449483	1.338595657	0.000839771	33.46489143
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	50	Diesel	1.34627E-06	1.62899E-06	1.93863E-06	4.86246E-06	3.43547E-06	0.000289528	4.51834E-07	4.15687E-07	4.51834E-07	2.63644E-09	2.36309E-09	9.393411996	7.703223314	0.006718171	324.9478747
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	75	Diesel	9.83428E-08	1.18995E-07	1.41614E-07	1.27901E-06	1.16206E-06	0.00017285	6.98341E-08	6.42474E-08	6.98341E-08	1.59514E-09	1.41078E-09	5.607943733	3.081961143	0.003359086	215.73728
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	100	Diesel	6.23093E-07	7.53943E-07	8.97255E-07	5.82088E-06	6.75024E-06	0.000765104	4.87045E-07	4.48082E-07	4.87045E-07	7.05507E-09	6.24467E-09	24.82294721	11.051392	0.008397714	945.9160178
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	175	Diesel	3.82314E-06	4.626E-06	5.50532E-06	4.74847E-05	3.46618E-05	0.007191348	2.15517E-06	1.98275E-06	2.15517E-06	6.63729E-08	5.86948E-08	233.315351	62.5226624	0.052065829	8938.103561
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	300	Diesel	3.22155E-06	3.89807E-06	4.63903E-06	2.17398E-05	3.40422E-05	0.009769613	1.10492E-06	1.01653E-06	1.10492E-06	9.02283E-08	7.97383E-08	316.9643193	52.20774994	0.040309029	12169.94903
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	600	Diesel	4.57837E-06	5.53983E-06	6.59286E-06	2.91693E-05	5.5556E-05	0.01363186	1.80093E-06	1.65686E-06	1.80093E-06	1.25896E-07	1.11261E-07	442.2706764	38.81423543	0.028552229	16930.52666
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	750	Diesel	1.33864E-06	1.61976E-06	1.92764E-06	6.633E-06	1.28586E-05	0.003081706	5.36793E-07	4.9385E-07	5.36793E-07	2.84517E-08	2.51525E-08	99.98254867	6.011923657	0.004188857	3832.792379
Alameda (SF)	2022 Oil Drilling - Drill Rig (Mobile)	Aggregated	9999	Diesel	1.11372E-06	1.3476E-06	1.60375E-06	5.35444E-06	2.25866E-05	0.002580723	5.70278E-07	5.24656E-07	5.70278E-07	2.38267E-08	2.10635E-08	83.72871454	4.187100343	0.002519314	3220.198437
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	25	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	75	Diesel	8.90955E-09	1.07806E-08	1.28297E-08	8.12579E-08	1.15895E-07	1.03648E-05	8.549E-09	7.86508E-09	8.549E-09	9.55602E-11	8.45959E-11	0.336273759	0.174794521	0.000873973	12.93479452
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	175	Diesel	1.32667E-07	1.60527E-07	1.9104E-07	1.60859E-06	1.32582E-06	0.000238802	9.57026E-08	8.80464E-08	9.57026E-08	2.20386E-09	1.94907E-09	7.747671557	1.755810959	0.001747945	298.0290274
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	300	Diesel	1.43838E-06	1.74044E-06	2.07127E-06	8.88836E-06	1.28067E-05	0.003412259	4.77323E-07	4.39137E-07	4.77323E-07	3.15049E-08	2.78504E-08	110.7069972	19.32091233	0.034958904	4207.018737
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	600	Diesel	6.30757E-05	7.63216E-05	9.0829E-05	0.000426576	0.000586304	0.207453632	1.88995E-05	1.73875E-05	1.88995E-05	1.91612E-06	1.69321E-06	6730.60461	658.1109836	0.471071233	259001.4714
Alameda (SF)	2022 Oil Drilling - Workover Rig (Mobile)	Aggregated	750	Diesel	5.832E-07	7.05672E-07	8.39809E-07	3.3914E-06	4.6972E-06	0.001661402	2.406E-07	2.21352E-07	2.406E-07	1.5343E-08	1.35601E-08	53.90234928	3.040550685	0.001747945	2073.233438
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	50	Diesel	2.01758E-06	2.44127E-06	2.90531E-06	3.68262E-05	2.68525E-05	0.005057869	7.13302E-07	6.56238E-07	7.13302E-07	4.6702E-08	4.12817E-08	164.0970044	185.9269232	0.462084914	9536.256002
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	75	Diesel	0.000114069	0.000138024	0.00016426	0.001999623	0.001776355	0.301652477	5.68476E-05	5.22998E-05	5.68476E-05	2.7855E-06	2.46205E-06	9786.782396	9296.346161	23.1042457	632282.6707
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	100	Diesel	0.000185404	0.000224339	0.000266982	0.004996456	0.002597041	0.74268825	0.000179134	0.000164803	0.000179134	6.86096E-06	6.06172E-06	24095.70236	18313.80194	45.51536403	1556721.548
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	175	Diesel	0.00011482	0.000138933	0.000165341	0.003388826	0.001560608	0.591862012	5.95776E-05	5.48114E-05	5.95776E-05	5.46861E-06	4.8307E-06	19202.31116	9203.3827	22.87320325	1240580.213
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	300	Diesel	0.000135967	0.00016452	0.000195792	0.001287069	0.001438065	0.609646824	5.8011E-05	5.33701E-05	5.8011E-05	5.63241E-06	4.97586E-06	19779.31981	4648.173081	11.55212285	1277858.304
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	600	Diesel	0.00022333	0.000270229	0.000321595	0.002139487	0.002488924	1.113457931	9.51702E-05	8.75565E-05	9.51702E-05	1.02878E-05	9.08789E-06	36124.91631	4555.209619	11.32108039	2333878.249
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	750	Diesel	1.74613E-05	2.11282E-05	2.51442E-05	0.000110042	0.000359059	0.05790404	1.06393E-05	9.78816E-06	1.06393E-05	5.34828E-07	4.72605E-07	1878.632818	185.9269232	0.462084914	121370.5309
Alameda (SF)	2022 Portable Equipment - Non-Rental Compressor	Aggregated	9999	Diesel	5.36905E-05	6.49655E-05	7.73143E-05	0.000445854	0.00069613	0.206800144	9.59841E-06	8.83054E-06	9.59841E-06	1.91036E-06	1.68787E-06	6709.402922	92.96346161	0.231042457	433466.1819
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	50	Diesel	6.06283E-05	7.33603E-05	8.73048E-05	0.000875743	0.000469399	0.08522405	6.91707E-06	6.3637E-06	6.91707E-06	7.8612E-07	6.95587E-07	2765.000447	3101.501745	2.31042457	160683.9333
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	75	Diesel	0.000454478	0.000549919	0.000654449	0.006954833	0.005147633	0.952115568	0.000144433	0.000132878	0.000144433	8.78915E-06	7.77104E-06	30890.34103	29774.41675	22.18007587	1995694.451
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	100	Diesel	0.000544543	0.000658897	0.000784142	0.012708872	0.005986825	1.717794335	0.000485657	0.000446804	0.000485657	1.58655E-05	1.40204E-05	55731.94539	38148.47146	28.41822221	3600605.577
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	175	Diesel	0.001153092	0.001395241	0.001660452	0.024360707	0.00970114	3.813521822	0.000458973	0.000422255	0.000458973	3.52233E-05	3.11255E-05	123725.5157	55827.03141	41.58764226	7993382.944
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	300	Diesel	0.001440587	0.00174311	0.002074445	0.009191509	0.012931978	3.955802538	0.000566259	0.000520958	0.000566259	3.65301E-05	3.22867E-05	128341.6568	32565.76832	24.25945799	8291612.325
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	600	Diesel	0.002821471	0.00341398	0.004062918	0.019524759	0.021433799	8.621015501	0.00094341	0.000867937	0.00094341	7.96209E-05	7.03636E-05	279699.3536	43421.02443	32.34594398	18070193.77
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	750	Diesel	0.000953357	0.001153562	0.001372834	0.006919118	0.005233507	3.247925312	0.000291665	0.000268331	0.000291665	3.00001E-05	2.65091E-05	105375.3598	9924.805584	7.393358625	6807856.885
Alameda (SF)	2022 Portable Equipment - Non-Rental Generator	Aggregated	9999	Diesel	0.005337205	0.006458018	0.007685576	0.037128207	0.080049448	17.68665824	0.002111553	0.001942629	0.002111553	0.000163362	0.000144356	573824.1482	19849.61117	14.78671725	37072354.35
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	50	Diesel	7.51349E-07	9.09132E-07	1.08194E-06	1.40817E-05	9.71781E-06	0.001989843	1.09233E-07	1.00495E-07	1.09233E-07	1.83745E-08	1.62408E-08	64.55825597	72.41501308	0.231042457	3751.708071
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	75	Diesel	4.92087E-05	5.95425E-05	7.08605E-05	0.001210867	0.001001792	0.193271571	2.97926E-05	2.74092E-05	2.97926E-05	1.78542E-06	1.57746E-06	6270.483275	5865.616059	18.71443902	405109.4375
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	100	Diesel	8.84962E-05	0.00010708	0.000127435	0.003362016	0.001815901	0.533635731	0.000117372	0.000107982	0.000117372	4.93107E-06	4.35546E-06	17313.22359	12165.7222	38.81513278	1118534.244
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	175	Diesel	0.000354669	0.00042915	0.000510724	0.010958546	0.005170863	1.964325046	0.000205821	0.000189355	0.000205821	1.81505E-05	1.60326E-05	63730.3628	29617.74035	94.49636492	4117349.54
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	300	Diesel	0.000272037	0.000329165	0.000391734	0.002469312	0.003512127	1.156694019	0.000134812	0.000124027	0.000134812	1.0686E-05	9.44078E-06	37527.66356	10065.68682	32.11490153	2424503.824
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	600	Diesel	0.000222248	0.00026892	0.000320037	0.00216254	0.003019536	1.119750833	0.000114282	0.000105139	0.000114282	1.0346E-05	9.13926E-06	36329.08258	5286.295955	16.86609936	2347068.569
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	750	Diesel	9.189E-05	0.000111187	0.000132322	0.000833885	0.001532778	0.443389828	5.54671E-05	5.10297E-05	5.54671E-05	4.0966E-06	3.61889E-06	14385.29465	1303.470235	4.158764226	929373.1233
Alameda (SF)	2022 Portable Equipment - Non-Rental Other Portable Equipment	Aggregated	9999	Diesel	0.001677088	0.002029276	0.002415006	0.015402361	0.029247628	7.641297098	0.000515064	0.000473859	0.000515064	7.05973E-05	6.23672E-05	247913.4689	4344.900785	13.86254742	16016642.03
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	50	Diesel	1.05716E-06	1.27916E-06	1.52231E-06	2.30955E-05	1.93643E-05	0.003748902	4.87194E-07	4.48218E-07	4.87194E-07	3.46287E-08	3.0598E-08	121.6289842	145.1396429	0.462084914	7068.289485
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	75	Diesel	6.48758E-05	7.84997E-05	9.34211E-05	0.001572651	0.00126996	0.249684355	3.07015E-05	2.82453E-05	3.07015E-05	2.30651E-06	2.03789E-06	8100.733913	7619.831252	24.25945799	523354.2001
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	100	Diesel	7.04662E-05	8.52641E-05	0.000101471	0.00220122	0.001371082	0.346616413	8.4546E-05	7.77823E-05	8.4546E-05	3.20253E-06	2.82904E-06	11245.5878	8127.820002	25.87675519	726529.9255
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	175	Diesel	0.000120664	0.000146003	0.000173756	0.003730133	0.001886949	0.666291311	7.71969E-05	7.10212E-05	7.71969E-05	6.15657E-06	5.43818E-06	21617.08778	9869.495717	31.42177415	1396588.73
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	300	Diesel	0.000122409	0.000148115	0.000176269	0.001442302	0.001410243	0.757232379	5.01214E-05	4.61117E-05	5.01214E-05	6.99732E-06	6.18043E-06	24567.57061	6241.004644	19.8696513	1587206.962
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	600	Diesel	0.000162529	0.00019666	0.000234041	0.001833838	0.002108198	0.987616421	8.30553E-05	7.64109E-05	8.30553E-05	9.12613E-06	8.06079E-06	32042.1271	4571.898751	14.55567479	2070106.484
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	750	Diesel	3.91917E-05	4.74219E-05	5.6436E-05	0.000312757	0.000771356	0.168249946	2.94071E-05	2.70545E-05	2.94071E-05	1.55438E-06	1.37323E-06	5458.684203	507.9887501	1.617297199	352662.5285
Alameda (SF)	2022 Portable Equipment - Non-Rental Pump	Aggregated	9999	Diesel	4.98403E-05	6.03068E-05	7.17701E-05	0.000522932	0.001284018	0.282078747	2.90283E-05	2.6706E-05	2.90283E-05	2.60646E-06	2.30229E-06	9151.734304	507.9887501	1.617297199	591254.8959
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	75	Diesel	1.82175E-05	2.20431E-05	2.62331E-05	0.000446965	0.000340951	0.070697472	3.60547E-06	3.31703E-06	3.60547E-06	6.53087E-07	5.77023E-07	2293.701622	2192.715351	4.158764226	148186.3731
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	100	Diesel	1.67175E-05	2.02282E-05	2.40732E-05	0.0006415	0.00026199	0.097193969	1.86486E-05	1.71568E-05	1.86486E-05	8.98105E-07	7.93284E-07	3153.351293	2314.53287	4.389806683	203724.7071
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	175	Diesel	0.000241025	0.000291641	0.000347077	0.00877416	0.003517124	1.59255992	0.00010869	9.99949E-05	0.00010869	1.47168E-05	1.29983E-05	51668.85272	24850.77398	47.13266123	3338106.322
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	300	Diesel	0.000238584	0.000288687	0.000343561	0.00333392	0.002724916	1.782732507	9.1086E-05	8.37991E-05	9.1086E-05	1.64751E-05	1.45504E-05	57838.79286	13399.92714	25.41467027	3736720.093
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	600	Diesel	0.001332032	0.001611759	0.001918127	0.018614892	0.008377347	9.987553523	0.000406342	0.000373835	0.000406342	9.22999E-05	8.15171E-05	324035.1747	38250.70112	72.5473315	20934543.9
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	750	Diesel	1.63713E-05	1.98092E-05	2.35746E-05	0.000247166	9.27179E-05	0.132783583	5.9643E-06	5.48716E-06	5.9643E-06	1.22716E-06	1.08376E-06	4308.017101	365.4525585	0.693127371	278322.7876
Alameda (SF)	2022 Portable Equipment - Rental Compressor	Aggregated	9999	Diesel	1.91731E-05	2.31994E-05	2.76092E-05	0.000165283	0.000534761	0.090931161	1.22489E-05	1.1269E-05	1.22489E-05	8.40128E-07	7.42168E-07	2950.161371	243.635039	0.462084914	190597.4645
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	50	Diesel	1.5954E-05	1.93044E-05	2.29738E-05	0.000256429	0.000227956	0.029939327	8.88283E-06	8.1722E-06	8.88283E-06	2.76325E-07	2.44361E-07	971.3485028	1328.733996	0.924169828	56448.48924
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	75	Diesel	0.0008418	0.001018577	0.001212191	0.014263157	0.010799288	2.034418725	0.000293567	0.000270081	0.000293567	1.8784E-05	1.66047E-05	66004.47502	62450.49781	43.43598192	4264270.324
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	100	Diesel	0.001082774	0.001310157	0.001559195	0.031115217	0.013815042	4.373121726	0.001051928	0.000967774	0.001051928	4.03992E-05	3.56928E-05	141881.1183	92679.19622	64.46084551	9166339.738
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	175	Diesel	0.001743167	0.002109232	0.002510161	0.043532787	0.015154934	7.0244838	0.000465517	0.000428275	0.000465517	6.48925E-05	5.73329E-05	227901.6408	102312.5177	71.16107676	14723762.34
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	300	Diesel	0.001411146	0.001707487	0.002032051	0.011005267	0.008374473	5.00894942	0.000346706	0.000318969	0.000346706	4.62679E-05	4.08824E-05	162509.8476	43848.22187	30.49760433	10499074.8
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	600	Diesel	0.006268633	0.007585046	0.009026832	0.049128853	0.037425167	23.93106337	0.001669022	0.0015355	0.001669022	0.000221066	0.000195322	776416.9956	115932.0411	80.6338175	50161022.45
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	750	Diesel	0.001526922	0.001847575	0.002198767	0.014795032	0.014473916	7.425981401	0.000630982	0.000580503	0.000630982	6.86111E-05	6.06099E-05	240927.7883	22588.47793	15.71088708	15565326.71
Alameda (SF)	2022 Portable Equipment - Rental Generator	Aggregated	9999	Diesel	0.014565242	0.017623943	0.020973948	0.098497103	0.234376547	47.5653962	0.006501734	0.005981595	0.006501734	0.000439329	0.000388222	1543206.896	72416.00278	50.36725563	99700078.93
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	75	Diesel	0.000140517	0.000170026	0.000202344	0.002271782	0.001648697	0.317560625	2.77416E-05	2.55222E-05	2.77416E-05	2.93179E-06	2.59189E-06	10302.90474	10055.34224	8.086485996	665627.1555
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	100	Diesel	8.45496E-05	0.000102305	0.000121751	0.002139368	0.000977843	0.284469558	8.14751E-05	7.49571E-05	8.14751E-05	2.62753E-06	2.3218E-06	9229.301522	6895.091824	5.545018968	596266.1862
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	175	Diesel	0.000251026	0.000303741	0.000361477	0.005123827	0.002384866	0.806115432	0.000107034	9.84709E-05	0.000107034	7.44541E-06	6.57941E-06	26153.52743	11491.81971	9.241698281	1689668.933
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	300	Diesel	0.0002182	0.000264022	0.000314208	0.001539781	0.00184679	0.699741144	7.07294E-05	6.50711E-05	7.07294E-05	6.46291E-06	5.71119E-06	22702.3308	5745.909854	4.62084914	1466701.697
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	600	Diesel	0.000336763	0.000407483	0.000484939	0.00247697	0.002440681	1.197243322	0.000100575	9.25289E-05	0.000100575	1.1059E-05	9.77174E-06	38843.24105	6607.796332	5.313976511	2509497.728
Alameda (SF)	2022 Portable Equipment - Rental Other Portable Equipment	Aggregated	9999	Diesel	0.00317156	0.00383758	0.004567047	0.024393924	0.046476596	11.62305972	0.000849302	0.000781358	0.000849302	0.000107366	9.48659E-05	377097.3722	8044.273795	6.469188797	24362668.34
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	50	Diesel	0.000271181	0.000328129	0.000390501	0.004687839	0.00187916	0.904092251	8.35877E-05	7.36986E-05	8.35877E-05	7.38264E-06	8.06536E-06	29360.71786	25998.64152	26.80092501	1896875.448
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	75	Diesel	0.000177016	0.00021419	0.000254904	0.002547523	0.001574036	0.721383821	5.45428E-05	4.98486E-05	5.45428E-05	5.88784E-06	5.2094E-06	23404.50624	17481.84516	18.02131165	1512066.117
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	100	Diesel	0.000352153	0.000426105	0.000507101	0.009654269	0.003372788	1.579599008	0.000108506	9.98253E-05	0.000108506	1.28925E-05	1.14403E-05	51248.3502	21291.9909	21.94903342	3310939.43
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	175	Diesel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	300	Diesel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	600	Diesel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	750	Diesel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alameda (SF)	2022 Portable Equipment - Rental Pump	Aggregated	9999	Diesel	2.2039E-05	2.66672E-05	3.17362E-05	0.00025544	4.0204E-05	0.1340615	3.24103E-06	2.98175E-06	3.24103E-06	1.2388E-06	1.09419E-06	4349.477712	448.2524999	0.462084914	281001.3825
Alameda (SF)	2022 TRU - Instate Genset TRU	Aggregated	50	Diesel	0.001498042	0.001812631	0.002157181	0.028558638	0.021197881	0.582798808	9.49073E-05	8.73147E-05	9.49073E-05	5.37946E-06	4.78863E-06	369.9395718	222862.5201	285.457436	7020169.384
Alameda (SF)	2022 TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.029427846	0.035607694	0.042376098	0.438421999	0.286509951	6.750086635	0.00453195	0.004169394	0.00453195	5.54628E-05	4.93774E-05	4284.714477	1715597.774	1294.90541	58330324.32
Alameda (SF)	2022 TRU - Instate Truck TRU	Aggregated	50	Diesel	0.003903005	0.004722636	0.005620327	0.038325688	0.045832577	0.917036897	0.00185946	0.001710703	0.00185946	8.41824E-06	7.53494E-06	582.1018029	461660.3177	339.206993	6509410.48
Alameda (SF)	2022 TRU - Instate Van TRU	Aggregated	25	Diesel	9.03573E-05	0.000109332	0.000130115	0.00088472	0.001061056	0.021230046	4.30478E-05	3.9604E-05	4.30478E-05	1.94888E-07	1.74439E-07	13.47606423	16744.1566	12.30283365	150697.4094
Alameda (SF)	2022 TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.000939413	0.001136688	0.001352753	0.017952013	0.013348385	0.367237394	5.96423E-05	5.48709E-05	5.96423E-05	3.38988E-06	3.01745E-06	233.108995	140431.7409	[illegible]	[illegible]
Alameda (SF)	2022 TRU - Out-of-State Trailer TRU	Aggregated	50	Diesel	0.01557205	0.0188421	0.022423751	0.251988288	0.166229257	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alameda (SF)	2022 TRU - Railcar TRU	Aggregated	50	Diesel	0.001611908	0.001950408	0.002321147	0.026084034	0.0172068	0.436474826	0.00013073	0.000120272	0.00013073	4.01414E-06	3.58634E-06	277.0584084	110934.1673	344.056593	3771761.687

Proposed Facilities

PROPOSED CONDITIONS

Vehicle type	Fleet percent	VMT	
	High School	High School	Total
LDA	68.36%	4,014,891	4,014,891
LDT1	4.79%	281,467	281,467
LDT2	23.22%	1,364,003	1,364,003
MDV	2.00%	117,525	117,525
LHD1	0.17%	9,785	9,785
LHD2	0.05%	3,177	3,177
MHD	0.25%	14,648	14,648
HHD	0.47%	27,610	27,610
OBUS	0.00%	0	0
UBUS	0.00%	0	0
MCY	0.67%	39,580	39,580
SBUS	0.00%	200	200
MH	0.01%	440	440
	100.00%	5,873,322	5,873,322

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
High School	3,875.00	3,875.00	3875.00	5,873,322	5,873,322
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,875.00	3,875.00	3,875.00	5,873,322	5,873,322

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.00072
High School	0.683581	0.047923	0.232237	0.020010	0.001666	0.000541	0.002494	0.004701	0.000000	0.000000	0.006739	0.000034	0.00007
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.00072
Other Non-Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.00072
Parking Lot	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.00072

PROPOSED CONDITIONS

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent	
LDA	95.96%	1.10%	0.00%	2.93%	
LDT1	99.21%	0.03%	0.00%	0.76%	
LDT2	98.48%	0.72%	0.00%	0.80%	
MDV	96.78%	2.58%	0.00%	0.64%	
LHD1	59.11%	40.89%	0.00%	0.00%	
LHD2	36.88%	63.12%	0.00%	0.00%	
MHD	8.59%	91.41%	0.00%	0.00%	<< Equal to T6 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
HHD	0.05%	99.10%	0.85%	0.00%	<< Equal to T7 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
OBUS	48.63%	51.37%	0.00%	0.00%	<< Motor coach, all other buses, and OBUS (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
UBUS	0.64%	83.63%	14.40%	1.33%	
MCY	100.00%	0.00%	0.00%	0.00%	
SBUS	32.59%	67.41%	0.00%	0.00%	
MH	74.53%	25.47%	0.00%	0.00%	

PROPOSED CONDITIONS

Vehicle type	Gasoline			Diesel			CNG			Electricity	
	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	m/kWh	kWh
LDA	3,852,770	31.73	121,438	44,341	48.15	921	0	0.00	0	117,780	3.04	38,729
LDT1	279,238	27.29	10,232	80	24.31	3	0	0.00	0	2,149	3.04	707
LDT2	1,343,245	25.18	53,352	9,803	35.97	273	0	0.00	0	10,955	3.04	3,602
MDV	113,738	20.89	5,445	3,033	27.68	110	0	0.00	0	754	3.04	248
LHD1	5,783	8.40	688	4,001	18.50	216	0	0.00	0	0	3.04	0
LHD2	1,172	7.33	160	2,005	16.48	122	0	0.00	0	0	3.04	0
MHD	1,258	4.85	260	13,390	9.71	1,379	0	0.00	0	0	3.04	0
HHD	14	4.00	4	27,362	6.59	4,149	235	2.46	96	0	3.04	0
OBUS	0	4.76	0	0	8.23	0	0	0.00	0	0	3.04	0
UBUS	0	4.55	0	0	6.20	0	0	4.09	0	0	3.04	0
MCY	39,580	37.08	1,067	0	0.00	0	0	0.00	0	0	3.04	0
SBUS	65	9.74	7	135	8.39	16	0	0.00	0	0	3.04	0
MH	328	4.91	67	112	10.04	11	0	0.00	0	0	3.04	0
	5,637,192		**192,719**	**104,263**		**7,200**	**235**		**96**	**131,638**		**43,286**

EMFAC Fuel Usage: Year 2020

Vehicle type	Gasoline			Diesel			Natural Gas			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	17,514	1,982	8.83	0	0	0.00	0
LDA	23,167,103	769,421	30.11	255,996	5,578	45.90	0	0	0.00	587,259
LDT1	2,333,620	89,786	25.99	816	34	23.77	0	0	0.00	8,497
LDT2	7,698,626	326,410	23.59	48,340	1,418	34.08	0	0	0.00	38,063
LHD1	571,485	69,232	8.25	357,461	19,879	17.98	0	0	0.00	0
LHD2	85,544	11,871	7.21	131,300	8,199	16.01	0	0	0.00	0
MCY	223,618	6,038	37.04	0	0	0.00	0	0	0.00	0
MDV	4,492,892	229,747	19.56	104,878	4,012	26.14	0	0	0.00	10,381
MH	21,866	4,600	4.75	6,945	710	9.78	0	0	0.00	0
Motor coach	0	0	0.00	11,026	1,793	6.15	0	0	0.00	0
OBUS	31,652	6,785	4.66	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	16,721	3,529	4.74	0	0	0.00	0
SBUS	3,468	367	9.45	9,387	1,131	8.30	0	0	0.00	0
T6	85,987	18,273	4.71	878,199	94,959	9.25	0	0	0.00	0
T7	1,063	276	3.85	1,806,148	285,007	6.34	14,505	6,014	2.41	0
UBUS	523	115	4.55	70,961	11,610	6.11	8,914	2,300	3.88	1,082
Total	**38,717,446**	**1,532,920**	**25.26**	**3,715,691**	**439,843**	**8.45**	**23,420**	**8,314**	**2.82**	**645,282**

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Alameda (SF)	2020	All Other Buses	Aggregated	Aggregated	DSL	304.894797	17513.694	2561.116	1.982376725
Alameda (SF)	2020	LDA	Aggregated	Aggregated	GAS	632321.3139	23167103	2953753	769.4207034
Alameda (SF)	2020	LDA	Aggregated	Aggregated	DSL	6822.774898	255995.8	31734.8	5.577676016
Alameda (SF)	2020	LDA	Aggregated	Aggregated	ELEC	15692.14614	587259.02	77591.41	0
Alameda (SF)	2020	LDT1	Aggregated	Aggregated	GAS	65436.42566	2333619.7	299116.3	89.78563642
Alameda (SF)	2020	LDT1	Aggregated	Aggregated	DSL	50.71771821	815.61808	165.4167	0.034319457
Alameda (SF)	2020	LDT1	Aggregated	Aggregated	ELEC	224.4654867	8497.3076	1111.97	0
Alameda (SF)	2020	LDT2	Aggregated	Aggregated	GAS	210515.7324	7698626.2	978489.1	326.4095148
Alameda (SF)	2020	LDT2	Aggregated	Aggregated	DSL	1098.365619	48339.592	5400.364	1.418317089
Alameda (SF)	2020	LDT2	Aggregated	Aggregated	ELEC	1139.241859	38062.985	5757.858	0
Alameda (SF)	2020	LHD1	Aggregated	Aggregated	GAS	15992.26371	571485.11	238260.9	69.23236883
Alameda (SF)	2020	LHD1	Aggregated	Aggregated	DSL	9062.279993	357461.22	113992.1	19.87904225
Alameda (SF)	2020	LHD2	Aggregated	Aggregated	GAS	2413.561204	85543.536	35958.47	11.87066094
Alameda (SF)	2020	LHD2	Aggregated	Aggregated	DSL	3302.602389	131300.29	41542.58	8.198871507
Alameda (SF)	2020	MCY	Aggregated	Aggregated	GAS	28512.03481	223617.97	57024.07	6.03758386
Alameda (SF)	2020	MDV	Aggregated	Aggregated	GAS	128790.0224	4492891.6	591541.6	229.7467535
Alameda (SF)	2020	MDV	Aggregated	Aggregated	DSL	2441.785073	104877.5	11935.66	4.01220795
Alameda (SF)	2020	MDV	Aggregated	Aggregated	ELEC	299.9738367	10380.873	1530.936	0
Alameda (SF)	2020	MH	Aggregated	Aggregated	GAS	2333.74156	21865.887	233.4675	4.599601778
Alameda (SF)	2020	MH	Aggregated	Aggregated	DSL	676.5781251	6945.2591	67.65781	0.710364258
Alameda (SF)	2020	Motor Coach	Aggregated	Aggregated	DSL	86.35631389	11026.361	1260.802	1.792682921
Alameda (SF)	2020	OBUS	Aggregated	Aggregated	GAS	603.3003165	31652.316	12070.83	6.785478076
Alameda (SF)	2020	PTO	Aggregated	Aggregated	DSL	0	16721.027	0	3.529425113
Alameda (SF)	2020	SBUS	Aggregated	Aggregated	GAS	67.40168411	3468.4658	269.6067	0.367206513
Alameda (SF)	2020	SBUS	Aggregated	Aggregated	DSL	290.6533232	9387.1228	3354.099	1.131122752
Alameda (SF)	2020	T6 Ag	Aggregated	Aggregated	DSL	4.067595118	44.724658	17.89742	0.005066363
Alameda (SF)	2020	T6 CAIRP heavy	Aggregated	Aggregated	DSL	50.01552668	9928.7068	730.2267	0.920215227
Alameda (SF)	2020	T6 CAIRP small	Aggregated	Aggregated	DSL	26.45473242	1398.6164	386.2391	0.137310843
Alameda (SF)	2020	T6 instate constr	Aggregated	Aggregated	DSL	400.3441397	27218.661	1809.94	3.435588163
Alameda (SF)	2020	T6 instate constr	Aggregated	Aggregated	DSL	874.6124462	44648.817	3954.089	5.605808795
Alameda (SF)	2020	T6 instate heavy	Aggregated	Aggregated	DSL	2394.303177	333324.79	27629.93	34.38065563
Alameda (SF)	2020	T6 instate small	Aggregated	Aggregated	DSL	8521.561467	433477.4	98337.64	46.97041491
Alameda (SF)	2020	T6 OOS heavy	Aggregated	Aggregated	DSL	28.60029364	5699.9856	417.5643	0.527991649
Alameda (SF)	2020	T6 OOS small	Aggregated	Aggregated	DSL	15.27551139	800.43329	223.0225	0.078685769
Alameda (SF)	2020	T6 Public	Aggregated	Aggregated	DSL	1165.464944	18360.789	3535.244	2.515770232
Alameda (SF)	2020	T6 utility	Aggregated	Aggregated	DSL	197.4563452	3295.6076	2270.748	0.381232377
Alameda (SF)	2020	T6TS	Aggregated	Aggregated	GAS	1598.768434	85986.957	31988.16	18.27349397
Alameda (SF)	2020	T7 Ag	Aggregated	Aggregated	DSL	2.08	16.086895	9.152	0.002952436
Alameda (SF)	2020	T7 CAIRP	Aggregated	Aggregated	DSL	1734.390767	313977.29	25322.11	47.76072969
Alameda (SF)	2020	T7 CAIRP constru	Aggregated	Aggregated	DSL	106.2995602	19551.401	480.5762	3.457294349
Alameda (SF)	2020	T7 NNOOS	Aggregated	Aggregated	DSL	1896.369526	382765.38	27687	56.55732098
Alameda (SF)	2020	T7 NOOS	Aggregated	Aggregated	DSL	681.7475047	123359.55	9953.514	19.20004644
Alameda (SF)	2020	T7 other port	Aggregated	Aggregated	DSL	202.0250652	32494.05	1535.39	6.040821667
Alameda (SF)	2020	T7 POAK	Aggregated	Aggregated	DSL	1562.489206	174520.51	11874.92	33.81931615
Alameda (SF)	2020	T7 Public	Aggregated	Aggregated	DSL	859.5524545	17420.266	2607.309	3.402906355
Alameda (SF)	2020	T7 Single	Aggregated	Aggregated	DSL	1203.553451	84210.435	13888.84	14.16352375
Alameda (SF)	2020	T7 single constru	Aggregated	Aggregated	DSL	687.715403	48503.429	3109.135	9.276875014
Alameda (SF)	2020	T7 SWCV	Aggregated	Aggregated	DSL	232.7081922	9508.0797	907.5619	4.227086233
Alameda (SF)	2020	T7 SWCV	Aggregated	Aggregated	NG	355.9897233	14505.132	1388.36	6.013977472
Alameda (SF)	2020	T7 tractor	Aggregated	Aggregated	DSL	4020.565317	557274.54	51061.18	78.9589015
Alameda (SF)	2020	T7 tractor constr	Aggregated	Aggregated	DSL	569.3465259	40011.059	2573.994	7.687224734
Alameda (SF)	2020	T7 utility	Aggregated	Aggregated	DSL	124.937528	2535.5475	1436.782	0.451962877
Alameda (SF)	2020	T7IS	Aggregated	Aggregated	GAS	9.556606003	1063.2006	191.2086	0.275856921
Alameda (SF)	2020	UBUS	Aggregated	Aggregated	GAS	8.845746867	522.7366	35.38299	0.114904211
Alameda (SF)	2020	UBUS	Aggregated	Aggregated	DSL	598.5602898	70961.258	2394.241	11.61039666
Alameda (SF)	2020	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237	0
Alameda (SF)	2020	UBUS	Aggregated	Aggregated	NG	89.26264551	8914.4794	357.0506	2.299557611

EMFAC Fuel Usage: Year 2021

Vehicle type	Gasoline			Diesel			Natural Gas			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	18,350	2,026	9.06	0	0	0.00	0
LDA	23,456,819	759,166	30.90	264,939	5,637	47.00	0	0	0.00	649,065
LDT1	2,359,125	88,604	26.63	742	31	24.01	0	0	0.00	12,861
LDT2	7,710,663	316,494	24.36	52,545	1,500	35.02	0	0	0.00	49,388
LHD1	562,597	67,606	8.32	371,117	20,355	18.23	0	0	0.00	0
LHD2	84,655	11,654	7.26	137,556	8,472	16.24	0	0	0.00	0
MCY	225,393	6,082	37.06	0	0	0.00	0	0	0.00	0
MDV	4,523,861	223,935	20.20	113,531	4,220	26.90	0	0	0.00	19,410
MH	22,007	4,556	4.83	7,263	733	9.91	0	0	0.00	0
Motor coach	0	0	0.00	11,241	1,797	6.25	0	0	0.00	0
OBUS	30,223	6,417	4.71	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	16,732	3,495	4.79	0	0	0.00	0
SBUS	4,048	421	9.61	9,475	1,136	8.34	0	0	0.00	0
T6	86,821	18,182	4.78	906,520	96,129	9.43	0	0	0.00	0
T7	1,022	261	3.92	1,857,896	288,457	6.44	15,489	6,367	2.43	0
UBUS	523	115	4.55	68,224	11,000	6.20	11,689	2,859	4.09	1,082
Total	**39,067,755**	**1,503,493**	**25.98**	**3,836,131**	**444,989**	**8.62**	**27,178**	**9,226**	**2.95**	**731,805**

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumptior

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Alameda (SF)	2021	All Other Buses	Aggregated	Aggregated	DSL	310.5257419	18349.55984	2608.416232	2.026139124
Alameda (SF)	2021	LDA	Aggregated	Aggregated	GAS	643846.3374	23456818.81	3010602.457	759.1663212
Alameda (SF)	2021	LDA	Aggregated	Aggregated	DSL	7140.126338	264939.2969	33233.80193	5.637479255
Alameda (SF)	2021	LDA	Aggregated	Aggregated	ELEC	17125.09962	649064.5741	84207.94897	0
Alameda (SF)	2021	LDT1	Aggregated	Aggregated	GAS	66399.00239	2359124.586	304135.1967	88.60449258
Alameda (SF)	2021	LDT1	Aggregated	Aggregated	DSL	46.09620831	741.5650287	149.5478507	0.030880027
Alameda (SF)	2021	LDT1	Aggregated	Aggregated	ELEC	321.7501352	12861.11964	1605.904239	0
Alameda (SF)	2021	LDT2	Aggregated	Aggregated	GAS	212628.2735	7710662.839	988229.2945	316.4944952
Alameda (SF)	2021	LDT2	Aggregated	Aggregated	DSL	1221.379149	52545.30417	5987.178027	1.500472498
Alameda (SF)	2021	LDT2	Aggregated	Aggregated	ELEC	1502.598541	49387.54886	7579.031869	0
Alameda (SF)	2021	LHD1	Aggregated	Aggregated	GAS	15865.61551	562596.9286	236374.0314	67.6055417
Alameda (SF)	2021	LHD1	Aggregated	Aggregated	DSL	9438.927572	371117.3669	118729.8347	20.35515233
Alameda (SF)	2021	LHD2	Aggregated	Aggregated	GAS	2411.063705	84654.65559	35921.25672	11.65403145
Alameda (SF)	2021	LHD2	Aggregated	Aggregated	DSL	3486.926719	137555.6535	43861.15157	8.471816193
Alameda (SF)	2021	MCY	Aggregated	Aggregated	GAS	29044.71157	225392.8512	58089.42315	6.081575702
Alameda (SF)	2021	MDV	Aggregated	Aggregated	GAS	130301.2045	4523860.577	598871.2505	223.9353519
Alameda (SF)	2021	MDV	Aggregated	Aggregated	DSL	2697.743001	113530.8496	13150.05027	4.220137505
Alameda (SF)	2021	MDV	Aggregated	Aggregated	ELEC	564.5400124	19409.87162	2887.036869	0
Alameda (SF)	2021	MH	Aggregated	Aggregated	GAS	2306.198331	22007.17154	230.712081	4.555516808
Alameda (SF)	2021	MH	Aggregated	Aggregated	DSL	708.4043932	7263.472715	70.84043932	0.733190001
Alameda (SF)	2021	Motor Coach	Aggregated	Aggregated	DSL	86.4703755	11240.95766	1262.467482	1.797159331
Alameda (SF)	2021	OBUS	Aggregated	Aggregated	GAS	592.6762083	30222.58185	11858.26558	6.416709217
Alameda (SF)	2021	PTO	Aggregated	Aggregated	DSL	0	16732.14818	0	3.495053224
Alameda (SF)	2021	SBUS	Aggregated	Aggregated	GAS	79.47543849	4047.70383	317.901754	0.420984971
Alameda (SF)	2021	SBUS	Aggregated	Aggregated	DSL	294.5183422	9475.475624	3398.700835	1.135661634
Alameda (SF)	2021	T6 Ag	Aggregated	Aggregated	DSL	4.050738312	41.66196391	17.82324857	0.004731101
Alameda (SF)	2021	T6 CAIRP heavy	Aggregated	Aggregated	DSL	51.43767965	10119.84156	750.990123	0.917889441
Alameda (SF)	2021	T6 CAIRP small	Aggregated	Aggregated	DSL	27.26660788	1430.153566	398.092475	0.137789512
Alameda (SF)	2021	T6 instate constructio	Aggregated	Aggregated	DSL	438.3492074	29828.91082	1981.759724	3.711821675
Alameda (SF)	2021	T6 instate constructio	Aggregated	Aggregated	DSL	945.6535871	48930.60663	4275.2631	6.048649738
Alameda (SF)	2021	T6 instate heavy	Aggregated	Aggregated	DSL	2470.920628	341536.1428	28514.08147	34.41942351
Alameda (SF)	2021	T6 instate small	Aggregated	Aggregated	DSL	8747.280246	445709.0334	100942.4013	47.36548484
Alameda (SF)	2021	T6 OOS heavy	Aggregated	Aggregated	DSL	29.3234971	5811.413452	428.1230576	0.526588701
Alameda (SF)	2021	T6 OOS small	Aggregated	Aggregated	DSL	15.74802584	817.9353396	229.9211773	0.07891648
Alameda (SF)	2021	T6 Public	Aggregated	Aggregated	DSL	1197.211878	18970.47358	3631.542694	2.548155574
Alameda (SF)	2021	T6 utility	Aggregated	Aggregated	DSL	197.4947029	3323.594068	2271.189083	0.369109024
Alameda (SF)	2021	T6TS	Aggregated	Aggregated	GAS	1608.989112	86820.78051	32192.65415	18.18197973
Alameda (SF)	2021	T7 Ag	Aggregated	Aggregated	DSL	2.08	16.08689468	9.152	0.002952436
Alameda (SF)	2021	T7 CAIRP	Aggregated	Aggregated	DSL	1802.373093	320073.8421	26314.64716	48.05519375
Alameda (SF)	2021	T7 CAIRP constructior	Aggregated	Aggregated	DSL	118.57614	21426.36576	536.0781188	3.72506898
Alameda (SF)	2021	T7 NNOOS	Aggregated	Aggregated	DSL	1945.147509	390195.332	28399.15363	56.39448511
Alameda (SF)	2021	T7 NOOS	Aggregated	Aggregated	DSL	707.6942727	125755.9259	10332.33638	19.32399971
Alameda (SF)	2021	T7 other port	Aggregated	Aggregated	DSL	211.1307945	33859.7851	1604.594038	6.192046328
Alameda (SF)	2021	T7 POAK	Aggregated	Aggregated	DSL	1612.29034	185389.2308	12253.40659	35.45234798
Alameda (SF)	2021	T7 Public	Aggregated	Aggregated	DSL	862.8944305	17489.22696	2617.446437	3.374177657
Alameda (SF)	2021	T7 Single	Aggregated	Aggregated	DSL	1224.398425	84266.44272	14129.38807	13.99573937
Alameda (SF)	2021	T7 single constructior	Aggregated	Aggregated	DSL	755.9729617	53154.87249	3417.724368	10.00275733
Alameda (SF)	2021	T7 SWCV	Aggregated	Aggregated	DSL	218.2989647	8919.342002	851.3659625	3.96126707
Alameda (SF)	2021	T7 SWCV	Aggregated	Aggregated	NG	380.1488712	15489.0713	1482.580598	6.36659347
Alameda (SF)	2021	T7 tractor	Aggregated	Aggregated	DSL	4170.179956	570944.3197	52961.28544	79.23092167
Alameda (SF)	2021	T7 tractor constructio	Aggregated	Aggregated	DSL	631.2822182	43848.09001	2854.002364	8.311140383
Alameda (SF)	2021	T7 utility	Aggregated	Aggregated	DSL	126.0530063	2557.43075	1449.609572	0.435077454
Alameda (SF)	2021	T7IS	Aggregated	Aggregated	GAS	9.245674457	1022.322212	184.9874545	0.260597171
Alameda (SF)	2021	UBUS	Aggregated	Aggregated	GAS	8.849771112	522.9744126	35.39908445	0.11495107
Alameda (SF)	2021	UBUS	Aggregated	Aggregated	DSL	577.2036065	68223.7167	2308.814426	11.00011284
Alameda (SF)	2021	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0
Alameda (SF)	2021	UBUS	Aggregated	Aggregated	NG	110.9377126	11688.85127	443.7508503	2.859368779

EMFAC Fuel Usage: Year 2022

Vehicle type	Gasoline			Diesel			Natural Gas			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	19,149	2,053	9.33	0	0	0.00	0
LDA	23,671,850	746,130	31.73	272,435	5,658	48.15	0	0	0.00	723,655
LDT1	2,377,619	87,118	27.29	683	28	24.31	0	0	0.00	18,295
LDT2	7,709,520	306,213	25.18	56,264	1,564	35.97	0	0	0.00	62,876
LHD1	554,242	65,967	8.40	383,467	20,725	18.50	0	0	0.00	0
LHD2	83,770	11,423	7.33	143,342	8,701	16.48	0	0	0.00	0
MCY	226,867	6,119	37.08	0	0	0.00	0	0	0.00	0
MDV	4,543,407	217,498	20.89	121,177	4,377	27.68	0	0	0.00	30,124
MH	22,127	4,511	4.91	7,563	753	10.04	0	0	0.00	0
Motor coach	0	0	0.00	11,438	1,788	6.40	0	0	0.00	0
OBUS	28,951	6,079	4.76	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	16,677	3,393	4.92	0	0	0.00	0
SBUS	4,620	474	9.74	9,556	1,138	8.39	0	0	0.00	0
T6	87,729	18,102	4.85	933,710	96,171	9.71	0	0	0.00	0
T7	987	247	4.00	1,907,611	289,277	6.59	16,371	6,668	2.46	0
UBUS	523	115	4.55	68,206	10,999	6.20	11,743	2,869	4.09	1,082
Total	**39,312,212**	**1,469,995**	**26.74**	**3,951,280**	**446,626**	**8.85**	**28,114**	**9,537**	**2.95**	**836,032**

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Alameda (SF)	2022	All Other Buses	Aggregated	Aggregated	DSL	316.4178979	19149.08918	2657.910342	2.05283188
Alameda (SF)	2022	LDA	Aggregated	Aggregated	GAS	655562.8607	23671849.59	3067758.174	746.1300837
Alameda (SF)	2022	LDA	Aggregated	Aggregated	DSL	7449.571634	272434.9585	34681.30267	5.657794706
Alameda (SF)	2022	LDA	Aggregated	Aggregated	ELEC	18845.44712	723655.3054	92270.33385	0
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	GAS	67404.57885	2377619.21	309278.2138	87.11789689
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	DSL	42.40174294	683.4550294	136.9950746	0.028108377
Alameda (SF)	2022	LDT1	Aggregated	Aggregated	ELEC	441.5406461	18294.71878	2211.186985	0
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	GAS	214905.0349	7709519.547	998671.1525	306.2134894
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	DSL	1342.824199	56264.23154	6557.806453	1.564075751
Alameda (SF)	2022	LDT2	Aggregated	Aggregated	ELEC	1945.894322	62876.37541	9794.744055	0
Alameda (SF)	2022	LHD1	Aggregated	Aggregated	GAS	15745.14558	554242.3879	234579.2088	65.96672965
Alameda (SF)	2022	LHD1	Aggregated	Aggregated	DSL	9813.012391	383467.2215	123435.3511	20.72476035
Alameda (SF)	2022	LHD2	Aggregated	Aggregated	GAS	2407.030997	83770.07736	35861.17539	11.42262156
Alameda (SF)	2022	LHD2	Aggregated	Aggregated	DSL	3673.426819	143342.1735	46207.08821	8.70058143
Alameda (SF)	2022	MCY	Aggregated	Aggregated	GAS	29570.34576	226866.958	59140.69152	6.118621439
Alameda (SF)	2022	MDV	Aggregated	Aggregated	GAS	131728.8101	4543407.132	606035.2203	217.4981865
Alameda (SF)	2022	MDV	Aggregated	Aggregated	DSL	2947.784216	121177.4276	14326.4089	4.377258015
Alameda (SF)	2022	MDV	Aggregated	Aggregated	ELEC	891.5758577	30124.05906	4551.41016	0
Alameda (SF)	2022	MH	Aggregated	Aggregated	GAS	2284.865713	22127.24488	228.5779659	4.510536357
Alameda (SF)	2022	MH	Aggregated	Aggregated	DSL	740.562742	7563.351715	74.0562742	0.753254113
Alameda (SF)	2022	Motor Coach	Aggregated	Aggregated	DSL	84.8798358	11438.28197	1239.245603	1.788052873
Alameda (SF)	2022	OBUS	Aggregated	Aggregated	GAS	583.6694591	28951.23134	11678.05854	6.078726465
Alameda (SF)	2022	PTO	Aggregated	Aggregated	DSL	0	16676.7847	0	3.392883769
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	GAS	91.69735116	4619.754283	366.7894047	0.474266196
Alameda (SF)	2022	SBUS	Aggregated	Aggregated	DSL	297.9675131	9556.096471	3438.503789	1.138460742
Alameda (SF)	2022	T6 Ag	Aggregated	Aggregated	DSL	4.014521727	38.89385103	17.6638956	0.00442898
Alameda (SF)	2022	T6 CAIRP heavy	Aggregated	Aggregated	DSL	52.16549025	10295.61931	761.6161576	0.908050678
Alameda (SF)	2022	T6 CAIRP small	Aggregated	Aggregated	DSL	28.02452031	1459.154908	409.1579965	0.137567889
Alameda (SF)	2022	T6 instate construction heavy	Aggregated	Aggregated	DSL	486.4067079	32550.55927	2199.025815	3.934897639
Alameda (SF)	2022	T6 instate construction small	Aggregated	Aggregated	DSL	1003.749839	53395.13135	4537.913997	6.451427158
Alameda (SF)	2022	T6 instate heavy	Aggregated	Aggregated	DSL	2489.360729	349441.1353	28726.87767	33.91806039
Alameda (SF)	2022	T6 instate small	Aggregated	Aggregated	DSL	8857.759424	456869.1993	102217.3157	47.2710853
Alameda (SF)	2022	T6 OOS heavy	Aggregated	Aggregated	DSL	29.86894114	5913.785015	436.0865407	0.521365248
Alameda (SF)	2022	T6 OOS small	Aggregated	Aggregated	DSL	16.15789719	834.0563088	235.905299	0.078734022
Alameda (SF)	2022	T6 Public	Aggregated	Aggregated	DSL	1229.3101	19560.40822	3728.9073	2.579103665
Alameda (SF)	2022	T6 utility	Aggregated	Aggregated	DSL	198.7860209	3351.885165	2286.03924	0.36667886
Alameda (SF)	2022	T6TS	Aggregated	Aggregated	GAS	1624.237082	87728.64481	32497.73554	18.10248571
Alameda (SF)	2022	T7 Ag	Aggregated	Aggregated	DSL	2.08	16.08689468	9.152	0.002952436
Alameda (SF)	2022	T7 CAIRP	Aggregated	Aggregated	DSL	1831.906278	325678.4852	26745.83166	48.05836624
Alameda (SF)	2022	T7 CAIRP construction	Aggregated	Aggregated	DSL	129.6634708	23381.34949	586.2035103	3.986900157
Alameda (SF)	2022	T7 NNOOS	Aggregated	Aggregated	DSL	1983.09469	397024.2637	28953.18248	55.73327197
Alameda (SF)	2022	T7 NOOS	Aggregated	Aggregated	DSL	723.4772577	127959.2753	10562.76796	19.35573944
Alameda (SF)	2022	T7 other port	Aggregated	Aggregated	DSL	219.7945528	35136.81664	1670.438601	6.308159755
Alameda (SF)	2022	T7 POAK	Aggregated	Aggregated	DSL	1661.062104	196274.5677	12624.07199	36.9821887
Alameda (SF)	2022	T7 Public	Aggregated	Aggregated	DSL	865.7556025	17547.63538	2626.125325	3.341913238
Alameda (SF)	2022	T7 Single	Aggregated	Aggregated	DSL	1245.087975	83987.62114	14368.14261	13.49245784
Alameda (SF)	2022	T7 single construction	Aggregated	Aggregated	DSL	830.3423732	58004.82753	3753.945586	10.55495113
Alameda (SF)	2022	T7 SWCV	Aggregated	Aggregated	DSL	202.6269333	8279.008188	790.2450397	3.671982334
Alameda (SF)	2022	T7 SWCV	Aggregated	Aggregated	NG	401.6657583	16371.39779	1566.496457	6.667618397
Alameda (SF)	2022	T7 tractor	Aggregated	Aggregated	DSL	4267.490268	583892.4054	54197.12641	78.48800518
Alameda (SF)	2022	T7 tractor construction	Aggregated	Aggregated	DSL	693.6376459	47848.87592	3135.908829	8.863951265
Alameda (SF)	2022	T7 utility	Aggregated	Aggregated	DSL	127.0551414	2579.693213	1461.134126	0.436201968
Alameda (SF)	2022	T7IS	Aggregated	Aggregated	GAS	8.941515273	987.2283999	178.9018376	0.246810903
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	GAS	8.853795357	523.2122241	35.41518143	0.114997634
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	DSL	576.8548075	68206.34297	2307.41923	10.99917648
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0
Alameda (SF)	2022	UBUS	Aggregated	Aggregated	NG	111.6048953	11743.0555	446.4195812	2.869481344

EMFAC Fuel Usage: Year 2024

Vehicle type	Gasoline			Diesel			Natural Gas			Electricity
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day
All other buses	0	0	0.00	20,709	2,125	9.75	0	0	0.00	0
LDA	24,107,385	718,698	33.54	285,207	5,619	50.75	0	0	0.00	918,853
LDT1	2,421,121	84,195	28.76	591	24	25.13	0	0	0.00	32,103
LDT2	7,734,914	287,002	26.95	62,824	1,652	38.03	0	0	0.00	94,193
LHD1	540,430	62,830	8.60	405,424	21,227	19.10	0	0	0.00	0
LHD2	82,238	10,957	7.51	153,650	9,042	16.99	0	0	0.00	0
MCY	229,590	6,188	37.11	0	0	0.00	0	0	0.00	0
MDV	4,595,894	205,270	22.39	134,874	4,598	29.33	0	0	0.00	54,819
MH	22,290	4,394	5.07	8,100	785	10.32	0	0	0.00	0
Motor coach	0	0	0.00	11,851	1,798	6.59	0	0	0.00	0
OBUS	26,757	5,473	4.89	0	0	0.00	0	0	0.00	0
PTO	0	0	0.00	16,529	3,209	5.15	0	0	0.00	0
SBUS	5,750	575	9.99	9,683	1,138	8.51	0	0	0.00	0
T6	89,835	17,956	5.00	989,523	96,818	10.22	0	0	0.00	0
T7	930	222	4.19	2,011,029	285,706	7.04	17,994	7,183	2.50	0
UBUS	524	112	4.69	64,959	10,099	6.43	15,064	3,611	4.17	1,082
Total	**39,857,658**	**1,403,871**	**28.39**	**4,174,954**	**443,839**	**9.41**	**33,057**	**10,795**	**3.06**	**1,101,049**

487,143,092

2.39%

81875000 11631959.77

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Alameda (SF)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Alameda (SF)	2024	All Other Buses	Aggregated	Aggregated	DSL	336.3499392	20708.72528	2825.339489	2.125014005
Alameda (SF)	2024	LDA	Aggregated	Aggregated	GAS	678972.2166	24107384.54	3179933.599	718.6984767
Alameda (SF)	2024	LDA	Aggregated	Aggregated	DSL	7970.485713	285207.3503	37180.15258	5.619344447
Alameda (SF)	2024	LDA	Aggregated	Aggregated	ELEC	23066.89351	918852.9627	112300.4002	0
Alameda (SF)	2024	LDT1	Aggregated	Aggregated	GAS	69607.74812	2421121.057	320177.1151	84.19460401
Alameda (SF)	2024	LDT1	Aggregated	Aggregated	DSL	35.88370999	591.2260853	115.8236906	0.023527059
Alameda (SF)	2024	LDT1	Aggregated	Aggregated	ELEC	735.3580321	32102.99329	3682.856041	0
Alameda (SF)	2024	LDT2	Aggregated	Aggregated	GAS	219659.0043	7734914.424	1020303.459	287.0015689
Alameda (SF)	2024	LDT2	Aggregated	Aggregated	DSL	1568.62235	62823.71487	7610.193034	1.651987947
Alameda (SF)	2024	LDT2	Aggregated	Aggregated	ELEC	3021.074423	94192.51812	15129.6274	0
Alameda (SF)	2024	LHD1	Aggregated	Aggregated	GAS	15544.65947	540429.5884	231592.2645	62.83013512
Alameda (SF)	2024	LHD1	Aggregated	Aggregated	DSL	10546.20745	405424.3807	132658.0226	21.2266664
Alameda (SF)	2024	LHD2	Aggregated	Aggregated	GAS	2401.66657	82238.48447	35781.25341	10.95719009
Alameda (SF)	2024	LHD2	Aggregated	Aggregated	DSL	4037.815994	153650.1878	50790.64564	9.041714364
Alameda (SF)	2024	MCY	Aggregated	Aggregated	GAS	30564.54034	229590.4215	61129.08067	6.187549575
Alameda (SF)	2024	MDV	Aggregated	Aggregated	GAS	134655.8839	4595894.408	620683.5591	205.2701795
Alameda (SF)	2024	MDV	Aggregated	Aggregated	DSL	3426.213977	134874.3863	16540.1457	4.598101561
Alameda (SF)	2024	MDV	Aggregated	Aggregated	ELEC	1691.781671	54818.70034	8579.063495	0
Alameda (SF)	2024	MH	Aggregated	Aggregated	GAS	2249.832395	22289.58897	225.0732328	4.393571591
Alameda (SF)	2024	MH	Aggregated	Aggregated	DSL	803.2896618	8099.858765	80.32896618	0.784539069
Alameda (SF)	2024	Motor Coach	Aggregated	Aggregated	DSL	85.10771552	11850.56347	1242.572647	1.797772053
Alameda (SF)	2024	OBUS	Aggregated	Aggregated	GAS	564.5682568	26756.66734	11295.88168	5.472561471
Alameda (SF)	2024	PTO	Aggregated	Aggregated	DSL	0	16528.59039	0	3.209117207
Alameda (SF)	2024	SBUS	Aggregated	Aggregated	GAS	116.4733116	5749.837425	465.8932462	0.575307659
Alameda (SF)	2024	SBUS	Aggregated	Aggregated	DSL	303.7154773	9683.40124	3504.834499	1.137512238
Alameda (SF)	2024	T6 Ag	Aggregated	Aggregated	DSL	3.744694231	28.98233432	16.47665461	0.003263554
Alameda (SF)	2024	T6 CAIRP heavy	Aggregated	Aggregated	DSL	55.9833459	10663.71698	817.3568502	0.892219653
Alameda (SF)	2024	T6 CAIRP small	Aggregated	Aggregated	DSL	29.85661571	1517.605382	435.9065894	0.136669246
Alameda (SF)	2024	T6 instate construction heavy	Aggregated	Aggregated	DSL	587.8105386	38328.05205	2657.468591	4.440038064
Alameda (SF)	2024	T6 instate construction small	Aggregated	Aggregated	DSL	1144.169761	62872.38741	5172.747006	7.227869124
Alameda (SF)	2024	T6 instate heavy	Aggregated	Aggregated	DSL	2690.595394	366233.0949	31049.09781	33.72024983
Alameda (SF)	2024	T6 instate small	Aggregated	Aggregated	DSL	9227.623923	478822.646	106485.5007	46.82325293
Alameda (SF)	2024	T6 OOS heavy	Aggregated	Aggregated	DSL	32.15303009	6127.471835	469.4342393	0.51261275
Alameda (SF)	2024	T6 OOS small	Aggregated	Aggregated	DSL	17.1488619	866.7819236	250.3733837	0.07812748
Alameda (SF)	2024	T6 Public	Aggregated	Aggregated	DSL	1293.003953	20653.62202	3922.111987	2.625770641
Alameda (SF)	2024	T6 utility	Aggregated	Aggregated	DSL	204.1963627	3408.968327	2348.258171	0.358418372
Alameda (SF)	2024	T6TS	Aggregated	Aggregated	GAS	1666.220591	89835.09068	33337.74159	17.95578379
Alameda (SF)	2024	T7 Ag	Aggregated	Aggregated	DSL	2.325471204	14.73454918	10.2320733	0.002826331
Alameda (SF)	2024	T7 CAIRP	Aggregated	Aggregated	DSL	1853.672466	337395.1342	27063.61801	47.35393997
Alameda (SF)	2024	T7 CAIRP construction	Aggregated	Aggregated	DSL	150.6547977	27531.37273	681.1044831	4.484374474
Alameda (SF)	2024	T7 NNOOS	Aggregated	Aggregated	DSL	2122.350945	411298.6226	30986.32379	54.51732338
Alameda (SF)	2024	T7 NOOS	Aggregated	Aggregated	DSL	736.6920865	132566.0549	10755.70446	19.08282917
Alameda (SF)	2024	T7 other port	Aggregated	Aggregated	DSL	220.1960709	37784.11344	1673.490139	6.021853575
Alameda (SF)	2024	T7 POAK	Aggregated	Aggregated	DSL	1756.178597	218125.9331	13346.95734	36.25035973
Alameda (SF)	2024	T7 Public	Aggregated	Aggregated	DSL	870.8167122	17649.31979	2641.477358	3.265939823
Alameda (SF)	2024	T7 Single	Aggregated	Aggregated	DSL	1258.330833	83241.285	14520.96335	12.6768125
Alameda (SF)	2024	T7 single construction	Aggregated	Aggregated	DSL	977.1377536	68300.27189	4417.601793	11.81407631
Alameda (SF)	2024	T7 SWCV	Aggregated	Aggregated	DSL	172.6296378	7053.367298	673.2555874	3.123527644
Alameda (SF)	2024	T7 SWCV	Aggregated	Aggregated	NG	441.4400497	17993.80599	1721.616194	7.183396157
Alameda (SF)	2024	T7 tractor	Aggregated	Aggregated	DSL	4593.32602	611101.9205	58335.24045	76.8629905
Alameda (SF)	2024	T7 tractor construction	Aggregated	Aggregated	DSL	827.4379554	56341.7111	3740.814826	9.812908402
Alameda (SF)	2024	T7 utility	Aggregated	Aggregated	DSL	129.3726548	2624.840782	1487.78553	0.436555405
Alameda (SF)	2024	T7IS	Aggregated	Aggregated	GAS	8.292061214	929.7915234	165.9075608	0.222027055
Alameda (SF)	2024	UBUS	Aggregated	Aggregated	GAS	8.861843848	523.6878471	35.44737539	0.111627609
Alameda (SF)	2024	UBUS	Aggregated	Aggregated	DSL	551.8040066	64959.37179	2207.216027	10.09879721
Alameda (SF)	2024	UBUS	Aggregated	Aggregated	ELEC	12.02059328	1081.8767	48.08237312	0
Alameda (SF)	2024	UBUS	Aggregated	Aggregated	NG	137.2924637	15063.68768	549.1698549	3.611134016

Appendix E:

Geological Resources: Geological Engineering Investigation, Geological and Environmental Hazards Assessment Report

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED DUBLIN UNIFIED NEW HIGH SCHOOL
CENTRAL PARKWAY AND CHANCERY LANE
DUBLIN, ALAMEDA COUNTY, CALIFORNIA

PROJECT NO. 042-19017
SEPTEMBER 6, 2019

Prepared for:

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GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

September 6, 2019

KA Project No. 042-19017

Mr. David Iwanaga
SIM-PBK
7790 N. Palm Avenue
Fresno, California 93711

RE: Geotechnical Engineering Investigation
Proposed Dublin Unified New High School
Central Parkway and Chancery Lane
Dublin, Alameda County, California

Dear Mr. Iwanaga:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 907-1160.



Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

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September 6, 2019

KA Project No. 042-19017

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED NEW HIGH SCHOOL
CENTRAL PARKWAY AND CHANCERY LANE
DUBLIN, ALAMEDA COUNTY, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Dublin Unified New High School site to be located at the southeast corner of Central Parkway and Chancery Lane in Dublin, Alameda County, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study, along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated May 13, 2019 (KA Proposal No. P292-19) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A review of available data for evaluation of subsurface conditions at the project site.
- A search of geologic and seismologic literature pertaining to the area of the site.
- Evaluation of potential geologic hazards.

- A field investigation consisting of drilling 49 borings to depths ranging from approximately 10 to 50 feet for evaluation of the subsurface conditions at the project site.

- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed school is currently underway. Some of the final details pertaining to the structures are unavailable. It is understood the New High School site project within the Dublin Unified School District is in the final design stages. The project scope consists of constructing classroom buildings, a multi-use building, day care building and administrative offices. The structures are planned to utilize concrete slab-on-grade construction. Foundation loads are anticipated to be light to moderate. Construction of on-site play courts, walkways, parking, and landscaping are also planned.

In the event, these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The Dublin Unified New High School site is located along the northern edge of the Amador Valley within the eastern portion of the City of Dublin in Alameda County, California (see Vicinity Map, Figure 1). The proposed school campus encompasses approximately 23 acres and is comprised of a recently graded vacant lot located in a partially developed area. The site is located on the southeast corner of Central Parkway and Chancery Lane. The Dublin Unified New High School Campus is bound to the north, east and west by multi-family and single-family residential construction; and to the south by commercial developments. The school property is located at longitude 121.86485° West and latitude 37.70726° North. The US Geological Survey Livermore, California 7.5-minute Quadrangle, dated 1961, photo revised 1980, indicates that surface elevations in the vicinity of the site are on the order of 350 to 361 feet above mean sea level (amsl). However, the site has been recently graded as part of a mass development. The minor drainage-course that trended through the site and vicinity had been backfilled as part of the mass grading performed on the site and surrounding properties. The minor watercourse identified as the Arroyo Las Pasitas is located approximately 4,000 feet south of the subject site.

Site history was obtained by reviewing historical aerial photographs taken in 1939, 1940, 1949, 1958, 1966, 1968, 1979, 1982, 1993, 1998, 2002, 2007, 2009 and 2016. Review of the 1939 aerial photograph indicates the school site and surrounding properties were utilized as agricultural land for farming and

pasture. A seasonal stream trended northwest to southeast through the central portion of the site. A rural residential development was located approximately 800 feet north of the subject site. No structures appeared to occupy the site.

Review of the 1940 through 1998 aerial photographs show similar conditions with the subject site still being utilized as agricultural land or pastureland.

Review of the 2002 aerial photograph shows the subject site was used as a staging area for construction equipment and supplies for development of the surrounding properties. Central Parkway had been constructed along the northern edge of the site. Dublin Boulevard had been constructed along the southern edge of the site. Chancery Lane had been constructed along the northwestern edge of the site. The remainder of the site was predominately surrounded by residential and commercial developments under construction and agricultural land.

Review of 2007 aerial photograph indicates the subject site conditions were relatively similar to that noted in the 2002 aerial photograph.

Review of the 2009 aerial photograph indicates that the project site predominately consisted of vacant land. The majority of the equipment and supplies had been removed from the site. Several vehicles and trailers were still present in the southern portion of the site. Some remnants of gravel were still present throughout the site.

Review of the 2016 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 2009 aerial photograph.

The proposed school campus is presently a vacant previously graded lot. Some construction equipment was located on the site. Central Parkway has been constructed along the northern edge of the site. The proposed new buildings with associated landscaping, pavement and sidewalk improvements are planned to be constructed throughout the school campus. (See Site Geologic Map, Figure 2). The area proposed for development is previously vacant graded land. The site is covered by a moderate weed growth that has been recently disced. The surface soils have a loose consistency. Buried utility lines, such as electrical, water, and storm drain are located within the project site vicinity. The areas of proposed development are located on areas of fill soil. The areas of proposed development are relatively level with no major changes in grade. The school property has a gentle slope toward the south with approximately 10 to 15 feet of relief across the campus. Storm water is collected within drainage swales along the edges of the site and diverted to a storm water drainage system.

No evidence of surface faulting was observed on the property during our reconnaissance. No evidence of slope failures or instabilities were observed on the subject property or adjoining properties.

GEOLOGIC SETTING

General

The project area is located at the base of the foothills of Mt. Diablo, along the northern edge of the Amador Valley, within the central portion of the Coast Ranges Geomorphic Province of California. The foothills of Mt. Diablo are bound by Mt. Diablo on the north, on the west by Las Trampas Ridge and San Ramon Valley, on the east by the foothills of Mt. Diablo and Las Positas Valley, and on the south by Amador Valley. The Coast Ranges generally consist of an alternating series of parallel mountains and valleys located adjacent to the Pacific Coast. The bedrock units that form the range have been disrupted by intense folding, faulting, and crushing that occurred when the range was formed by the processes of plate tectonics. During the Jurassic and Cretaceous Periods (about 150 to 80 million years ago), the Pacific Oceanic Plate, which was progressively moving towards the east, collided with the North American Continental Plate, which was moving toward the west. This collision caused the less rigid Pacific Oceanic Plate to be subducted beneath the North American Continental Plate. The colliding motion of the two plates caused portions of the Pacific Oceanic Crust and overlying marine sediments to be piled onto the North American Continental Plate along the west coast of California. The resulting chaotic jumble of bedrock units scraped off onto the North American Plate, is known as the "Franciscan Assemblage" and comprises a large portion of the Coast Range Province. Subsequent development of a series of northwest-trending fault zones has further contributed to the deformation of the Coast Ranges.

During the Pleistocene Epoch ("Ice Age"), the San Francisco Bay depression was formed by down faulting (down warping) of the earth's crust. During this time, sea levels lowered by as much as 350 feet, leading to increased erosion by the streams and rivers discharging into the bay. With the melting of the last ice sheets, beginning about 12,000 years ago, the sea level gradually rose to its present level. Much of the clay and silt carried by the river flood waters were deposited within the quiet bay waters, resulting in significant accumulations of "bay mud" in marshlands and mudflats.

Tassajara Creek, Cottonwood Creek, Arroyo Las Positas, and Arroyo Valle are the principal drainage courses in the area. Alluvial fans and flood deposits formed by these drainage courses are the predominant geomorphic features in the Valley area. The area of the subject site is characterized by sediment accumulation during the early Pleistocene interval of erosion and deposition in the Livermore Valley.

A Regional Geologic Map, Regional Geologic Cross-Section, and Local Geologic Maps are presented on Figures 4, 5, and 6, respectively.

Lithology

In general, the Coast Ranges are composed of sedimentary bedrock interspersed with volcanics. Nearer the surface, layers of alluvium fill the intervening valleys. The 1990 Geologic Map of the San Francisco-San Jose Quadrangle, indicates that the near-surface deposits in area of the subject site are identified as the Pliocene nonmarine Tassajara Formation. The Tassajara Formation is more commonly known as the Livermore Gravels. These units consist of sands, silts, clays and gravel.

The 2006 Geologic Map of the Livermore Quadrangle further defines the near-surface deposits in the area of the subject site as valley sediments of Livermore basin, sub-lithified, age of Pliocene to early Pleistocene. The sediments are identified locally as the Livermore Gravel consisting of pebble, gravel, sand, and predominately clay.

The modern depositional processes operating on the foot hills, valleys and lowlands are mainly the result of the region's Mediterranean climate and active tectonic setting. The interaction between easily eroded bedrock and the heavy winter rains causes large seasonal fluctuations in the sediment loads carried by streams from the uplands down to the bay. During times of high surface-water runoff, sediments are supplied from slopewash, landslides, and gullying, then carried by shifting alluvial channels to the marshlands and bay. Some material is deposited on the alluvial plain, especially when streams overtop their banks and spread their sediment-laden waters over the low plains and basins.

According to Helley and others, (1979), "the younger deposits make up the alluvial fans being formed under the existing regime. The streams forming these young fans are graded to present sea level. These younger deposits and the bay mud into which they grade are informally referred to as Holocene deposits. The older alluvial deposits now partly covered by the Holocene deposits, make up alluvial fans formed by these same streams when they were graded to lower strands of sea level during the late Pleistocene (prior to about 10,000 years ago). These older deposits are informally referred to as late Pleistocene alluvium. The Holocene alluvium is differentiated further into depositional units called facies on the basin of textural characteristics (that is, gravel, sand, silt, and clay) and the depositional environment (such as stream levees and floodbasins). These facies grade from coarse-grained gravel and sand deposits, which form prominent stream levees at the highest part of the alluvial fans, into medium-grained sand and silt deposits, which form broad flood plains and subdued levees along the lower margins of the alluvial fans. These stream deposits grade into and interfinger with fine-grained silt and clay deposits, which form the flat floor of flood basins between stream levees on the outer margins of the alluvial fans directly adjacent to the bay marshlands. This gradation from coarse-grained to fine-grained sediment in the Holocene alluvium is a natural consequence of very recent stream erosion, transportation, and deposition. The coarsest rock debris eroded from the bedrock uplands is deposited near the base of the hills where the rapidly flowing streams enter the broad, gently sloping alluvial plain. Only the finer-grained debris is carried by the ever-slackening water to the lower parts of the alluvial fans and eventually into the bay itself."

The subsurface information obtained in conjunction with the limited subsurface investigation performed concurrent with this study indicates that the surface and near-surface deposits at the subject site generally consist of silty clay, clayey silt, sandy clayey silt, silty sand, or clayey sand. These observed deposits are consistent with those mapped in the area, and are further described in the Soil Profile section of this report.

Structure and Faults

The San Francisco Bay region is tectonically dominated by horizontal shear caused by the relative motion of the Pacific and North American plates. The northwest-southeast shear, probably with some other superposed influences, produces right-lateral strike-slip, plus a variety of other types of crustal

movements. Since the boundary of the plates is generally diffuse, the various structural responses occur over a relatively broad band from the foot of the continental slope to the Central Valley. Transform-type plate movement did not begin at the latitude of San Francisco until about 10 to 7 million years ago, a time interval of transition in tectonics and sedimentation. The recent and current transform movement has superimposed a structural fabric on the pre-existing highly deformed structure created by Jurassic and Cretaceous subduction and emplacement of the Franciscan Formation.

Active faults in the region of the subject site are predominately characterized by strike-slip motion (right-lateral). Major nearby faults showing evidence of earthquake activity within historic time (past 200 years) in relation to the site include the Mount Diablo (2.6 miles east), the Calaveras (3.8 miles west), the Greenville (7.9 miles east), the Hayward-Rodgers Creek (10.6 miles west), and the San Andreas (29 miles west) faults. These faults are considered to be active, as they have demonstrated geologic displacement with the past 10,000 years.

Crustal movements measured in California today sample deformation processes that have been continued through at least the past 5 Ma of Pliocene, Pleistocene, and Holocene time. During this interval, several hundred kilometers of right-lateral offset has accumulated across the San Andreas fault system, and many thousands of great earthquakes similar to the historical events of 1857 and 1906 have undoubtedly occurred. The observed deformation results from relative right-lateral translation of the Pacific and North American plates far from the main plate-boundary faults, which are either freely slipping and without major seismic activity, or are in locked frictional contact and slip episodically in repeated great earthquakes. Aseismic fault slip (creep), as occurs across the San Andreas fault in central California causes no crustal deformation beyond a growing offset across the fault, although this offset may be distributed across a zone as broad as a few tens or hundreds of meters. Where the plate-boundary fault is alternately locked aseismically in its upper 10 km or so and abruptly slipping in great earthquakes, deformation extends several tens of kilometers into the plate interiors. Between large events, elastic strains build up in this zone and are episodically released every few hundred years. Subsequent postearthquake recovery processes redistribute the strains aseismically for years to decades after a major shock, and this deformation gradually merges into the steady accumulation of elastic-strain energy that persists until the frictional strength of the fault is again exceeded. This sequence of interearthquake strain accumulation, coseismic strain release, and postseismic readjustment is a recurring process.

The 8.25 magnitude earthquake of April 18, 1906, ranks as one of the most significant earthquakes of all time. Rupturing the northernmost 430 km of the San Andreas fault from the northwest of San Juan Bautista to the triple junction at Cape Mendocino, the earthquake confounded contemporary geologists with its large, horizontal displacements and great rupture length.

The characteristics and amount of surface fault slip in this earthquake varied to a remarkable degree along the length of the rupture. Peak displacements of 6 m were measured near Olema on the Point Reyes peninsula, where the surface trace of the rupture formed a sharp, well-defined break. In contrast, the fault break was extremely difficult to recognize along its southernmost 90 km, where the surface offset averaged only about 1½ m or less. The slip rate along the San Andreas fault in the vicinity of the project site is on the order of 17 mm/yr. to 24 mm/yr.

The Hayward-Rodgers Creek fault system is 150 km long, extending from near Healdsburg on the north to the Warm Springs district of Fremont on the south. South of San Pablo Bay, the fault passes through heavily urbanized areas where much evidence of the fault is obscured. The southern part of the fault produced the regionally damaging 1868 M6.8 earthquake. The East Bay Source Characterization Group considers the Hayward-Rogers Creek fault to be a three-segment system, identified as the Rogers Creek fault, the northern segment of the Hayward fault (Hayward North) and the southern segment of the Hayward fault (Hayward South).

The northern boundary of the Rogers Creek fault is a $\pm$5 km-wide zone south of Healdsburg in which the Holocene trace of the fault appears to die out. The southern boundary is a $\pm$5 km zone offshore beneath San Pablo Bay. The 6 km stepover from the Rogers Creek to the Hayward North fault is coincident the western edge of a prominent gravity low that extends approximately 20 km to the east of the step-over. There are no geophysical data that indicate the presence of a structural depression or extensional faulting within the stepover. It is also not known whether Rogers Creek and the Hayward North fault join at depth beneath this structure or remain individual faults through the seismogenic crust. Based on modeling of rupture propagation across steps in faults, the San Pablo Bay stepover continues to be viewed as a major structural and geometric barrier for ruptures propagating into it.

The Hayward North fault extends from the San Pablo Bay stepover to near Montclair in Oakland. With the timing constraint of the moist recent event (formerly the 1836 earthquake) removed, the primary basis for defining the Hayward North fault is that it is the section of the Hayward fault that did not rupture in 1868. An uncertainty of $\pm$5 km is assigned to the northern boundary in San Pablo Bay. The southern endpoint is less certain. The possible north end of the 1868 rupture near Rocky Mound is 20 km north of the segment boundary near San Leandro adopted by the East Bay Source Characterization Group, where the evidence for 1868 surface rupture was distinct (Lawson, 1908). Trenching evidence suggests the 1868 surface rupture extended at least to Montclair (Lienkaemper and Williams, 1999). There are no obvious geometric or lithologic changes along this reach of the fault that provide a physical basis for proposing a segment boundary. Therefore, a southern endpoint is possible anywhere between Mira Vista on the north, which did not rupture at the surface in 1868, and San Leandro. The segment endpoint selected by the East Bay Source Characterization Group lies at Montclair, about midway between Mira Vista and San Leandro, with an uncertainty of $\pm$10 km.

The East Bay Source Characterization Group takes the Hayward South fault to be the extent of the 1868 rupture. Nothing is known about the slip distribution of the 1868 earthquake or of the variability in rupture lengths and/or slip distributions of pre-historic Hayward South fault events. It is possible that Hayward North and Hayward South fault ruptures could overlap 10 to 20 km in the broad boundary between the two segments. The southern endpoint of the Hayward South fault is midway between the south end of known 1868 surface rupture at Agua Caliente Creek (Lawson, 1908) and the Alum Rock seismicity trend.

Slip rates for the Hayward-Rogers Creek fault are $\pm$2 mm/yr for each of the three fault segments based on paleoseimic and fault-creep data consistent with new paleoseismic observations of a minimum rate of 7-10 mm/yr for the past 8,400 years on the Hayward South fault at Union City (Lienkaemper and Borchardt, 1996) and 8.4$\pm$2 mm/yr for the past 900 years on Rogers Creek fault (Schwartz and others,

1992). Measurements of surface creep (Lienkaemper and others, 2001) show that the Hayward fault has an average creep rate of about 4 to 6 mm/yr with a high of 9 mm/yr near Fremont, a significant fraction of the overall geologic slip rate. Williams (1999) reports a long-term (35 ka) slip rate of 10±1 mm/yr on the Hayward North fault from offset of Strawberry Canyon.

The Calaveras fault, the closest active fault to the site, is a prominent part of the San Andreas fault system. To the east of the Hayward-Rogers Creek fault, the Calaveras fault extends 123 km, splaying from the San Andreas fault near Hollister and terminating at Danville at its northern end. The Calaveras fault forms the western margin of Livermore Valley and San Ramon Valley. The Calaveras fault is one of the most geologically active and complex faults in San Francisco Bay Region. As many as twelve M>5 earthquakes have occurred on the Calaveras fault during historical time. The Calaveras fault exhibits heterogeneous surface creep in the southern section, with slip rates as high as 17 mm/yr. Slip rates at the town of Hollister decrease from about 11 mm/yr. to 7 mm/yr. within 2.3 km along the fault. Surface creep is absent along the northern section. Although no significant elastic strain has been observed adjacent to the central section of the fault from geodetic data between 1970 and 1985, three moderate events occurred (M5.9 on 6 August 1979, M6.2 on 24 April 1984, and M5.1 on 13 June 1988), progressing sequentially northward along this section of the fault. Slip along the northern Calaveras fault appears to step across to the Concord-Green Valley fault zone along a northeast-trending conjugate left-lateral fault that produced the April 1990 Alamo earthquake sequence with the largest event of magnitude 4.5 (Oppenheimer and MacGregor-Scott, 1991). Analysis of historical seismic data has also identified persistent aseismic zones that are believed to represent locked patches of the southern and central Calaveras fault as well as most of the northern Calaveras fault.

One significant seismotectonic source is the Great Valley fault zone (Coast Ranges-Central Valley boundary zone), located west of the site. The Great Valley fault zone is the geomorphic boundary of the Coast Ranges and the Central Valley and is underlain by a 300-mile long seismically active fold and thrust belt that has been the source of recent earthquakes, such as the 1983 magnitude 6.5 Coalinga and the 1985 magnitude 6.1 Kettleman Hills earthquakes. Nearly the entire thrust system is concealed or "blind". The basal detachment of this thrust system dips at a shallow angle to the west. East-directed thrusting over ramps in the detachment and west-directed thrusting on backthrusts are responsible for the uplift along the eastern range front of the Coast Ranges. Based on earthquake focal mechanisms, movement on the thrust zone is generally perpendicular to the strike of the geomorphic boundary and trend of the San Andreas Fault system. Shortening along the geomorphic boundary is driven by a component of the Pacific-North American Plate motion that is normal to the plate boundary. The Great Valley fault zone is considered the dominant seismic feature with potential for affecting the subject site. The Great Valley fault zone – Segment 7 is located approximately 19.3 miles west of the subject site. The Great Valley fault zone – Segment 6 is inferred to be located beneath the City of Antioch. However, Segment 6 of this fault was omitted from the CGS 2002 California Fault Model. (Lao, T and others, 2003).

The northwest-trending central Greenville fault system, consisting of several segments or strands, is located approximately 7.1 miles east of the site. The fault is exposed for over 80 km along its length, from the north end, near Mt. Diablo, to its southern terminus in San Antonio Valley along the eastern side of Livermore Valley.

On January 24, 1980, an earthquake of magnitude 5.5 (Bolt et al., 1981) caused discontinuous right-lateral surface displacements along the southeastern branch of the Greenville fault, approximately 12 km southeast of Mount Diablo. Fault-plane solutions indicate a focal depth of 11.8 km (Bolt et al., 1981). The first principal shock was followed by a rapid succession of magnitude 5.0 and 4.0 earthquakes, resulting in a relatively long duration of ground shaking. The earthquake was followed by a series of aftershocks, culminating in a magnitude 5.6 event on January 27, 1980, located 12 km to the south of the first principal shock. The focal depth of the January 27 earthquake was 11.8 km. The maximum peak horizontal ground acceleration recorded during the earthquake was 0.26g at Del Valle Reservoir, located 11miles from the epicenter.

Contractional structures in the eastern San Francisco Bay area are part of a late Cenozoic fold-thrust belt, the Mt. Diablo fold-and-thrust belt (MDFTB), that can be traced from the northern Diablo Range, south of Livermore Valley, to the western Sacramento-San Joaquin Delta region. The MDFTB is bounded by dextral faults, the Greenville and Concord faults on the east and the Calaveras fault on the west. Thrust faults and associated folds in the MDFTB generally trend west-northwest, oblique to strike-slip faults on the San Andreas system, and exhibit a well-defined right-steeping en echelon geometry. The Mt. Diablo thrust fault, the largest structure the in the MDFTB, is driven by a restraining transfer of dextral slip from the Greenville fault to the Concord fault. The Mt. Diablo thrust fault is potentially capable of generating an earthquake of about M_W 6¾, which is comparable to the 1983 Coalinga M_L 6.7 and 1994 Northridge (M_W 6.7) earthquakes.

A group of northward-trending faults on the northeast flank of the Mt. Diablo antiform were evaluated with regard to their seismogenic potential during geological, seismological, and geophysical investigations of the proposed Los Vaqueros Dam site in eastern Contra Costa County. The faults, collectively referred to as the Vaqueros Faults, included the Brentwood, Kellogg, Vaqueros, Davis, and Camino Diablo faults. They occur along the southern projection of the Antioch Fault and in the area directly east and north of the more north-westerly-trending, active Marsh Creek-Greenville segments of the Greenville fault zone. This fault segment was the source of the 1980 M_L 5.9 and 5.3 Livermore earthquakes. Analysis of soil stratigraphy exposed in trenches and geomorphic analyses along faults reveals no evidence indicating that the Vaqueros faults have been active in Holocene time. The observed displacements on the Vaqueros faults appear to be associated with the formation of the Mt. Diablo antiform, beginning about 3 million years ago, rather than due to direct accommodation of plate motion in the present-day San Andreas Fault System (Bigger and Wong, 1992).

As noted above, several dominant faults with seisomgenic structures are located in the vicinity of the subject site. Table I is a listing of active faults or seismogenic structures within 50 miles (80 km) of the site, and a Fault Map is provided on Figure 7.

GEOLOGIC HAZARDS

Fault Rupture Hazard Zones in California

The Alquist-Priolo Geologic Hazards Zones Act went into effect in March, 1973. Since that time, the act has been amended 10 times (Hart, 1994). The purpose of the Act, as provided in DMG Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The subject site is located on the Fault Rupture Hazard Zones Map for the Livermore Quadrangle dated January 1, 1982. However, the site is not within a Fault-Rupture Hazard Zone. The nearest zoned fault is a portion of an unnamed fault located about 1.5 miles west of the site. The closest well known fault is the Calaveras fault located more than 3.8 miles west of the subject site (refer to Fault Rupture Hazard Zone Map, Figure 11).

Seismic Hazard Zones in California

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazards Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. The area of the subject site is included on the Seismic Hazard Zone Map entitled "Livermore Quadrangle", Official Map dated August 27, 2008 (refer to Seismic Hazard Zone Map, Figure 12). The site is located within areas identified as susceptible to liquefaction.

Historic Seismicity/Earthquake Epicenter Distribution

The Dublin/Livermore area has historically experienced a moderate to high degree of seismicity. A listing of historic earthquakes with magnitudes greater than 4.0 within approximately 50 miles (80 kilometers) of the subject site was obtained from the comprehensive California Geological Survey computerized earthquake catalog for the State of California, the Townley and Allen (1939) catalog and the U.S. Geological Survey Earthquake Data Base System. In addition, a listing was obtained for all historic earthquakes with magnitudes greater than 5.0 within approximately 100 miles of the site. The listings include the date, time, location, depth, magnitude, and intensity all recorded events within the search radius between 1800 and 2018. A review of the literature for pre-1900 earthquakes (Toppozada, 1991) does not reveal any significant recorded seismic events in the vicinity of the subject site prior to the period covered by the above listing.

The historic earthquake listings are included in Appendix B. A plot of epicenters associated with historic earthquakes in the region of the site with magnitudes greater than 5 is shown on Figure 8, Epicenter Map. The earthquake data indicates that 330 events with magnitudes greater than 4.0 occurred within 60 miles of the subject site between 1800 and 2018. One of the listed events occurred within 4.8 miles of the site. The data indicates that 13 events exceeded magnitudes 5.0 within 20 miles of the subject site. The nearest listed event occurred approximately 4.8 miles southwest of the site in 2003 with a magnitude of 4.1. Thirty-six of the listed earthquakes with magnitudes greater than 4.0 occurred within 20 miles of the site. Numerous earthquakes are listed with magnitudes between 5.0 and 6.0 beyond about 40 miles of the site. One event was recorded with a magnitude of 6.8 within 13 miles of the site.

The San Francisco earthquake of 1906 is undoubtedly the most important earthquake to have affected the central California area during historic time. It was investigated in great detail by geologists, seismologists, and engineers of the State Earthquake Investigation Commission, and the results of this investigation have served as the basis for much of our understanding of the relationship between earthquakes and faulting. The importance of this earthquake to our understanding of future earthquakes in the central California area is that it is the only "look-alike" for the "great" earthquake that is expected along the 1857 Break of the San Andreas Fault. Had the 1857 quake itself been studied in the detail that was given to the 1906 event, it would have been the most important event. However, very little is known about this earthquake that is useful for the objective stated above.

Another event likely to have caused a significant seismic effect in the area of the subject site during historic time is the 1892 Vacaville-Winters Earthquake. This earthquake likely occurred on the Coast Range Central Valley (CRCV) boundary zone thrust belt currently referred to as the Great Valley fault. This earthquake and related foreshocks and aftershocks are described by Bennett (1987), as follows: "Vacaville's night watchman, S.N. Bettis, was walking down Main Street at 2:40 a.m., lantern in hand, when "his attention was attracted by a rumbling sound coming from the hills, west of town. The noise resembled distant thunder or the roaring of water which had suddenly been let loose by the bursting of huge dam gates. Bettis stood still and listened a few seconds, while the noise increased to a roar and the ground beneath his feet seemed to heave up... "I felt as if I was on the deck of a vessel during a heavy storm, and I put my hands to the ground to prevent myself from falling on my face... After that, brick walls and chimneys began to fall around and the noise for a minute or so was deafening." On that Tuesday morning, April 19, 1892 most of northern California and west-central Nevada was shaken by an earthquake of about Richter magnitude (M) 6.5. Major damage was concentrated in the communities of Vacaville and Dixon in Solano County, and Winters in Yolo county, and surrounding rural areas along the western margin of the lower Sacramento Valley. Two days later at 9:43 a.m. on Thursday, April 21, a second severe earthquake in the M6 range shook the area again, causing further damage. The largest of numerous aftershocks, (approximately M5.5 event) occurred several days later. The larger April 19, 1892 event resulted in damage of intensity VII or greater effects were felt as far north as the communities of Esparto and Capay in Yolo County and also at Vacaville and Fairfield in Solano County to the south.

Recurrence of an event of similar magnitude in the Vacaville-Winters area today could be a threat to a vastly increased population and attendant facilities in the west Central Valley and San Joaquin Delta areas. The 1892 Vacaville-Winters earthquakes were comparable in destructive potential to the 1983 Coalinga earthquake (Mw6.4) or the 1971 San Fernando earthquake (Mw6.4). "Total damage in the relatively sparsely populated Coalinga area was $31 million; in the densely populated San Fernando area damage was over $500 million."

Wakabayashi and Smith (1994), in describing the historical seismicity of the Coast Range Central Valley region (CRCV) indicate that, "it appears probable that several large (M>6) earthquakes occurred too far east of the San Andreas and related strike-slip faults, and too far west of any probable Sierra Nevada extensional faulting, to be associated with any fault system other than the CRCV." These authors believe that previous estimates underestimated the magnitude of earthquakes in the Coast Range region. They recalculated magnitudes and showed that, in the period 1850 to 1985, there have been 11 large (>M6) earthquakes associated with the CRCV. They found that "the largest historical earthquakes attributed to the CRCV are the twin earthquakes of the 1892 Vacaville-Winters sequence. The largest of the two 1892 events may have been Mw6.8, compared to Mw6.5 for the 1983 Coalinga event."

The Livermore Valley, including the adjacent Dublin area, has experienced strong ground shaking during historic earthquakes. The July 1861 earthquake centered on the Calaveras fault had an estimated magnitude of 6.0 and produced severe damage in the Livermore Valley, near the present site of the city of Livermore (Radbruch, 1968). In 1906, the great San Francisco Earthquake (of magnitude 8+) on the San Andreas fault produced minor structural damage in Livermore Valley. Damage included cracked brick chimneys (approximately 50 percent collapsed), a fallen water tank, and ground fissures located about 1 mile (1.6 km) north of the city of Livermore with a maximum vertical uplift of about 19 inches (48 cm) (Lawson et al., 1908).

At 11:00 a.m. PST on Thursday, January 24, 1980, an earthquake of Magnitude 5.5 (M 5.5) shook the San Francisco Bay area. The epicenter of the quake was located approximately 12 kilometers southeast of Mount Diablo, in the sparsely-populated hills north of Livermore Valley. According to Bolt and others (1980), the M 5.5 earthquake was followed within two minutes by after-shocks of M 5.2 and M 4.2. This close repetition of M > 4 events resulted in a relatively long duration of shaking felt by people in the Livermore Valley and surrounding hills. Based on different methods of computation, the focal depth of the M 5.5 event earthquake was reported to be 11.8 kilometers (University of California Seismograph Station at Berkeley) and 6.5 kilometers (U. S. Geological Survey at Menlo Park). Discontinuous surface rupture associated with the earthquake was located approximately 12 kilometers south of the epicenter where a trace of the Greenville fault, previously mapped by Rogers (1966), crosses Vasco Road.

On January 26, 1980, at 6:33 p.m. PST, a second earthquake jolted the Livermore Valley and surrounding area. The epicenter of the second quake was located in the vicinity of Frick Lake, 14 kilometers south of the first earthquake epicenter and approximately 10 kilometers northeast of the town of Livermore. Seismologists from the University of California, Berkeley, reported a M 5.8 and a focal depth of 14.5 kilometers while the U. S. Geological Survey at Menlo Park reported a M 5.2 and a focal

depth of 9 kilometers. New zones of surface rupture were observed south of Vasco Road and across Laughlin Road along a projected trace of the Greenville fault previously mapped by Huey (1948) and Herd (1977).

Damage from the earthquakes was most evident in Livermore, the largest city close to the epicenters. After the January 24 event, 10,000 people were inconvenienced by loss of power for more than two hours. Plate glass windows shattered and piles of merchandise were scattered in shop aisles. Many mobile homes at the Sunrise Mobile Home Park were knocked off their foundations, buildings swayed and cracked in numerous places, and gas lines snapped. The overpass along Interstate 580 at Greenville Road was closed when paving on the east side of the structure settled nearly 30 centimeters as a result of shaking in fill materials. Although the overpass did not break, traffic was diverted until repairs and resurfacing of the road were completed. Fortunately, only a few minor injuries and one death (possibly from a heart attack) were reported as a result of the quake.

Probably of most concern to residents of Livermore were reports of damage to the nuclear research center at Lawrence Livermore Laboratory. However, most of the damage was non-structural, consisting largely of broken PVC pipes, paneling, glassware, overturned book shelves and untied trailers. Buildings housing radioactive materials and a reactor were unharmed. Costly damage was also experienced at the Wente Bros. Livermore winery where over a dozen giant stainless steel tanks were overturned by earthquake shaking and 168 out of 208 wine tanks suffered collapse or failure to some degree.

Geologic Subgrade

Information obtained from the geologic literature, as well as data from the above-described site exploration, indicate the general soil profile at the site consists predominately of loose/soft to dense/very stiff silty sand, sandy gravel, silty clay, and sandy clay. Assuming that any loose surface soil and fill material on the site are removed and recompacted as recommended in our Geotechnical Engineering Investigation, the geologic subgrade of the site can be conservatively approximated as "stiff soil". A Joyner-Boore Class C subgrade classification is considered appropriate for the soil profile and corresponds with a National Earthquake Hazard Reduction Program (NEHRP) (BSSC, 1994) Site Class D. The site class definition from the 2016 California Building Code that is most consistent with the site conditions is Site Class D.

Soil Liquefaction

Soil liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs in soils such as sand in which the strength is purely friction. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic event.

To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Groundwater depth;

2) Soil type;

3) Relative density;

4) Initial confining pressure;

5) Intensity and duration of groundshaking.

The soils encountered within a depth of 50 feet on the project site predominately consist of stiff to hard silty clay, sandy clay, clayey silt and sandy clayey silt or loose to dense clayey sand or silty sand. Moderate cohesion strength is associated with the clayey soils. Groundwater was encountered below the site within a depth of about 15½ feet during subsurface exploration. Available groundwater depth mapping, as well as our experience in the area, indicates that historically groundwater has been located at depths as shallow as 8 feet below grade in the general vicinity of the site.

The potential for soil liquefaction during a seismic event was evaluated using the LIQUEFYPRO computer program (version 5.8h) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 7.29 was used. A peak horizontal ground surface acceleration of 0.674g was considered conservative and appropriate for the liquefaction analysis. A groundwater depth of 8 feet was used for the analysis. The computer analysis indicates that soils above a depth of 8 feet are non-liquefiable due to the absence of groundwater. Some of the soils below a depth of 8 feet are considered to be liquefiable with factors of safety of 0.26 to 5.0. The analysis indicates that the total and differential seismic induced settlement is not anticipated to exceed 4 inches and 2⅔ inches, respectively. Accordingly, the liquefaction potential at the site is considered moderate and measures to mitigate liquefaction potential are provided in the site preparation section of this report.

Based on the estimated seismic settlements, liquefaction is considered a viable geologic hazard at the subject site.

Seismic Settlement

The estimated seismic settlement was determined at the site using the settlement analysis method by Tokimatsu, Seed, and Bolton (1987). The results of the settlement analysis are included as follows:

Location	Seismic Settlement (inches)				
	Saturated Settlement	Unsaturated Settlement	Total Settlement	Range of Differential Settlement	Design for Differential Settlement
B1	0.311	0.04	3.15	1.157 to 2.078	2⅔ Inches in 100 Feet
B19	4.01	0.00	4.01	2.005 to 2.647	
B30	0.75	0.00	0.75	0.377 to 0.498	

The above settlement values were determined at specific boring locations. The Consolidated Settlement (under static load of specific structures) and Differential Settlement (per specified length in building area) are indicated in the Foundations section of this report.

The native soils within the project site are not conducive to hydrocollapse due to the relatively firm to very stiff soil conditions, low void-ratio, shallow ground water, and moderate penetration resistance measured. Any loose fill material at the site could be vulnerable to hydrocollapse. However, the proposed structure is planned to be supported on Engineered Fill. Therefore, the structure will not be vulnerable to significant hydrocollapse. In addition, this hazard can be mitigated by following the design and construction recommendations of current and future Geotechnical Engineering Investigations (over-excavation and rework of any loose soils and/or uncertified fill materials).

An approximately 8 foot high hill has been recently reconstructed within the adjacent community park property west of the proposed school site. A small seasonal creek/drainage channel was previously located trending north-south through the site. The stream channel was backfilled and rerouted away from the site as part of the mass grading for the surrounding commercial and residential developments. The grading was approved and performed in accordance with Alameda County requirements. The potential for lateral spreading was evaluated using the "Revised Multilinear Regression Equations for Predication of Lateral Spread Displacement" by Youd, Hansen, Corbett and Bartlett (2002). Based on a lack of shallow liquefiable soils within the subject site, the distance of proposed structures from any existing streams or significant slopes, the site is not likely subject to lateral spreading hazards.

Subsidence Due to Fluid Withdrawal

Portions of California, such as the San Joaquin Valley, have been subject to land subsidence due to fluid withdrawal (groundwater and petroleum). However, the area of the subject site is not known to be subject to such subsidence hazards.

Non-Tectonic Faulting is most commonly encountered in suburban areas that have intense fluctuation in groundwater levels. The subject site is located in a densely populated portion of the San Francisco Bay Area. The local water districts regularly monitor the local groundwater levels. As such, the area is not likely to be subject to intense groundwater withdrawal or groundwater banking by the local water district which can subsequently create problems with nontectonic faulting. Therefore, non-tectonic faulting is not anticipated to affect the proposed development.

Expansive Soils

The surface and near surface soils observed on the site consist of predominately silty clays and sandy clays. The clayey soils are considered to be moderately to highly expansive. Therefore, it is recommended that mitigation measures to reduce the potential problems associated with expansive soils be followed as indicated in the Site Preparation section of this report. In addition, it is recommended that mitigation measures to reduce the potential problems associated with expansive soils be included, as needed, in subsequent Geotechnical Engineering Investigation Report(s) for specific development

and redevelopment projects at the subject site. We would not expect the expansive nature of these clayey soils to present a significant geologic hazard to the site provided that the recommendations of this report and future Geotechnical Engineering Investigation(s) are followed.

Inundation Hazards

A review of Federal Emergency Management Agency (FEMA) Flood Insurance Mapping for the area of the subject site (Community Panel Number 06001C0328G) indicates that the subject site is within "Zone X". "Areas determined to be outside the 0.2% annual chance floodplain. A FEMA Flood Insurance Map is included as Figure 10.

A review of the Office of Emergency Services, the City of Dublin, Alameda County, and Corps of Engineers Dam Inundation Mapping for the area of the subject site indicates that the subject site is not within an "Inundation Area" should a failure occur at the Dam structures of the Three J Ranch, Patterson, and Del Valle Reservoirs located 6, 9, and 9 miles from the site, respectively.

Tsunamis and Seiches

A tsunami is a series of ocean waves generated in the ocean by an impulsive disturbance. Due to the inland location of the subject site and an elevation greater than 400 feet above mean sea level, tsunamis are not considered a threat to the site. Seiches are standing waves in a body of water such as a lake or reservoir. Because such a body of water is not located near the site, seiches are not anticipated to affect the subject site.

Slope Stability and Potential for Slope Failure

Due to the generally flat-lying nature of the site and some of the immediately surrounding areas, as well as the plan to grade a relatively level site, problems from landslides are not anticipated to affect this site.

The subject site is presently located in an area of formerly hilly terrain. Mass grading had been performed within the project site and vicinity to construct relatively level building pads for proposed residential and commercial developments. The proposed school site is relatively level with no major changes in grade. However, an approximately 8 foot high, 6:1 (horizontal to vertical) slope has been constructed within the community park west of the site. The slope reconfiguration was approved by the county and included as part of the existing development. It is recommended that all school related structures be set back a minimum of 20 feet or ⅓ the height of this slope, from the slope edge. Although the existing slope may not be part of the school property, it is recommended that the slope be well vegetated and maintained for the life of the surrounding developments. This site is in an Alameda County Geologic Hazard Abatement District zone. Therefore, slope stabilization and maintenance requirements are currently performed in accordance with state and county requirements.

Volcanic Hazards

The subject site is not within an area known to be affected by volcanic hazards (Miller, 1989, USGS Bulletin, 1847).

County Seismic Safety Element

Documentation and mapping included in the Environmental Hazards section of the Alameda-East County Area Plan dated November 2000, and the Seismic Safety and Safety Element section of the City of Dublin General Plan, dated November 2008, were reviewed. The seismic information contained within these publications are somewhat dated or generalized and are superseded by more recent information and analyses described herein. The referenced documents generally indicate that the site area is subject to relatively moderate to high seismicity and related hazards.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 49 borings to depths ranging from approximately 10 to 50 feet below existing site grade, using a truck-mounted drill rig. In addition, 4 bulk subgrade samples were obtained from the site for laboratory R-value testing. The boring and bulk sample locations are shown on the Site Geologic Map, Figure No. 2. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. Site Geologic Cross Sections based on the exploratory drilling data are provided on Figure No. 3.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, expansion potential, plasticity, R-value and moisture density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils consisted of approximately 1 to 4 feet of fill material. The fill material predominately consisted of clayey sand, silty clay and sandy clay with minor gravel and concrete pieces. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates some compaction effort had been performed during fill placement. Representative samples of the clayey soils had expansion indices ranging from 106 to 139.

Below the fill material, approximately 4 to 5 feet of firm to hard sandy clay and gravelly sandy clay or loose to very dense clayey sand were encountered. Field and laboratory test suggest that these soils are moderately strong and slightly compressible. The clayey soils have a moderate to high potential for expansion. Penetration resistance ranged from 14 blows per foot to greater than 50 blows per 6 inches.

Dry densities ranged from 79 to 114 pcf. Representative soil samples consolidated approximately 1 percent under a 2 ksf load when saturated. Representative soil samples had angles of internal friction of 10 and 19 degrees.

Below 6 to 9 feet, layers of loose to very dense silty sand, sandy silt and clayey sand or firm to hard silty clay and sandy clay were encountered. Penetration resistance ranged from 6 to 50 blows per foot. Dry densities ranged from 92 to 117 pcf. Representative soil samples contained 16 to 87 percent fines. These soils had similar strength characteristics as the upper soils and extended to the termination depth of our borings.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was encountered within the borings at depths of 15½ to 21 feet below existing site grade. Information obtained from the California Geological Survey indicates that groundwater has been historically as shallow as 8 feet within the project site vicinity.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the existing development, loose surface soils, fill material, estimated seismic settlement and expansive nature of the clayey soils, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics and are highly compressible when saturated.

Approximately 1 to 4 feet of fill material was encountered within the site. The fill material predominately consisted of clayey sand, sandy clay, gravelly sandy clay, and sandy clay with traces of gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils at the time of our investigation. The limited testing indicates that some compaction effort had been applied to the fill soils during placement. It is recommended that compaction test reports be provided to our office for review. Some of the fill soils had varying strength characteristics ranging from loosely

placed to compacted. Therefore, it is recommended that any fill soils which have not been properly compacted and certified be excavated and stockpiled so that the native soil can properly prepared. The fill material will be suitable for reuse as Engineered Fill, provided it is cleansed of excessive organics and debris. Supplemental testing should be performed on the fill soils prior to construction to verify their suitability for use as Engineered Fill.

The areas of proposed development are adjacent to existing structures, pavement and landscaped areas consisting of grass, shrubs, and trees. The exposed surface soils have a loose consistency. Pavement consisting of concrete and asphaltic concrete are located along the edges of the site. In addition, several structures are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines that may extend into the project site. Demolition activities should include proper removal of any buried structures. Any buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled. It is suspected that demolition activities of the existing structures, utilities, and pavement will disturb the upper soils. Areas disturbed by demolition activities should be completely removed to firm native ground or certified Engineered Fill. The resulting excavations should be backfilled with Engineered Fill.

The upper native soils and fill material are predominately sandy clay and clayey sand with varying amounts of gravel. The clayey soils appear to have a moderate to high swell potential. The estimated swell pressure of the clayey material may cause movement-affecting slabs and brittle exterior finishes. To reduce the potential soil movement, it is recommended that the upper 36 inches of soil within slab-on-grade or exterior flatwork areas be non-expansive fill. The fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soils below, which may result in swelling. The replacement soil and/or the upper 36 inches of Imported Fill soils should meet the specifications as described under the subheading Engineered Fill. The replacement soils should extend 5 feet beyond the perimeter of the buildings. The non-expansive replacement soil should be compacted to at least 90 percent relative compaction based on ASTM Test Method D1557. The exposed native soils in the excavation should not be allowed to dry out and should be kept continuously moist prior to backfilling. In addition, it is recommended that slab-on-grade continuous footings and slabs be nominally reinforced to reduce cracking and vertical off-set.

As an alternative to the use of non-expansive soils, the upper 36 inches of soil supporting slab-on-grade and exterior flatwork areas can consist of lime-treated clayey soils. The lime-treated soils should be recompacted to a minimum of 90 percent of maximum density. Preliminary application rate of lime should be 5 percent by dry weight. The lime material should be calcium oxide, commonly known as quick-lime. The clayey soils should be at or near optimum moisture during the mixing operations. As an alternative, within exterior flatwork areas, the upper 18 inches of soil can consist of lime-treated clayey soils overlain by 4 inches of aggregate base. However, some movement of the exterior flatwork may occur with this alternative.

The total seismic-induced settlement is not expected to exceed 4 inches. Differential settlement caused by a seismic event should be less than 2⅔ inches. The anticipated differential settlement is estimated over the width of the building. If the project's Structural Engineer deems these settlements excessive for spread and continuous footings, a post-tensioned or structural slab foundation may be utilized. If the post tensioned slab is designed to withstand the uplift pressures associated with the clayey soils, the previously recommended non-expansive or lime-treated soil under the slabs can be eliminated.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,500 psf for dead-plus-live loads. Footings should have a minimum embedment of 18 inches.

Groundwater Influence on Structures/Construction

During our field investigations, groundwater was encountered at depths of 15½ to 21½ feet below site grade. However, review of historical data indicates groundwater has been as shallow as 8 feet within the project site vicinity. If groundwater is encountered during construction our firm should be consultant prior to dewatering the site. Installation of a standpipe piezometer is suggested prior to construction should groundwater levels be a concern.

In addition to the groundwater level, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation - General

General site clearing should include removal of vegetation; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Approximately 1 to 4 feet of fill material was encountered within the site. The fill material predominately consisted of clayey sand, sandy clay, gravelly sandy clay, and sandy clay with traces of gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils at the time of our investigation. The limited testing indicates that some compaction effort had been applied to the fill soils during placement. It is recommended that compaction test reports be provided to our office for review. Some of the fill soils had varying strength characteristics ranging from loosely placed to compacted. Therefore, it is recommended that any fill soils which have not been properly compacted and certified be excavated and stockpiled so that the native soil can properly prepared. Prior

to fill placement, Krazan & Associates Inc. should inspect the bottom of the excavation to verify no additional removal will be required. Supplemental testing should be performed on the fill soils prior to construction to verify their suitability for use as Engineered Fill.

The site is presently adjacent to existing structures, pavement, and landscaped areas consisting of grass, shrubs, and trees. The exposed surface soils have a loose consistency. Pavement consisting of concrete and asphaltic concrete are located along the edges of the site. Several structures are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines that may extend into the project site. Demolition activities should include proper removal of any surface and buried structures. Any buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, demolition activities, and fill removal operations and/or certification verification, the exposed subgrade in building pad, exterior flatwork, and pavement areas should be excavated/scarified to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned to at least 2 percent above optimum moisture, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 5 feet beyond structural elements. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

It is recommended that the upper 36 inches of soil within proposed conventional slabs-on-grade and exterior flatwork areas consist of non-expansive Engineered Fill or lime-treated Engineered Fill. The intent is to support slab-on-grade and exterior flatwork areas with 36 inches of non-expansive or lime-treated fill. The fill placement serves two functions: 1) it provides a uniform amount of soil which will more evenly distribute the soil pressures and 2) it reduces moisture content fluctuation in the clayey material beneath the building area. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. The on-site, non-expansive sandy silt and silty sand soils will be suitable for this purpose. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soil below, which may result in soil swelling. Imported Fill should be approved by the Soils Engineer prior to placement. The fill should be placed as specified as Engineered Fill. As an alternative, within exterior flatwork areas, the upper 18 inches of soil can consist of lime-treated clayey soils overlain by 4 inches of aggregate base. However, some movement of the exterior flatwork may occur with this alternative.

As indicated previously, fill material is located on the site. It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill materials should be moisture-conditioned to near optimum moisture and compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle, which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned to a minimum of 2 percent above optimum moisture content and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Several trees are located within the project site vicinity. If not utilized for the proposed development, tree removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

The upper soils, during wet winter months become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

Existing structures surround portions of the site. Construction activities are being performed on adjacent properties and may extend into the project site. Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels, should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. Any buried structures encountered during construction should be properly removed and backfilled. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Supplemental Site Preparation - Geogrid Option

Subsurface soils within the site are prone to liquefaction under high groundshaking acceleration during an earthquake. If the potential differential settlement is not acceptable, the proposed structures can be constructed over a geogrid reinforced soil mat. If this option is utilized, the building area should be excavated to a minimum depth of 5 feet below the bottom of the deepest foundation and the resulting excavation should be backfilled with a layered system of Engineered Fill and geogrid reinforcement. The depth of the over-excavation should be measured from existing ground or rough pad grade, whichever is deeper.

The first layer of geogrid reinforcement will be placed directly at the bottom of the excavation. The geogrid material should be overlapped a minimum of 3 feet in all directions. The geogrid strips should be "shingled" such that the exposed geogrid edge is opposite the direction of fill placement (as roof shingles to rain runoff). The interlock between the geogrid and Engineered Fill will provide load transfer. No vehicles may traverse the geogrid prior to placement of the Engineered Fill cover.

The next layer of geogrid should be placed on top of the compacted Engineered Fill. This and subsequent layers need only be overlapped a minimum of 1 foot on all sides. The geogrid strips of this layer, and all subsequent layers within the footprint, should be placed with lengths perpendicular to those in the layer immediately below. The fill soils excavated from the area beneath the structure may be moisture-conditioned and recompacted between geogrid layers as reinforced fill. The reinforced fill should be conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM D1557 Test Method.

A total of 5 geogrid layers, including the layer at the base of the excavation, should be installed at vertical increments of 1 foot. The geogrid layers should extend to a minimum of 5 feet beyond the exterior footing perimeter of the structure. The geogrid reinforcement fabric should consist of Tensar® BX 6100 Geogrid, TriAx TX-5 or equivalent. Any unstable soils within building areas should be excavated and backfilled with Engineered Fill as requested by the Soil Engineer.

It is recommended that each building site be excavated at once, and soils be stockpiled. The geogrid and excavated soil may then be placed and recompacted as recommended herein. Alternatively, the Contractor may elect to excavate the site in two stages, where excavated soil can be stockpiled over one-half of the site while the other half is mitigated. However, if the Contractor elects the option of two stages over the preferred option of using one stage, a minimum of 5 feet of geogrid from the first half should overlap the second half. Furthermore, the overlapping geogrid should be protected from damages, which may be caused by operating equipment. It is further recommended that flexible utility connections be used for the project.

Engineered Fill

The organic-free, on-site, upper, native and fill soils are predominately sandy clay, gravelly sandy clay, clayey sand, silty clay, and sandy clay with a trace of gravel. The clayey soils will not be suitable for reuse as non-expansive Engineered Fill. These clayey soils will be suitable for reuse for fill placement within the upper 36 inches of conventional slab-on-grade and exterior flatwork areas, provided they are lime-treated. The preliminary application rate of lime should be 5 percent by dry weight. The lime material should be calcium oxide, commonly known as quick-lime. The clayey soils should be at or near optimum moisture content during mixing operations. Additional testing is recommended to determine the appropriate application rate of lime prior to placement. These clayey soils will be suitable for reuse as General Engineered Fill, provided they are moisture-conditioned to at least 2 percent above optimum moisture.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill should consist of a well-graded, slightly cohesive, fine silty sand or sandy silt, with relatively impervious characteristics when compacted. This material should be approved by the Soils Engineer prior to use and should typically possess the following characteristics:

Percent Passing No. 200 Sieve	20 to 50
Plasticity Index	10 maximum
UBC Standard 29-2 Expansion Index	15 maximum

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to achieve at least 90 percent of maximum density as determined by ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Slots or weep holes should be placed in drop inlets or other surface drainage devices in pavement areas to allow free drainage of adjoining base course materials. Cutoff walls should be installed at pavement edges adjacent to vehicular traffic areas; these walls should extend to a minimum depth of 6 inches below pavement subgrades to limit the amount of seepage water that can infiltrate the pavements. Where cutoff walls are undesirable, subgrade drains can be constructed to transport excess water away from planters to drainage interceptors. If cutoff walls can be successfully used at the site, construction of subgrade drains is considered unnecessary.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of the maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of the maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations - Conventional

The proposed structures may be supported on a shallow foundation system, bearing on a minimum of 24 inches of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,875 psf
Dead-Plus-Live Load	2,500 psf
Total Load, including wind or seismic loads	3,325 psf

Exterior footings should have a minimum depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Interior footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total soil movement associated with foundation loads is not expected to exceed ¾ inch. Differential soil movement, along a 20-foot exterior wall footing, or between adjoining column footings, should be less than ½ inch, producing an angular distortion of 0.002. Most of the soil movement is expected to occur during construction as the loads are applied. However, additional post-construction soil movement may occur if the foundation soils are flooded or saturated.

The estimated total seismic-induced settlement is not anticipated to exceed 4 inches. Differential settlement caused by a seismic event is estimated to be less than 2⅔ inches. The anticipated differential settlement is estimated over a horizontal distance of 100 feet. The seismic settlements would develop if liquefaction of the underlying saturated subsoils were to occur during a seismic event. If the structures are supported on geogrid reinforced Engineered Fill, the differential movement associated with a seismic event is estimated to be less than 1 inch over 100 feet.

Providing the site is prepared as recommended in our report, seasonal rainfall, water run-off, or normal watering practice of trees and landscaping areas, around the proposed building, should not flood and/or saturate the footings, and consequently produce additional post-construction soil movement.

The footing excavations should not be allowed to dry out any time prior to pouring concrete. It is recommended that footings be reinforced by at least one No. 4 reinforcing bar in both top and bottom.

Resistance to lateral footing displacement can be computed using a friction factor of 0.3 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety. It is recommended a factor of safety of 1.5 be incorporated into the design.

Foundations - Post-Tension or Structural Slab

The buildings may be supported on a post-tension slab or structural slab/foundation system. A structural slab system will help reduce structural damage caused by the potential soil movement of the clayey soils and potential settlement associated with seismic settlement. In addition, utilization of a post-tensioned slab will eliminate the requirement for 36 inches of non-expansive or lime-treated Engineered Fill below slab-on-grade. However, the previously recommended densification of the upper native soils and fill material at the site should still be performed. In addition, the moisture content of the upper 12 inches of subgrade soil below the post-tensioned slabs should be increased to a minimum of 3 percent above optimum moisture content prior to pouring the slabs. The moisture content should be verified by our office within 48 hours of pouring the slabs.

The thickness of the slab-on-grade and locations and sizing of stiffening beams (if used) should be determined by the structural consultant during a subsequent structural analysis, which incorporates our design recommendations, including a deepened perimeter or edge section. Post-tensioned slab-on-grade foundations should be structurally designed to resist or distribute the stresses that are anticipated to develop as the result of supporting soil movement. The following preliminary parameters are recommended for use in the structural design of the post-tensioned slab-on-grade foundations in accordance with *Design of Post-Tensioned Slabs-on-Ground*, 3rd Edition, by the Post-Tensioning Institute. In addition, the computer software program Volflo 1.5, by Geostructural Tool Kit, Inc. was also utilized in the analyses. A preliminary allowable bearing pressure of 1,500 pounds per square foot due to dead plus live loads may be considered in design of the slab. The recommended edge moisture variation (e_m) and differential swell (y_m) values for use in preliminary design of post-tensioned slabs are as follows:

Edge Moisture Variation Distance:	Estimated Differential Swell:
Center lift, e_m = 8.3 feet	Center lift, y_m = 1 inch
Edge lift, e_m = 4.2 feet	Edge lift, y_m = 1½ inches

To aid in reducing the potential for differential soil movement associated with shrinkage and swelling of the fine-grained soils due to changes in moisture contents with changing seasons and landscaping, we recommend that the exterior edge of the slab be deepened to provide a moisture cut-off around the

perimeter of the building. The deepened edge should extend at least 18 inches below the top of the pad grade, where the top of pad grade is defined as the grade beneath the bottom of the capillary moisture break gravel course or the adjacent exterior subgrade, whichever is deeper.

In addition, the slab should be designed to withstand a potential total and differential static settlement of 4 inches and 2⅔ inches, respectively.

Slabs adjacent to landscape areas may be subject to additional distress due to increased soil moisture level fluctuations from flowerbed watering, as well as drying from tree root moisture removal. Therefore, we recommend that the school district be notified of the potential for soil movement and resulting slab distress which may occur in these instances of landscape neglect. In addition, it is recommended the school site maintain consistent moisture levels and avoid extreme fluctuations in any flowerbeds adjacent to structures, and to avoid planting trees with invasive root systems within 10 feet of the structures.

The thickness of the slab-on-grade and locations and sizing of stiffening beams (if used) should be determined by the project Structural Engineer. Post-tensioned concrete slabs designed to be of uniform thickness without interior stiffening beams should be designed in accordance with the procedures presented in *Design of Post-Tensioned Slabs-on-Ground*. Perimeter columns located outside of the main structure, such as those required for covered terraces or second floor areas projecting out beyond the building footprint should not be founded on isolated spread footings structurally separated from the slab foundation.

The post-tensioned slab-on-grade foundation system will not prevent the structure from undergoing vertical displacement as a result of shrinkage and swelling of the underlying expansive soils. However, the use of a post-tensioned slab-on-grade foundation system, as opposed to a conventionally reinforced non-structural slab-on-grade, will reduce the amount of objectionable slab cracks and vertical off-set of adjacent concrete panels. However, cracking and distress in brittle finishes, such as stucco and drywall should be anticipated. The use of post-tension reinforcement does not necessarily eliminate the development of bending stresses in the slab due to differential movement of the supporting soils. This type of slab essentially distributes the differential movement of the supported structure over a longer span through controlled bending of the slab.

Resistance to lateral displacement can be computed using an allowable friction factor of 0.3 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

Floor Slabs and Exterior Flatwork

Concrete slab-on-grade should be appropriate for this project. In areas where it is desired to reduce floor dampness, such as office areas, slab-on-grade construction should have a water vapor retarder incorporated into the floor slab design. In areas that will utilize moisture-sensitive floor coverings, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, open-graded coarse rock of ¾-inch maximum size.

The floor slab should be reinforced as a minimum with No. 3 reinforcement bars at 18 inches on-center, each way, within the floor slabs middle-third. Thicker floor slabs with increased concrete strength and reinforcement should be designed wherever large vehicular loads, heavy concentrated loads, heavy equipment, or machinery is anticipated.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. Exterior finish grades should be sloped a minimum of 1 to 1½ percent away from all interior slab areas to preclude ponding of water adjacent to the structures. All fills required to bring the building pads to grade should be Engineered Fills.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 50 pounds per square foot per foot of depth. Walls incapable of this deflection or are fully constrained walls against deflection may be designed for an equivalent fluid at-rest pressure of 70 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations or roadways.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Retaining and/or below grade walls should be drained with either perforated pipe encased in free draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches wide and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic concrete or other suitable backfill to reduce surface drainage into the wall drain system. The aggregate should conform to Class 2 permeable materials graded in accordance with Section 68-2.02F(3) of the CalTrans Standard Specifications

(2018). Prefabricated drainage systems such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall in the centerline of the drainage blanket and should have a minimum diameter of 4 inches. Collector pipes may be either slotted or perforated. Slots should be no wider than ⅛ inch in width, while perforations should be no more than ¼ inch in diameter. If retaining walls are less than 6 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete walls) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to Section 88-1.02 of the CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

R-Value Test Results and Pavement Design

Four subgrade soil samples were obtained from the project site for R-value testing at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Sandy Clay (CL)	Less than 5
2	12-24"	Sandy Clay (CL)	Less than 5
3	12-24"	Sandy Clay (CL)	Less than 5
4	12-24"	Sandy Clay (CL)	Less than 5

The test results are low and indicate poor subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Class III Aggregate Subbase	Compacted Subgrade**
4.0	2.0"	8.5"	--	12.0"
4.0	2.0"	4.5"	4.5"	12.0"
4.5	3.0"	9.0"	--	12.0"
4.5	3.0"	4.0"	5.5"	12.0"
5.0	3.0"	11.0"	--	12.0"
5.0	3.0"	5.0"	6.5"	12.0"

5.5	3.0"	11.5"	--	12.0"
5.5	3.0"	5.0"	7.0"	12.0"
6.0	3.0"	13.5"	--	12.0"
6.0	3.0"	6.5"	8.0"	12.0"
6.5	3.5"	14.0"	--	12.0"
6.5	3.5"	6.0"	9.0"	12.0"
7.0	4.0"	15.5"	--	12.0"
7.0	4.0"	6.5"	10.0"	12.0"
7.5	4.0"	17.0"	--	12.0"
7.5	4.0"	7.5"	10.5"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 90% compaction based on ASTM Test Method D1557 or CAL 216***

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	6.0"	5.0"	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	7.0"	6.0"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 90% compaction based on ASTM Test Method D1557 or CAL 216***
******Minimum Compressive Strength of 3000 psi***

As indicated previously, fill material is located throughout the site. It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill material should be moisture-conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters – 2016 California Building Code

The Site Class per Section 1613A of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613A.3.2
Site Coefficient F_a	1.000	Table 1613A.3.3 (1)
S_s	1.796	Section 1613A.3.1
S_{MS}	1.796	Section 1613A.3.3
S_{DS}	1.197	Section 1613A.3.4
Site Coefficient F_v	1.500	Table 1613A.3.3 (2)
S_1	0.602	Section 1613A.3.1
S_{M1}	0.902	Section 1613A.3.3
S_{D1}	0.602	Section 1613A.3.4

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 0.1 percent and are below the maximum allowable values established by HUD/FHA and UBC. However, it is recommended a Type II cement be utilized to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill

material passing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in

this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 907-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

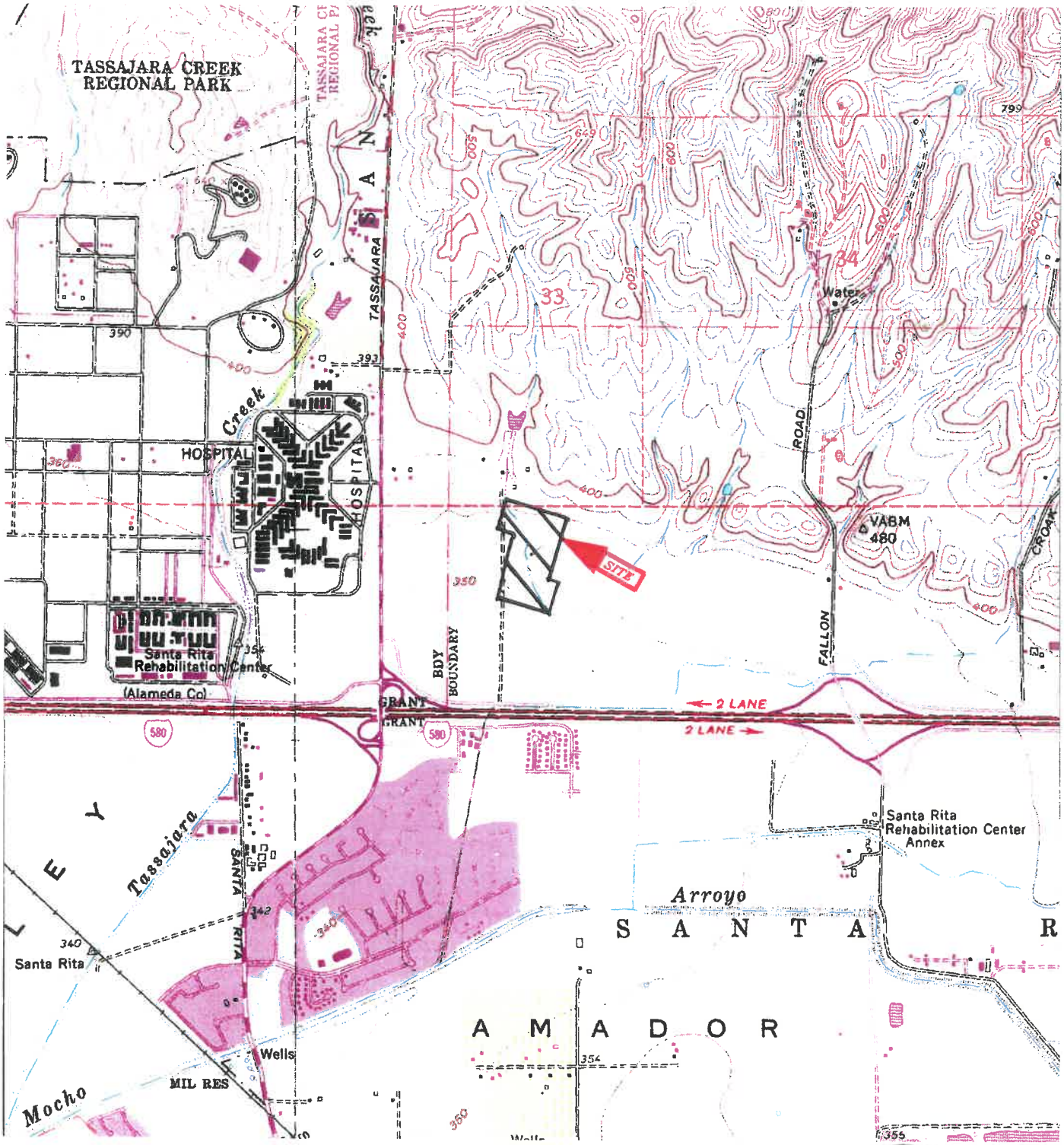


Stephen J. Nelson
Certified Engineering Geologist
CEG No. 2146



David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SJN/DRJ:ht



VICINITY MAP

NORTH

0 2,000' 4,000'

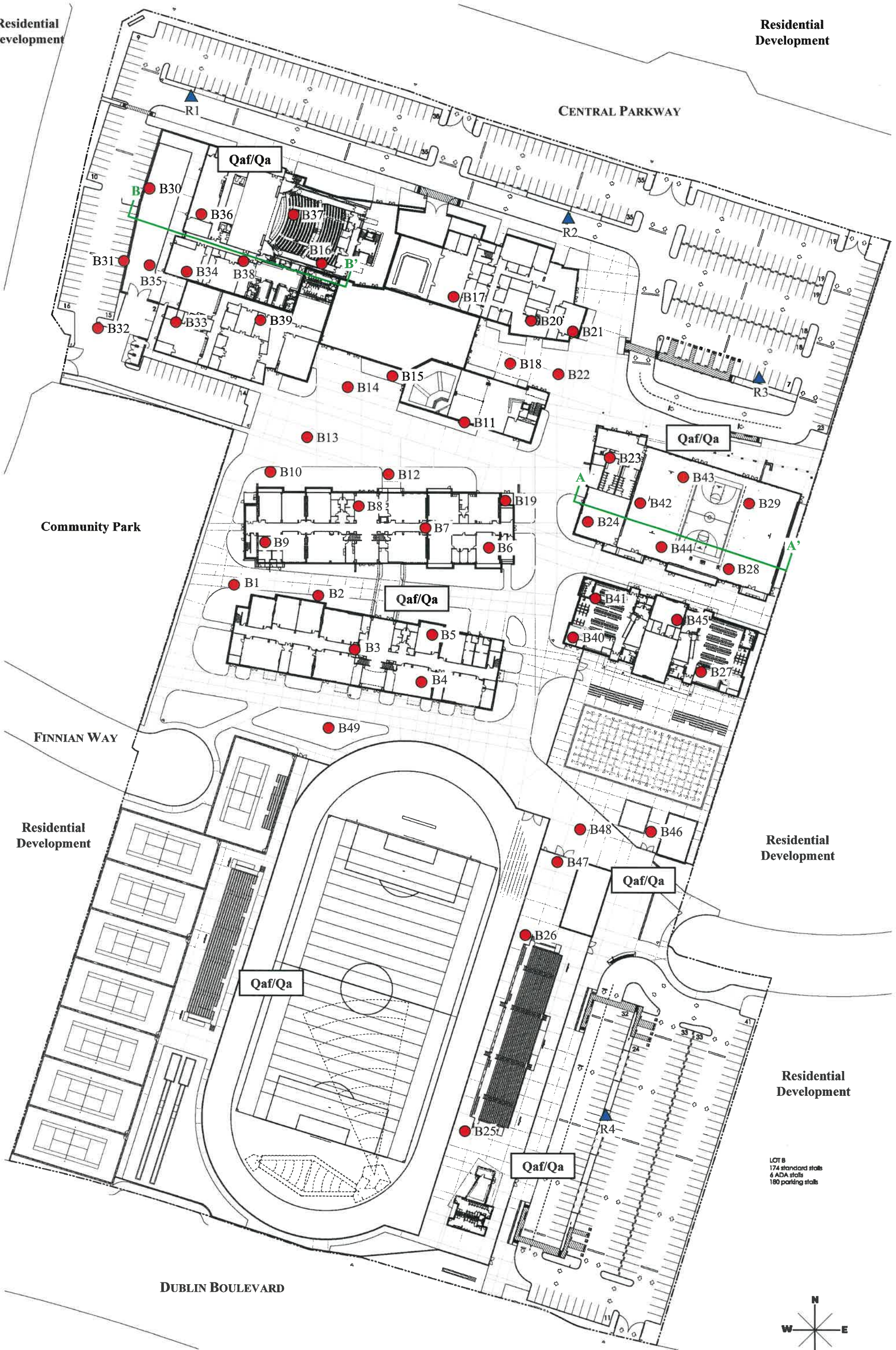
SCALE IN FEET (±)

MAP SOURCE:

U.S.G.S. "LIVERMORE, CA." QUADRANGLE
7.5 MINUTE SERIES (TOPO), DATED 1961
PHOTOREVISED 1980

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN Drawn by: MN Project No. 042-19017	Date: 9/19 Approved by: SN Figure No. 1

Krazan
ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS
Offices Serving the Western United States



SITE GEOLOGIC MAP

FIGURE 2.1

1" = 100'



BORING LOCATION

R-VALUE LOCATION

CROSS-SECTION LOCATION

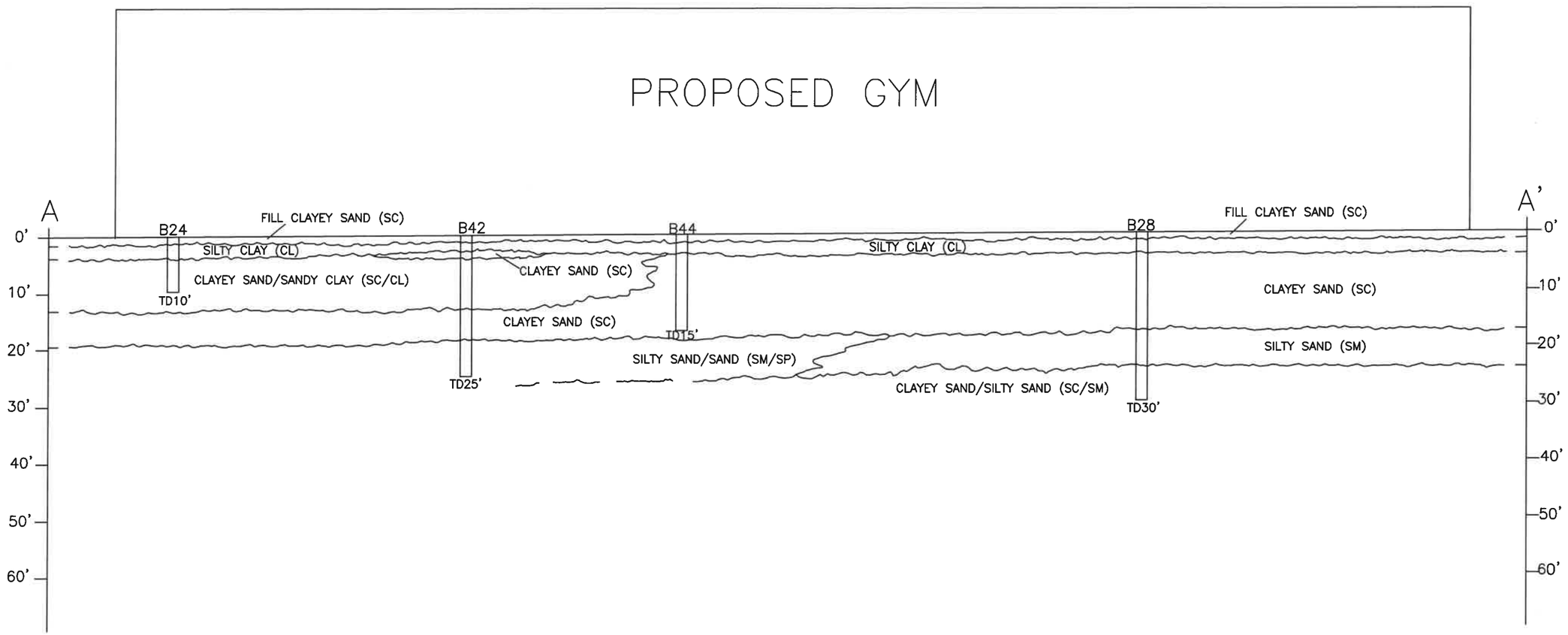
Qaf/Qa — **QUATERNARY FILLS UNDERLAIN BY QUATERNARY ALLUVIAL GRAVEL, SAND AND CLAY**

(Covers Entire Area Shown on Site Plan)

SITE GEOLOGIC MAP

EXPLANATION

Dublin Unified New High School **Central Parkway and Chancery Lane** **Dublin, Alameda County, California**	**Scale:** N/A	**Date:** Sept. 2019	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: HT	**Approved by:** DJ	
	Project No. 042-19017	**Figure No.** 2a	

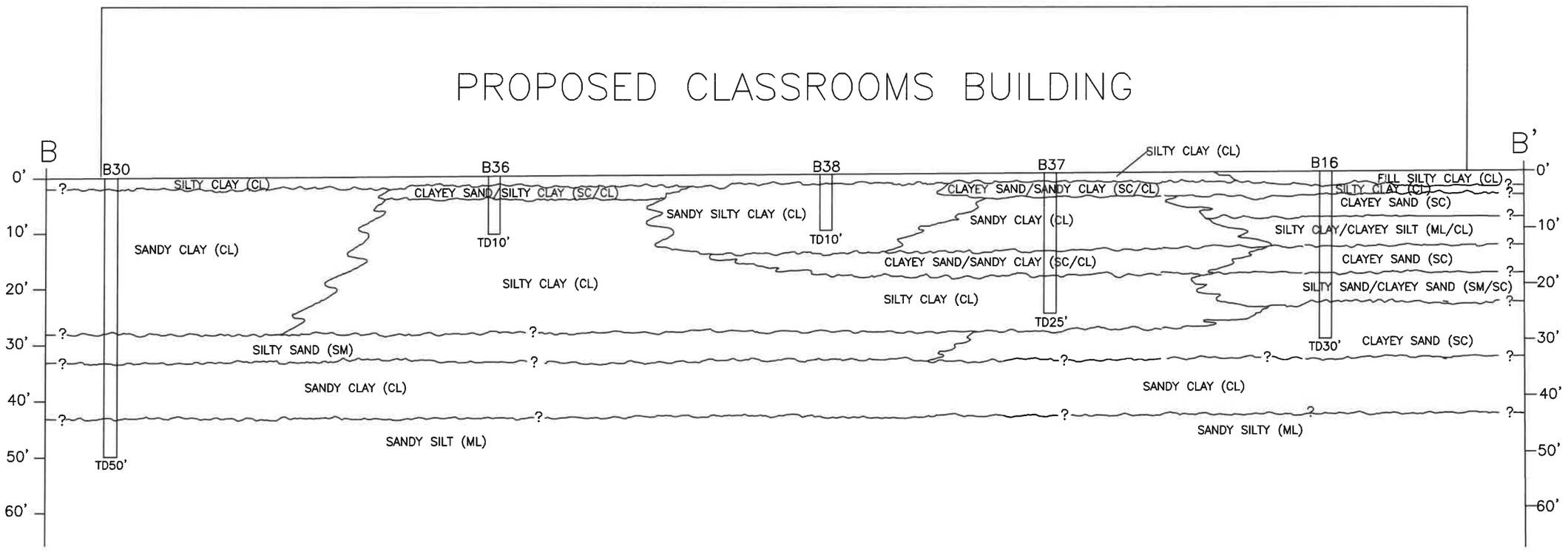


SITE GEOLOGIC CROSS SECTION A–A'

0' 20' 40'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOLSCHOOL CENTRAL PARKWAY & CHANCERY LN	Scale: AS SHOWN	Date: 9/19	Krazan ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS *Offices Serving the Western United States*
	Drawn by: MN	Approved by: SN	
DUBLIN CA.	Project No. 042–19017	Figure No. 3.1	



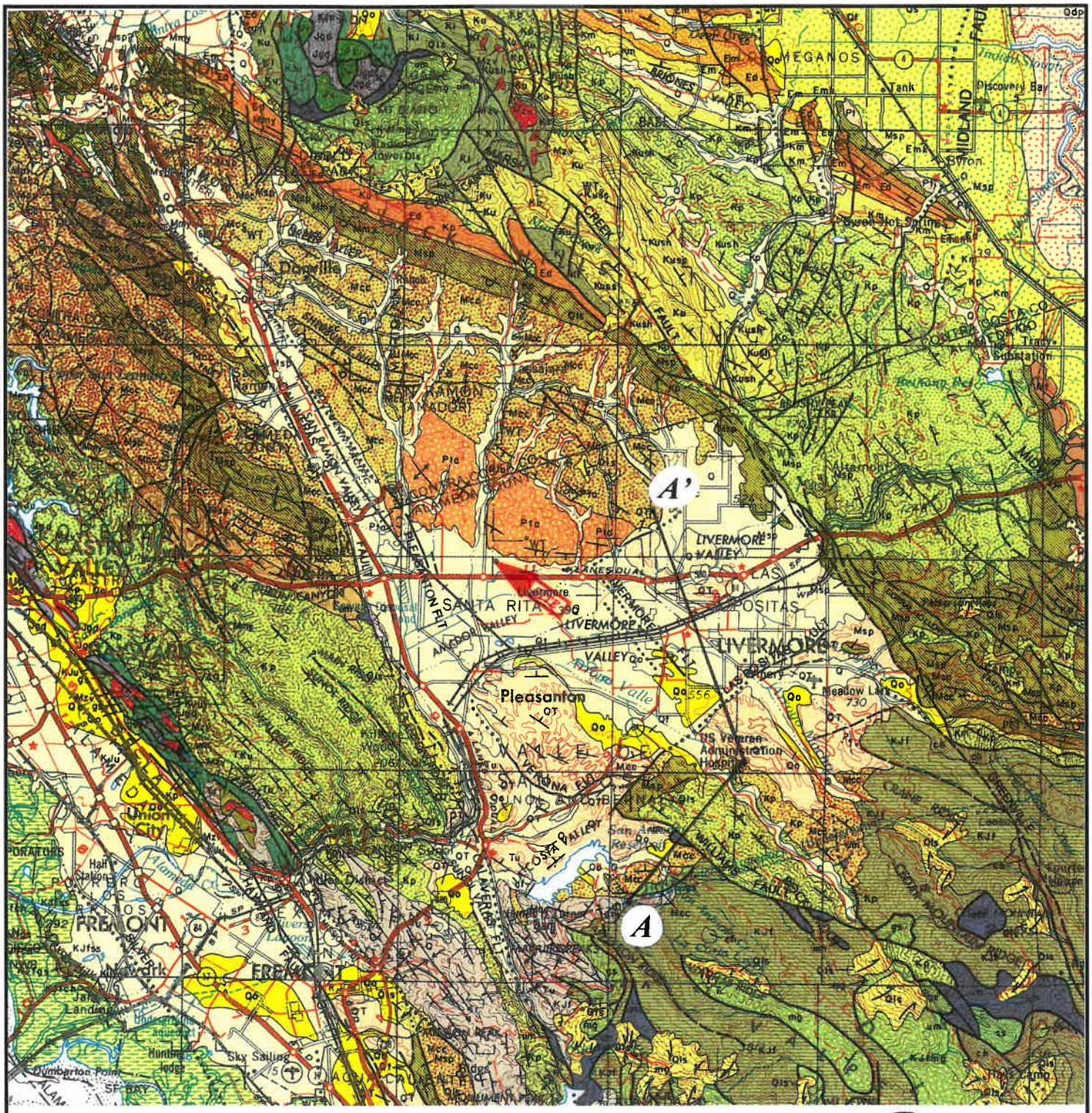
SITE GEOLOGIC CROSS SECTION B–B'

0' 20' 40'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOLSCHOOL CENTRAL PARKWAY & CHANCERY LN		Scale: AS SHOWN	Date: 9/19
		Drawn by: MN	Approved by: SN
DUBLIN	CA.	Project No. 042–19017	Figure No. 3.2

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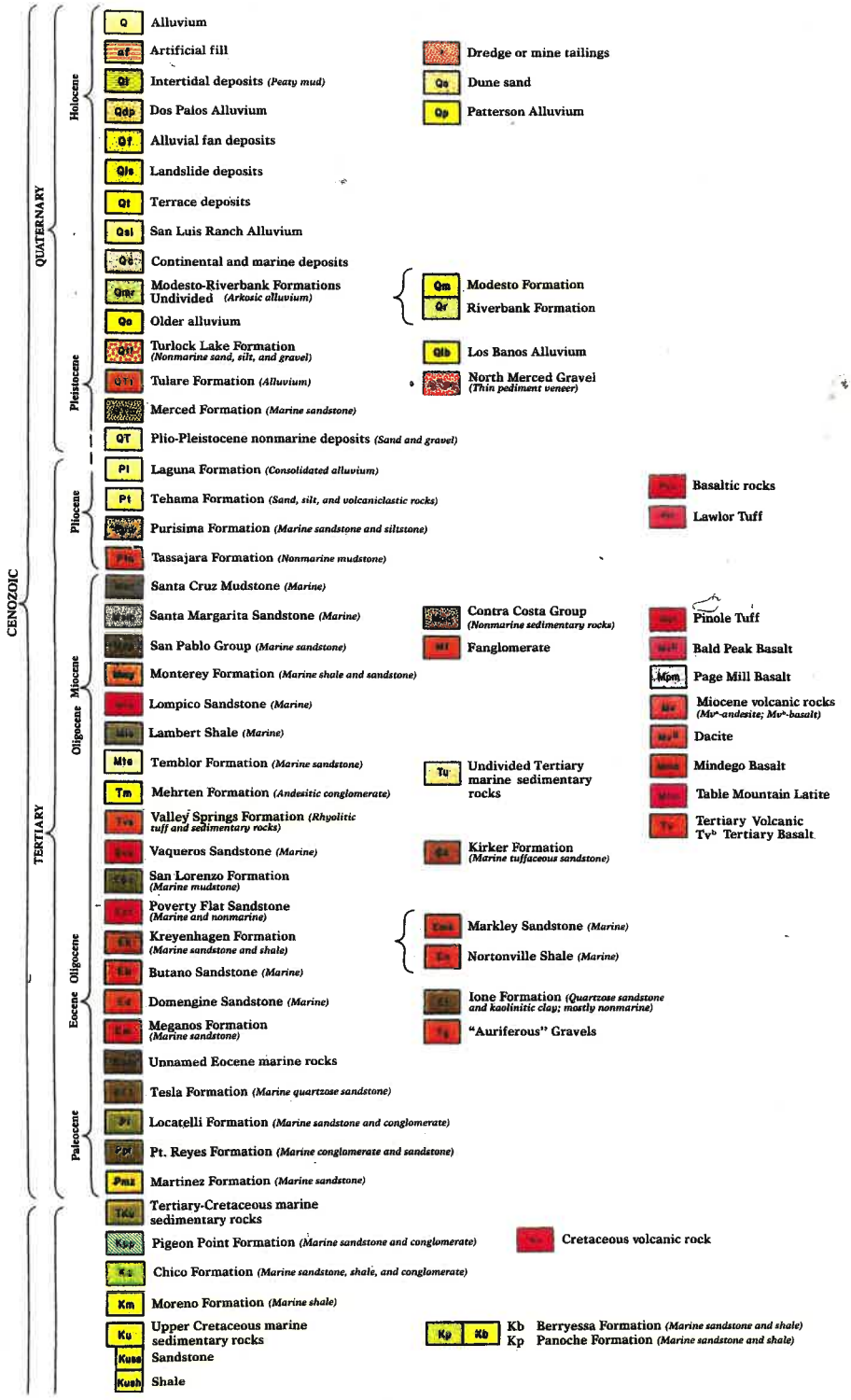
REGIONAL GEOLOGIC MAP

A ——— *A'*

FROM:
GEOLOGIC MAP OF THE SAN FRANCISCO-SAN JOSE QUADRANGLE, COMPILATION BY D. WAGNER, E. BORTUGNO AND R. McJUNKIN, 1991

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 4

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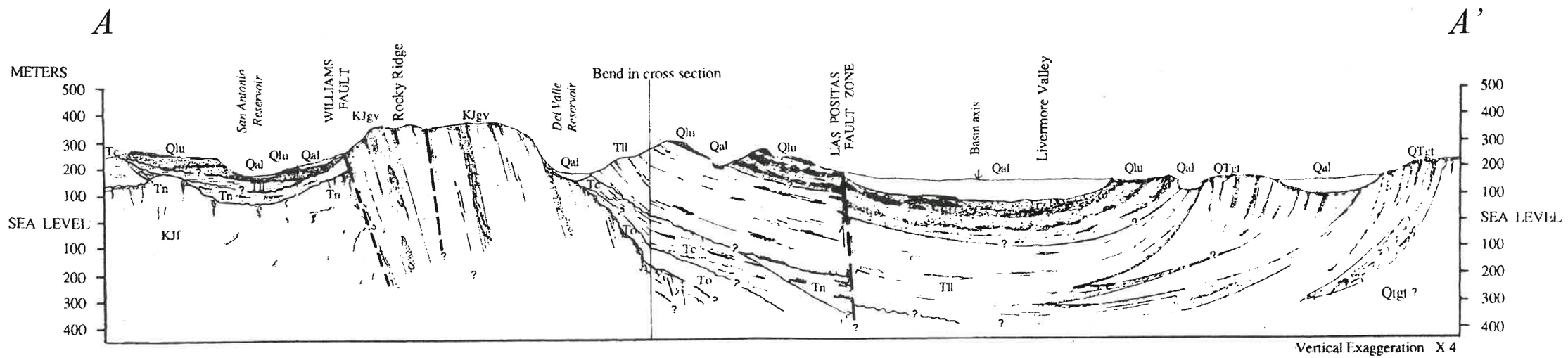


REGIONAL GEOLOGIC MAP

EXPLANATION

FROM:
GEOLOGIC MAP OF THE SAN FRANCISCO–SAN JOSE QUADRANGLE COMPILATION BY D. WAGNER, E. BORTUGNO, AND R. McJUNKIN 1991

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19	Krazan ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS *Offices Serving the Western United States*
	Drawn by: MN	Approved by: SN	
	Project No. 042–19017	Figure No. 4a	



REGIONAL GEOLOGIC CROSS-SECTION

SCALE
HORIZONTAL: 1" = 1600 FEET
VERTICAL: 1" = 400 FEET

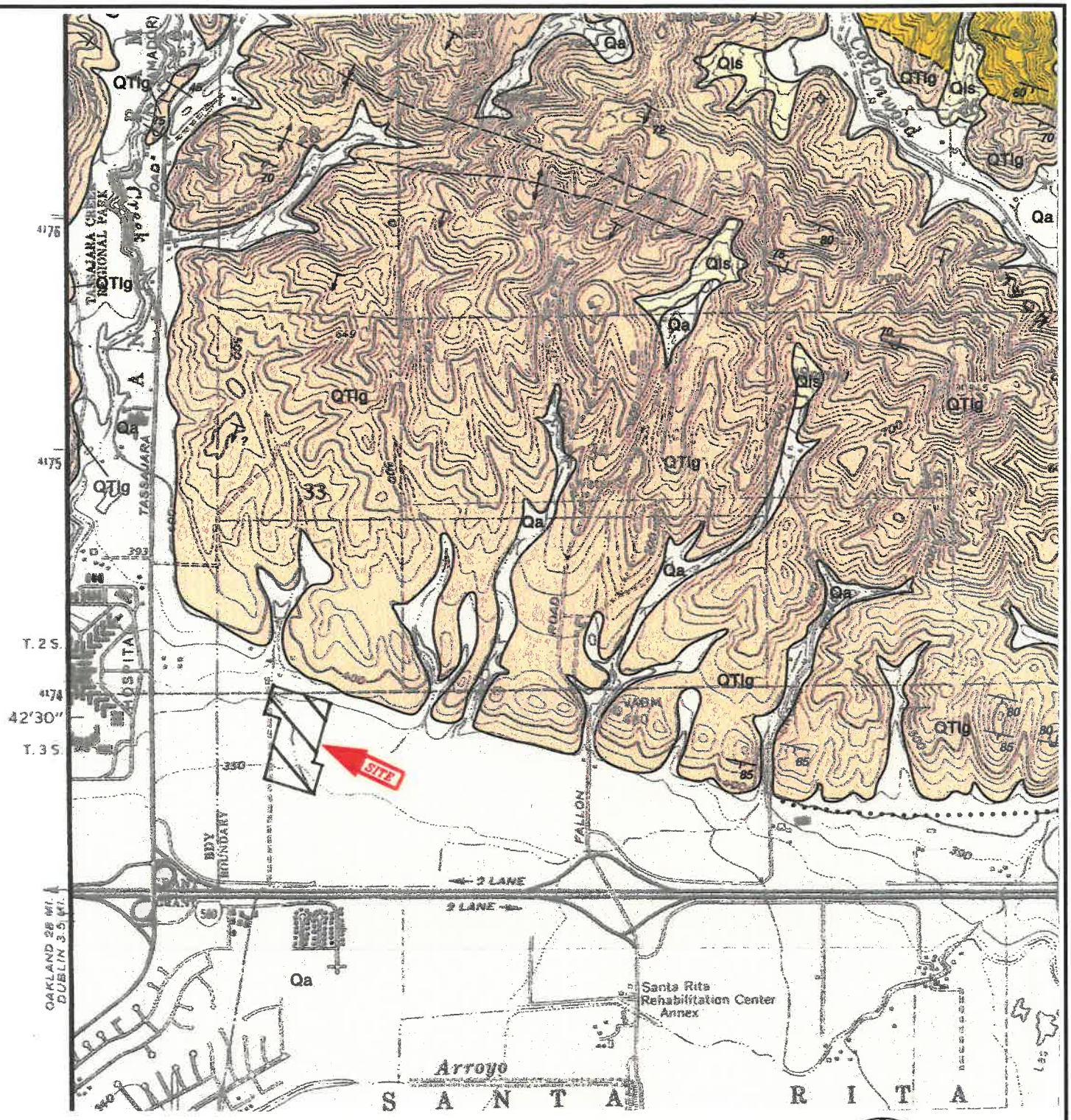
FROM:
GEOLOGIC MAP OF THE LIVERMORE GRAVELS, ALAMEDA COUNTY, CALIFORNIA.
COMPILATION BY V.E. BARLOCK, 1988.

REFER TO REGIONAL GEOLOGIC MAP FOR CROSS-SECTION LOCATION

GEOTECHNICAL ENGINEERING INVESTIGATION
DUBLIN UNIFIED NEW HIGH SCHOOL
CENTRAL PARKWAY & CHANCERY LN
DUBLIN, CA

Scale:	Date:
AS SHOWN	9/19
Drawn by:	Approved by:
MN	SN
Project No.	Figure No.
042-19017	5

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LOCAL GEOLOGIC MAP

NORTH

0 2000 4000

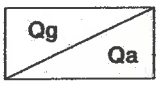
SCALE IN FEET(±)

FROM:
GEOLOGIC MAP OF THE LIVERMORE QUADRANGLE, CONTRA COSTA AND ALAMEDA COUNTIES, CALIFORNIA, COMPLATION BY T.W. DIBBLEE, 2006

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 6

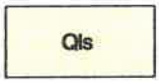
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LEGEND

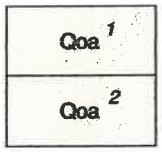


SURFICIAL SEDIMENTS

Qg *Sand and gravel of major stream channels*
Qa *Alluvial gravel, sand and clay of valley areas*



LANDSLIDE RUBBLE



OLDER SURFICIAL SEDIMENTS

Dissected terrace deposits, undeformed; age, late Pleistocene

Qoa1 *Alluvial gravel and sand at low levels*
Qoa2 *Older alluvial gravel and sand at higher levels*

— *UNCONFORMITY* —



LIVERMORE GRAVEL

(of Clark, 1935) Valley sediments of Livermore basin; sub-lithified, age, Pliocene to early Pleistocene

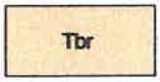
QTlg *In south area, reddish cobble-pebble gravel and sand of Franciscan detritus, coarse, crudely bedded in north area, locally called Tassajero formation (Clark, 1938) gray pebble gravel, sand and clay, in large part clay, poorly exposed*



ORINDA FORMATION

(Locally called Green Valley Formation in north area *) Valley sediments of Livermore basin, sublithified; age, Pliocene

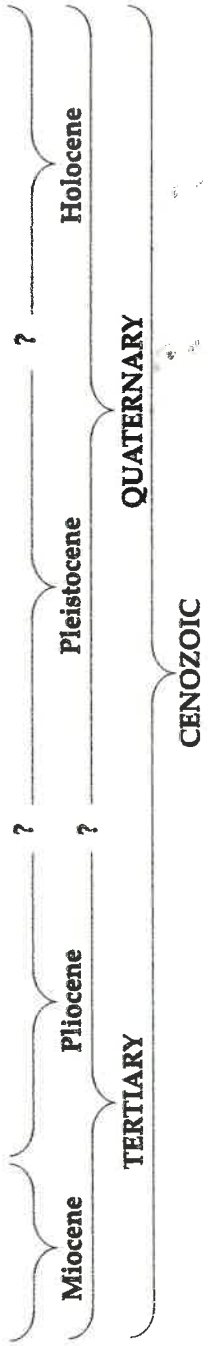
Tor *In north and south areas composed of gray pebble conglomerate, sandstone and claystone, interbedded, conglomerate of mostly Franciscan detritus*



BRIONES SANDSTONE

Barely exposed at SW and near SE corner, Marine clastic; age, late Miocene

Tbr *Sandstone, light gray, medium grained, arkosic, fossiliferous*



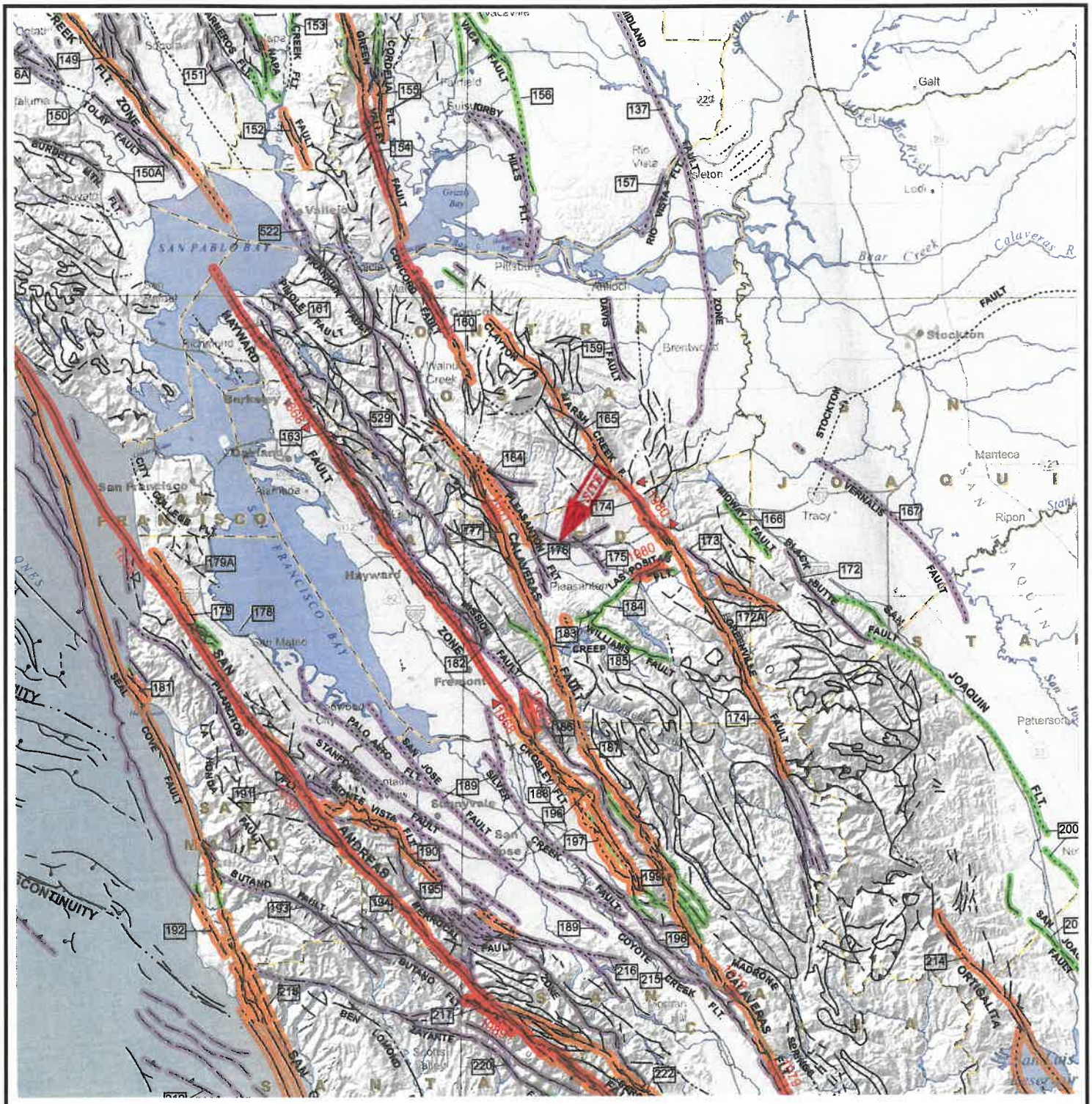
LOCAL GEOLOGIC MAP

EXPLANATION

FROM:
GEOLOGIC MAP OF THE LIVERMORE QUADRANGLE, CONTRA COSTA AND ALAMEDA COUNTIES, CALIFORNIA, COMPLATION BY T.W. DIBBLEE, 2006

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 6a

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NOTES:

PREPARED FROM THE C.G.S. "FAULT ACTIVITY MAP OF CALIFORNIA." JENNINGS AND BBYANT, 2010

FAULT TRACES ON LAND ARE INDICATED BY SOLID LINES WHERE WELL LOCATED, BY DASHED LINES WHERE CONCEALED BY YOUNGER ROCKS OR BY LAKES OR BAYS. FAULT TRACES ARE QUERIED WHERE CONTINUATION OR EXISTENCE IS UNCERTAIN.

FAULT MAP

NORTH

0 12 24

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION
DUBLIN UNIFIED NEW HIGH SCHOOL
CENTRAL PARKWAY & CHANCERY LN

DUBLIN, CA

Scale:	Date:
AS SHOWN	9/19
Drawn by:	Approved by:
MN	SN
Project No.	Figure No.
042-19017	7

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Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

(a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.

(b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.

(c) displaced survey lines.



A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.



Date bracketed by triangles indicates local fault break.



No triangle by date indicates an intermediate point along fault break.



Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.



Square on fault indicates where fault creep slippage has occured that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).



Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

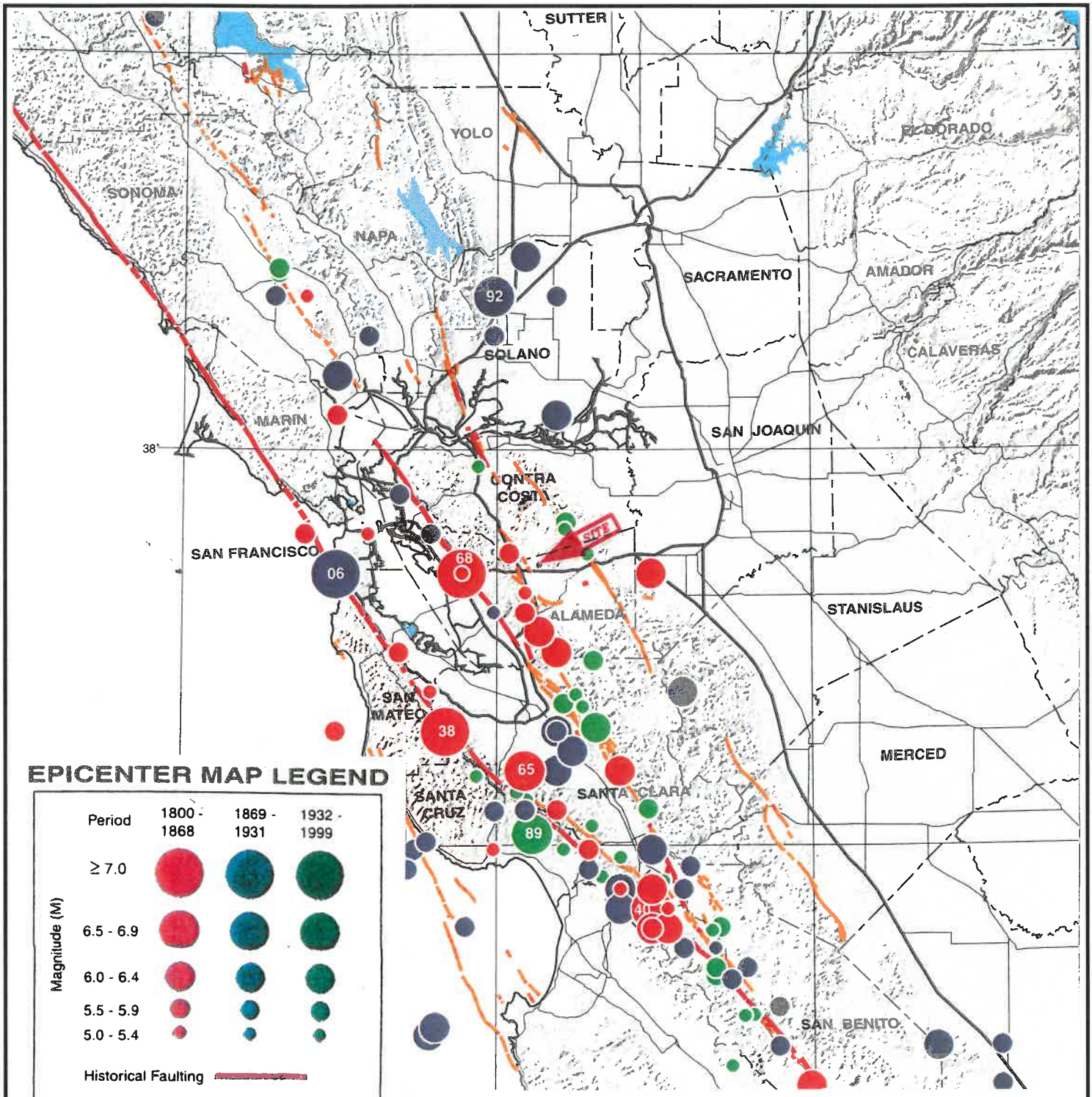
NOTES:

PREPARED FROM THE C.G.S. "FAULT ACTIVITY MAP OF CALIFORNIA JENNINGS AND BRYANT, 2010

FAULT TRACES ON LAND ARE INDICATED BY SOLID LINES WHERE WELL LOCATED, BY DASHED LINES WHERE CONCEALED BY YOUNGER ROCKS OR BY LAKES OR BAYS. FAULT TRACES ARE QUERIED WHERE CONTINUATION OR EXISTENCE IS UNCERTAIN.

FAULT MAP
EXPLANATION

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN	Scale: AS SHOWN	Date: 9/19	Krazan ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS *Offices Serving the Western United States*
	Drawn by: MN	Approved by: SN	
DUBLIN, CA	Project No. 042-19017	Figure No. 7a	



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
Magnitude (M) ≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 — Last two digits of M ≥ 6.5 earthquake year

EPICENTER MAP

MAP SOURCE:
CGS MAP SHEET 49
EPICENTERS OF AND AREAS DAMAGED BY M > 5 CALIFORNIA EARTHQUAKES, 1800–1999
BY TOPPOZADA, BRANUM, PETERSEN, HALLSTROM, CRAMER & REICHLE, 2000

NORTH

0 40' 80'

SCALE IN KILOMETERS (±)

GEOTECHNICAL ENGINEERING INVESTIGATION
DUBLIN UNIFIED NEW HIGH SCHOOL
CENTRAL PARKWAY & CHANCERY LN

DUBLIN, CA

Scale:	Date:
AS SHOWN	9/19
Drawn by:	Approved by:
MN	SN
Project No.	Figure No.
042–19017	8

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AERIAL PHOTO 2016

NORTH

0 500' 1000'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN	Scale: AS SHOWN	Date: 9/19	Krazan ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS *Offices Serving the Western United States*
	Drawn by: MN	Approved by: SN	
DUBLIN, CA	Project No. 042-19017	Figure No. 9	

National Flood Hazard Layer FIRMette

FEMA

37°42'40.37"N



FLOOD MAP

NORTH

0 500' 1,000'

SCALE IN FEET (±)

NOTE:

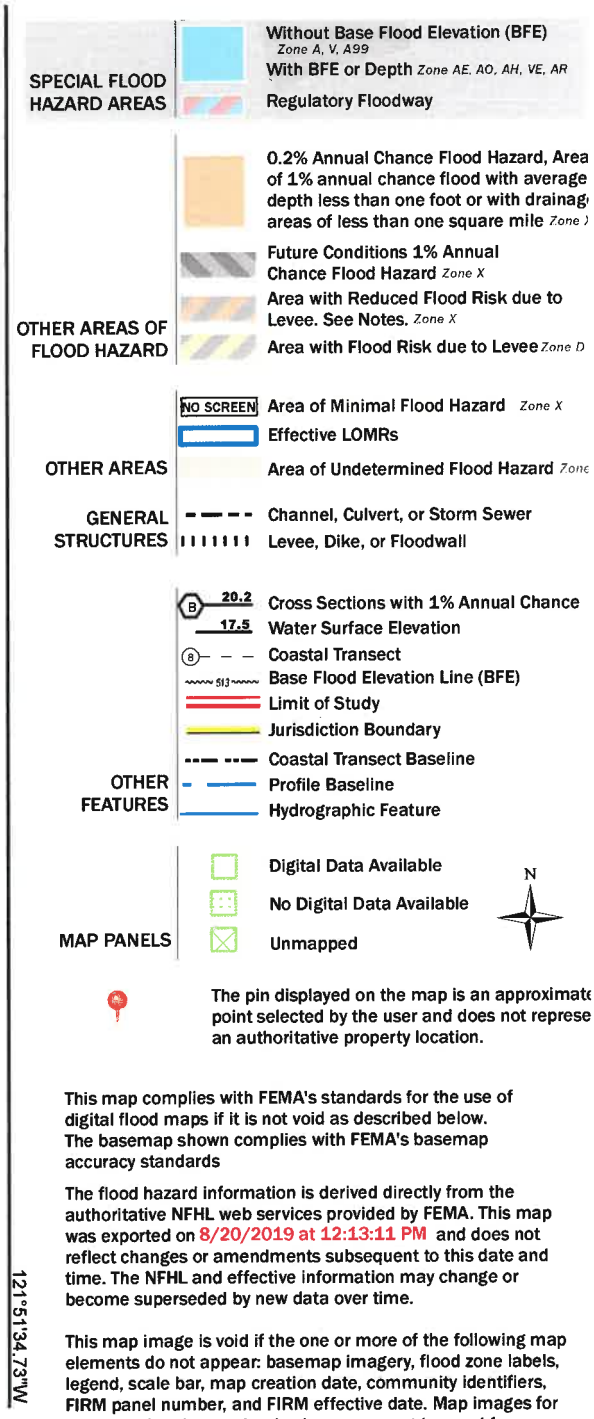
ALL OF FEMA FLOOD INSURANCE MAP IS SHOWN WITHIN "ZONE X" UNLESS OTHERWISE NOTED

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 10

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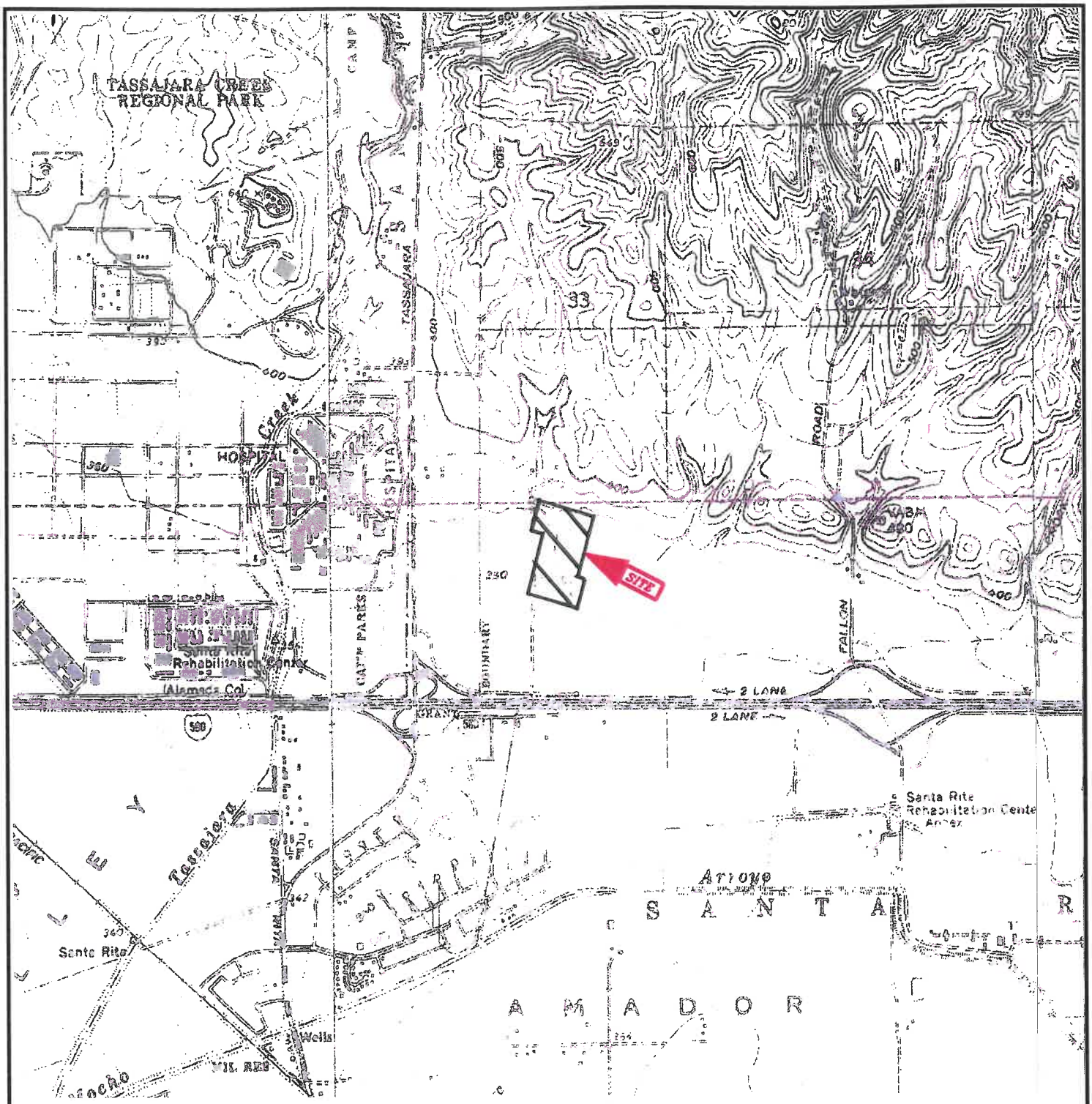
FLOOD MAP EXPLANATION

NOTE:

ALL OF FEMA FLOOD INSURANCE MAP IS SHOWN WITHIN "ZONE X" UNLESS OTHERWISE NOTED

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 10a

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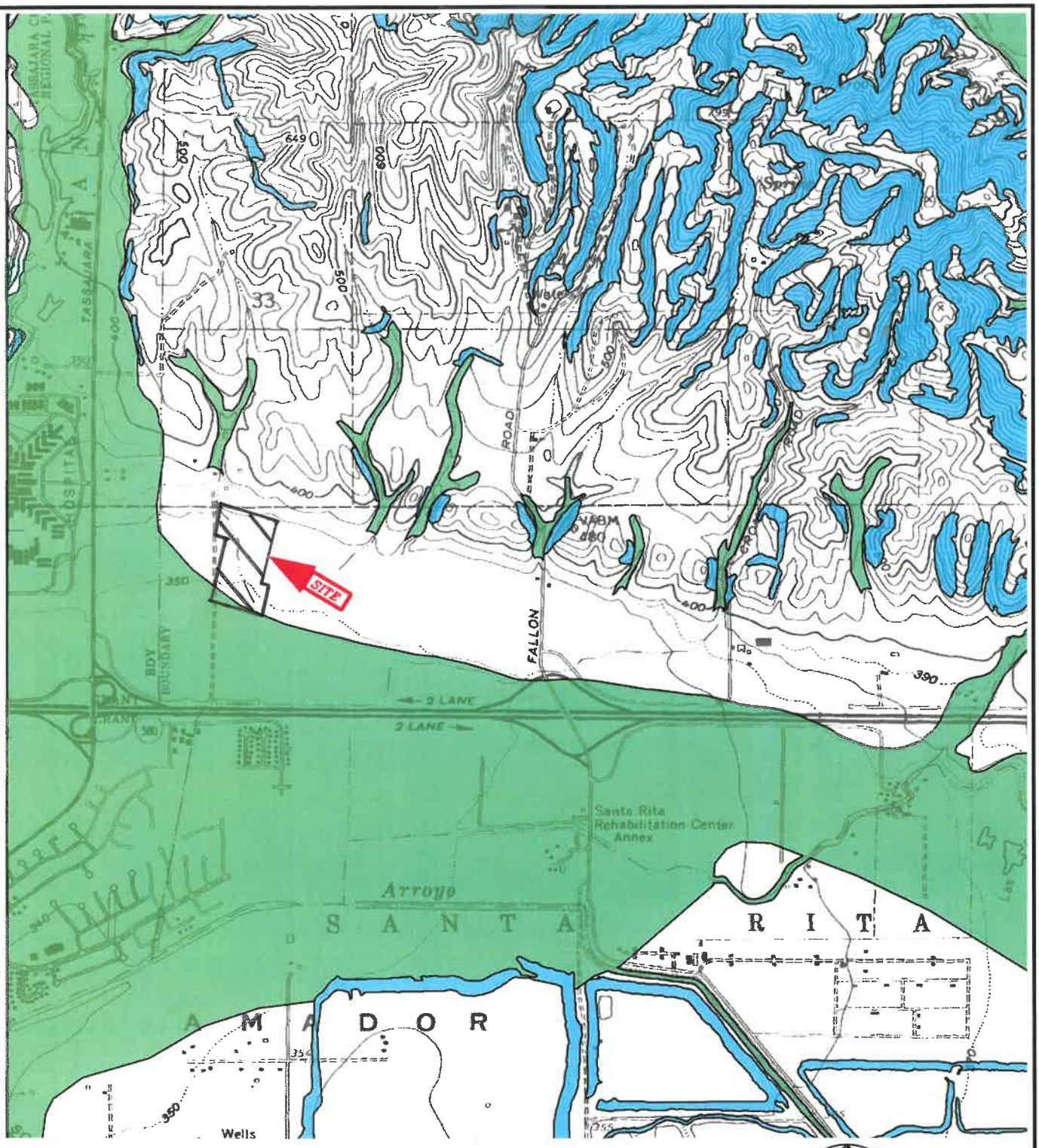
EARTHQUAKE FAULT ZONE MAP

OFFICIAL MAP EFFECTIVE: JANUARY 1, 1982

MAP SOURCE:

U.S.G.S. "LIVERMORE, CA." QUADRANGLE
7.5 MINUTE SERIES (TOPO), DATED 1961
PHOTOREVISED 1973

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19	Krazan ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SPECIALISTS *Offices Serving the Western United States*
	Drawn by: MN	Approved by: SN	
	Project No. 042-19017	Figure No. 11	



SEISMIC HAZARD ZONES MAP

OFFICIAL MAP RELEASED: AUGUST 27, 2008

MAP SOURCE:

U.S.G.S. "LIVERMORE, CA." QUADRANGLE
7.5 MINUTE SERIES (TOPO), DATED 1961
PHOTOREVISED 1980

NORTH

0 2,000' 4,000'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN	Date: 9/19
	Drawn by: MN	Approved by: SN
	Project No. 042-19017	Figure No. 12

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EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP

OFFICIAL MAPS EFFECTIVE: JANUARY 1, 1982 & AUGUST 27, 2008

NORTH

0 2,000' 4,000'

SCALE IN FEET (±)

MAP SOURCE:

U.S.G.S. "LIVERMORE, CA." QUADRANGLE
7.5 MINUTE SERIES (TOPO), DATED 1961
PHOTOREVISED 1973

GEOTECHNICAL ENGINEERING INVESTIGATION
DUBLIN UNIFIED NEW HIGH SCHOOL
CENTRAL PARKWAY & CHANCERY LN

DUBLIN, CA

Scale:	Date:
AS SHOWN	9/19
Drawn by:	Approved by:
MN	SN
Project No.	Figure No.
042-19017	13

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California Geological Survey

This Map Shows Both Alquist-Priolo Earthquake Fault Zones and Seismic Hazard Zones

This map shows the location of Alquist-Priolo (AP) Earthquake Fault Zones and Seismic Hazard Zones, collectively referred to here as Earthquake Zones of Required Investigation. The Geographic Information System (GIS) digital files of these regulatory zones released by the California Geological Survey (CGS) are the "Official Maps." GIS files are available at the CGS website http://maps.conservation.ca.gov/cgs/informationwarehouse/. These zones will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of surface fault rupture and earthquake-triggered ground failure as required by the AP Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630) and the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6). For information regarding the general approach and recommended methods for preparing these zones, see CGS Special Publication 42, *Fault-Rupture Hazard Zones in California*, and CGS Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*.

For information regarding the scope and recommended methods to be used in conducting required site investigations refer to CGS Special Publication 42, Appendix C *Guidelines for Evaluating the Hazard of Surface Rupture*, and CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*. For a general description of the AP and Seismic Hazards Mapping acts, the zonation programs, and related information, please refer to the website at www.conservation.ca.gov/cgs/.

MAP EXPLANATION

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES



Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.



Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

SEISMIC HAZARD ZONES



Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

OVERLAPPING ALQUIST-PRIOLO AND SEISMIC HAZARD ZONES



Overlap of Earthquake Fault Zone and Liquefaction Zone
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone.



Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone.

Note: Mitigation methods differ for each zone –
AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance.

EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP EXPLANATION

MAP SOURCE:

U.S.G.S. "LIVERMORE, CA." QUADRANGLE
7.5 MINUTE SERIES (TOPO), DATED 1961
PHOTOREVISED 1980

GEOTECHNICAL ENGINEERING INVESTIGATION DUBLIN UNIFIED NEW HIGH SCHOOL CENTRAL PARKWAY & CHANCERY LN DUBLIN, CA	Scale: AS SHOWN Drawn by: MN Project No. 042-19017	Date: 9/19 Approved by: SN Figure No. 13a

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2008 National Seismic Hazard Maps - Source Parameters

New Search

Distance in Miles	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
2.65	Mount Diablo Thrust	CA	2	38	NE	thrust	8	16	25
3.83	Calaveras;CN+CC+CS	CA	n/a	90	V	strike slip	2.2	7	123
3.83	Calaveras;CN+CC	CA	n/a	90	V	strike slip	2	8	104
3.83	Calaveras;CN	CA	6	90	V	strike slip	1.3	11	45
7.92	Greenville Connected	CA	2	90	V	strike slip	0.8	15	50
10.57	Hayward-Rodgers Creek;HS	CA	9	90	V	strike slip	2.4	9	52
10.57	Hayward-Rodgers Creek;RC+HN+HS	CA	9	90	V	strike slip	1.2	10	150
10.57	Hayward-Rodgers Creek;HN+HS	CA	9	90	V	strike slip	2.4	9	87
14.99	Green Valley Connected	CA	4.7	90	V	strike slip	3.7	11	56
18.35	Calaveras;CC	CA	15	90	V	strike slip	4.2	7	59
18.35	Calaveras;CC+CS	CA	15	90	V	strike slip	4.2	7	78
18.70	Great Valley 7	CA	1.5	15	W	thrust	7	10	45
20.82	Hayward-Rodgers Creek;HN	CA	9	90	V	strike slip	2.4	9	35
20.82	Hayward-Rodgers Creek;RC+HN	CA	9	90	V	strike slip	0.7	11	97
21.32	Great Valley 5, Pittsburg Kirby Hills	CA	1	90	V	reverse	10	20	32

28.01	Monte Vista-Shannon	CA	0.4	45	W	thrust	0	4	45
29.44	N. San Andreas;SAN+SAP+SAS	CA	n/a	90	V	strike slip	0.2	12	336
29.44	N. San Andreas;SAO+SAN+SAP	CA	n/a	90	V	strike slip	0.1	11	410
29.44	N. San Andreas;SAP	CA	17	90	V	strike slip	0.1	13	85
29.44	N. San Andreas;SAO+SAN+SAP+SAS	CA	n/a	90	V	strike slip	0.2	12	472
29.44	N. San Andreas;SAP+SAS	CA	n/a	90	V	strike slip	0.4	13	147
29.44	N. San Andreas;SAN+SAP	CA	n/a	90	V	strike slip	0.1	11	274
37.23	San Gregorio Connected	CA	5.5	90	V	strike slip	0.6	12	176
37.42	N. San Andreas;SAS	CA	17	90	V	strike slip	0.8	15	62
37.77	West Napa	CA	1	90	V	strike slip	0	10	30
39.27	N. San Andreas;SAO+SAN	CA	n/a	90	V	strike slip	0.1	11	325
39.27	N. San Andreas;SAN	CA	24	90	V	strike slip	0.1	11	189
40.21	Great Valley 4b, Gordon Valley	CA	1.3	20	W	thrust	9	14	28
40.74	Hayward-Rodgers Creek;RC	CA	9	90	V	strike slip	0.1	12	62
43.09	Great Valley 8	CA	1.5	15	W	thrust	7	10	41
43.09	Zayante-Vergeles	CA	0.1	90	V	strike slip	0	12	58
43.98	Ortigalita	CA	1	90	V	strike slip	0	11	70

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition

Dynamic: Conterminous U.S. 2014 (v4.

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

37.70726

Time Horizon

Return period in years

2475

Longitude

Decimal degrees, negative values for western longitudes

-121.86485

Site Class

259 m/s (Site class D)

Hazard Curve

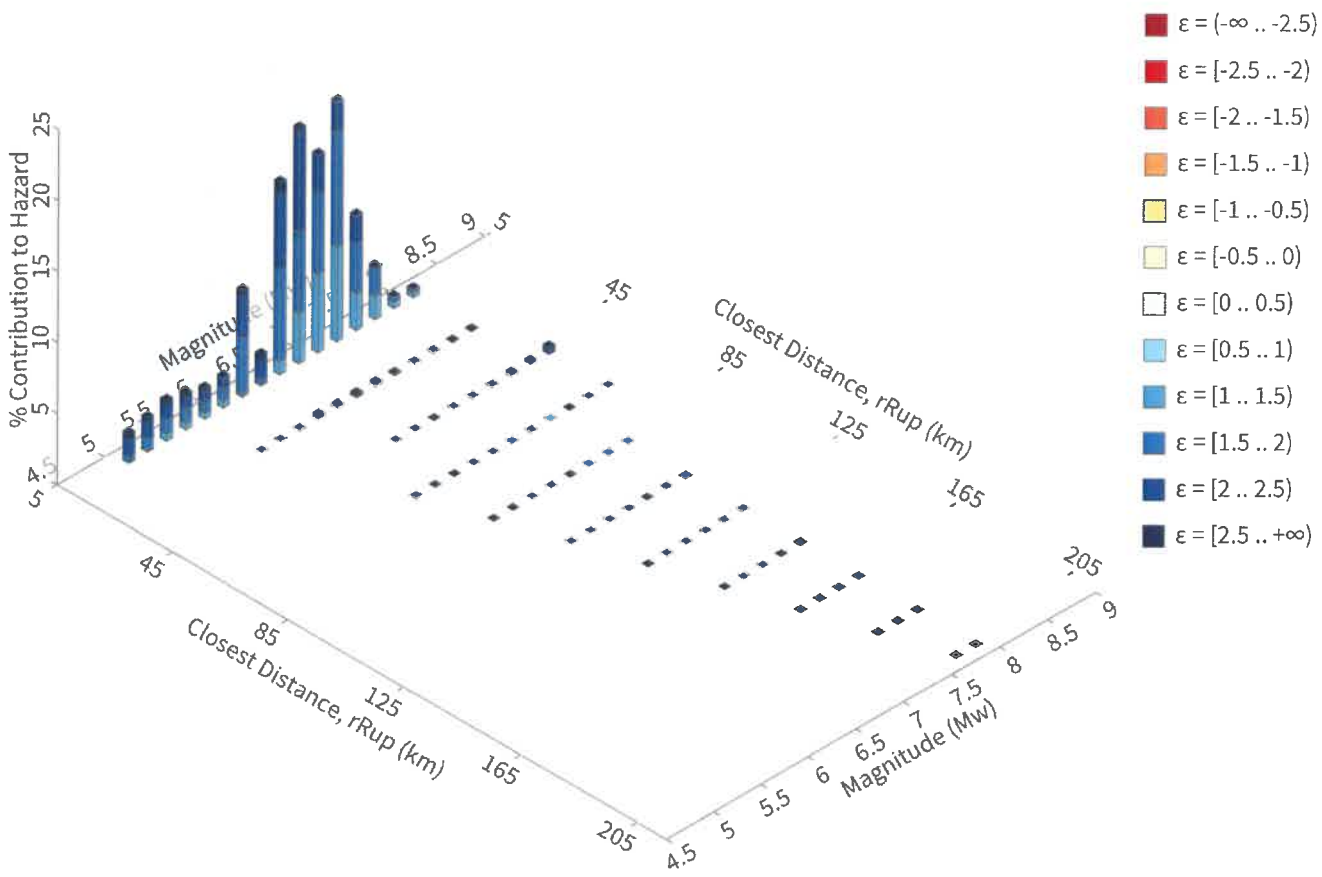
Please select “Edition”, “Location” & “Site Class” above to compute a hazard curve.

Compute Hazard Curve

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.86932116 g

Recovered targets

Return period: 3139.801 yrs
Exceedance rate: 0.00031849152 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.07 %

Mean (over all sources)

m: 6.83
r: 11.7 km
ε_0: 1.83 σ

Mode (largest m-r bin)

m: 7.29
r: 10.68 km
ε_0: 1.6 σ
Contribution: 16.88 %

Mode (largest m-r-ε_0 bin)

m: 7.29
r: 10.78 km
ε_0: 1.64 σ

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM31	System							44.66
Calaveras (No) [3]		9.58	7.13	1.60	121.940°W	37.681°N	246.35	15.16
Mount Diablo Thrust South [1]		6.45	6.81	1.51	121.837°W	37.757°N	23.66	9.97
Hayward (So) [4]		16.89	7.10	2.12	122.008°W	37.611°N	229.63	9.03
Mount Diablo Thrust North CFM [0]		9.02	7.17	1.58	121.896°W	37.782°N	342.01	3.78
Greenville (No) [4]		14.21	6.79	2.10	121.752°W	37.776°N	52.41	1.15
UC33brAvg_FM32	System							41.18
Calaveras (No) [3]		9.58	7.11	1.60	121.940°W	37.681°N	246.35	15.61
Hayward (So) [4]		16.89	7.10	2.12	122.008°W	37.611°N	229.63	9.10
Mount Diablo Thrust [0]		10.31	7.04	1.48	121.823°W	37.742°N	43.35	6.17
Greenville (No) [4]		13.42	7.00	1.97	121.753°W	37.775°N	52.39	3.44
UC33brAvg_FM31 (opt)	Grid							7.13
UC33brAvg_FM32 (opt)	Grid							7.03

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Forty-nine 4½-inch to 6½-inch exploratory borings were recently advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests and standard penetration tests were performed at selected depths. These tests represent the resistance to driving a 2½-inch and 1½-inch diameter split barrel sampler, respectively. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. The modified standard penetration tests are identified in the sample type on the boring logs with a full shaded in block. The standard penetration tests are identified in the sample type on the boring logs with half of the block shaded. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. Atterberg limits, expansion index and R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

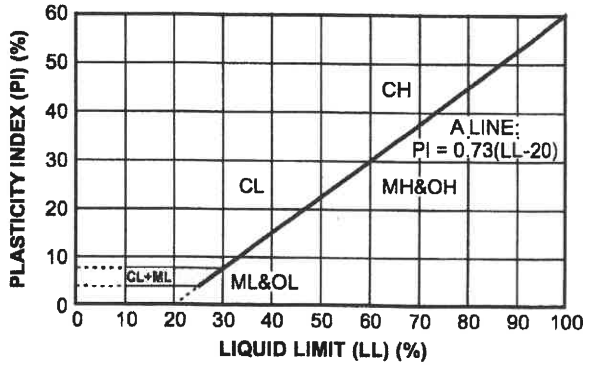
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-1

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 16½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SANDY CLAY (CL)*** Soft, fine- to medium-grained; dark brown, damp, drills easily				
2		Stiff below 12 inches	97.9	21.1	■	30
2		Very stiff below 2 feet				
4		***SANDY CLAY (CL)*** Hard, fine-grained; light brown/brown, damp, drills firmly	106.2	13.1	◢	44
6						
8		Stiff below 8 feet				
10			108.7	17.5	◢	13
12		Firm below 13 feet				
14			89.6	29.4	◢	3
16		Saturated below 16½ feet ▼				
18		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained with lenses of SAND; brown, saturated, drills easily				
20					◢	

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-30-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Log of Boring B1

Project: Dublin Unified New High School
Project No: 042-19017
Client: SIM-PBK
Figure No.: A-1
Location: Central Parkway and Chancery Lane, Dublin, California
Logged By: Wayne Andrade
Depth to Water> **Initial:** 18 Feet **At Completion:** 16½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22			104.5	17.1		15
24		***SANDY CLAY (CL)*** Very stiff, fine-grained; brown, saturated, drills easily				
26			112.1	16.6		17
28						
30			100.6	23.9		24
32						
34		Firm below 33 feet				
36			100.7	24.4		6
38		With trace fine-grained SAND below 38 feet				
40		Stiff below 40 feet				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem
Drill Rig: CME 45C-1
Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-30-19
Hole Size: 6½ Inches
Elevation: 50 Feet

Log of Boring B1

Project: Dublin Unified New High School

Project No: 042-19017

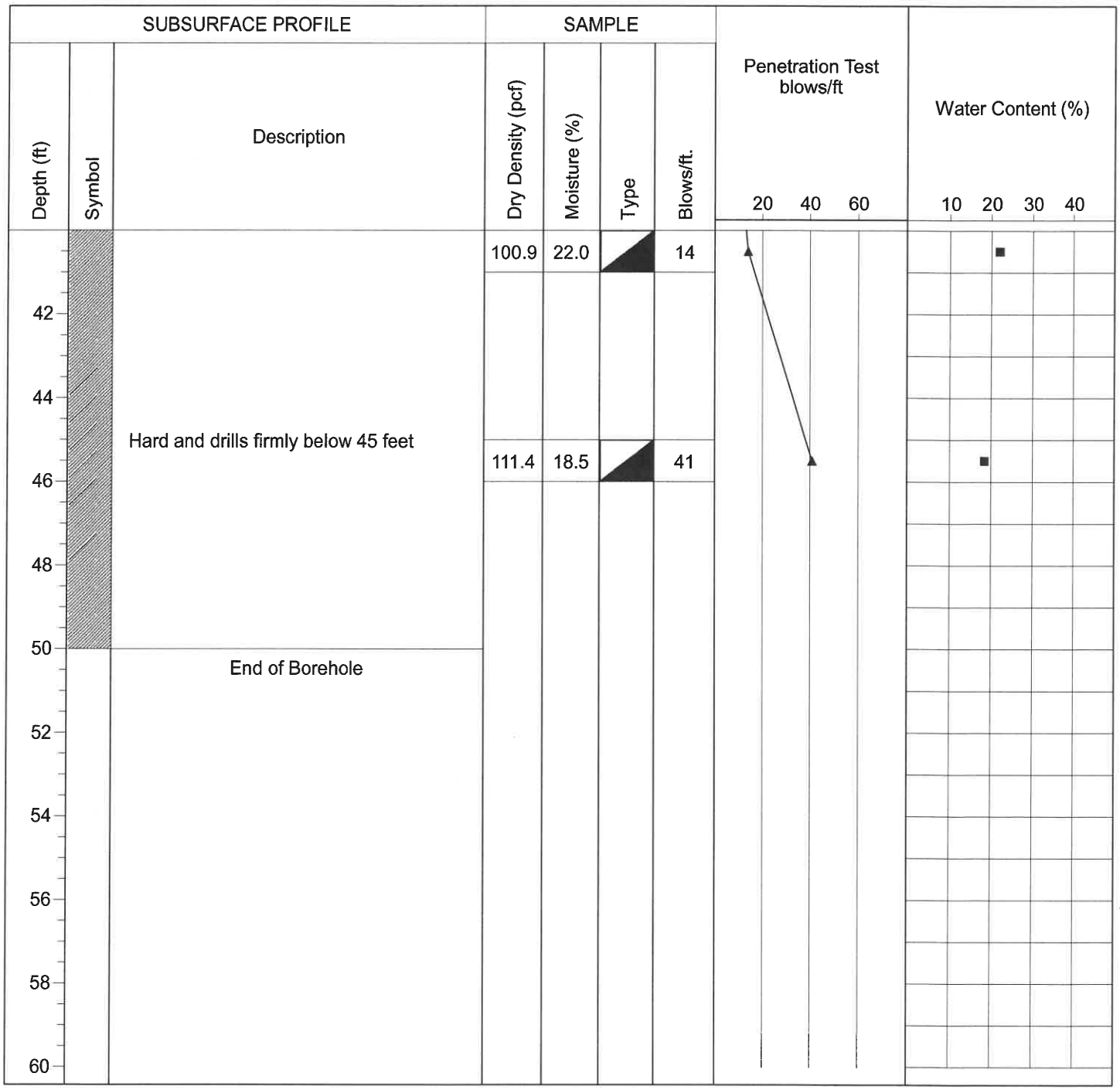
Client: SIM-PBK

Figure No.: A-1

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 16½ Feet



Drill Method: Hollow Stem

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 50 Feet

Sheet: 3 of 3

Log of Boring B2

Project: Dublin Unified New High School

Project No: 042-19017

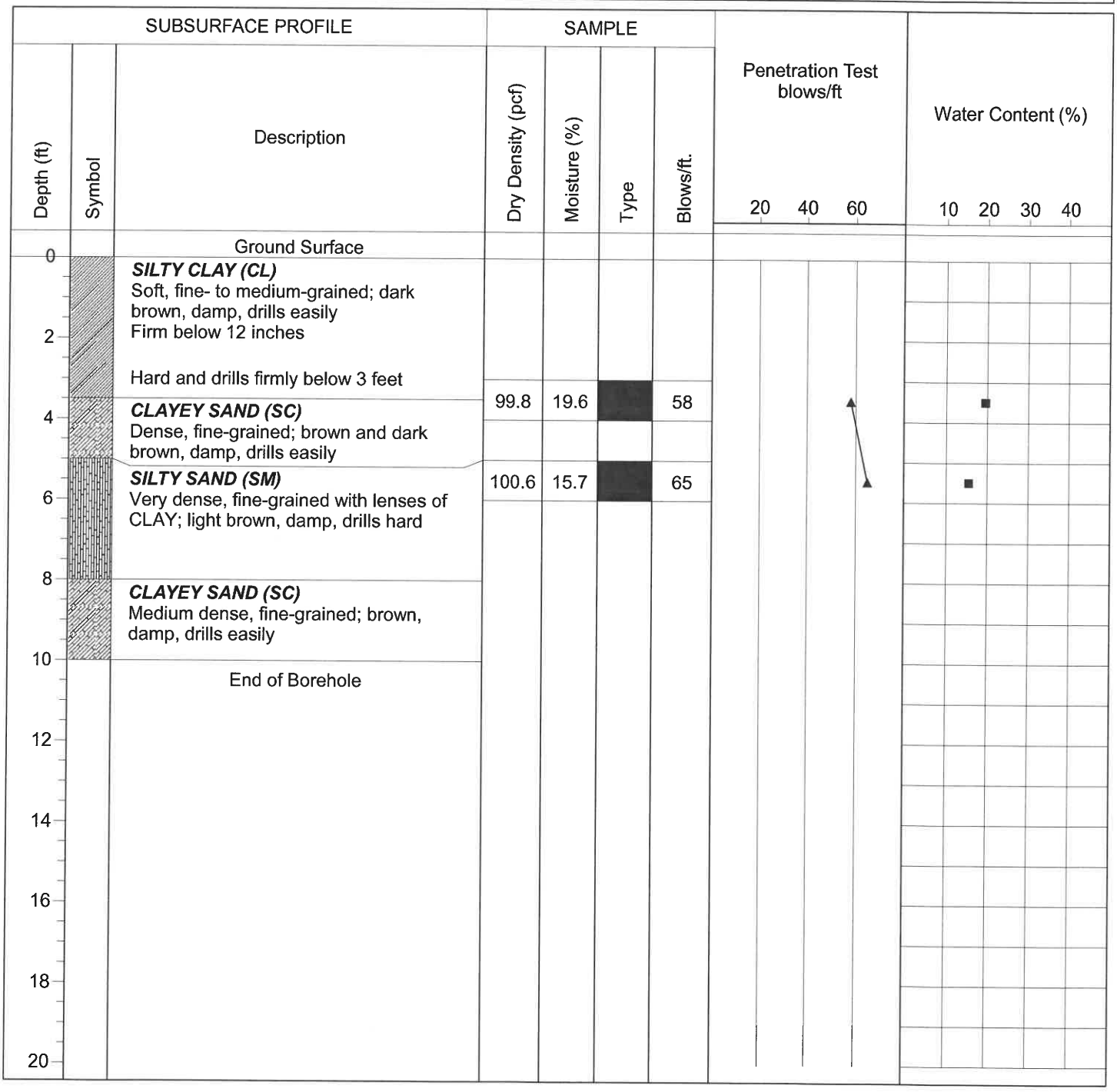
Client: SIM-PBK

Figure No.: A-2

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-30-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Dublin Unified New High School

Project No: 042-19017

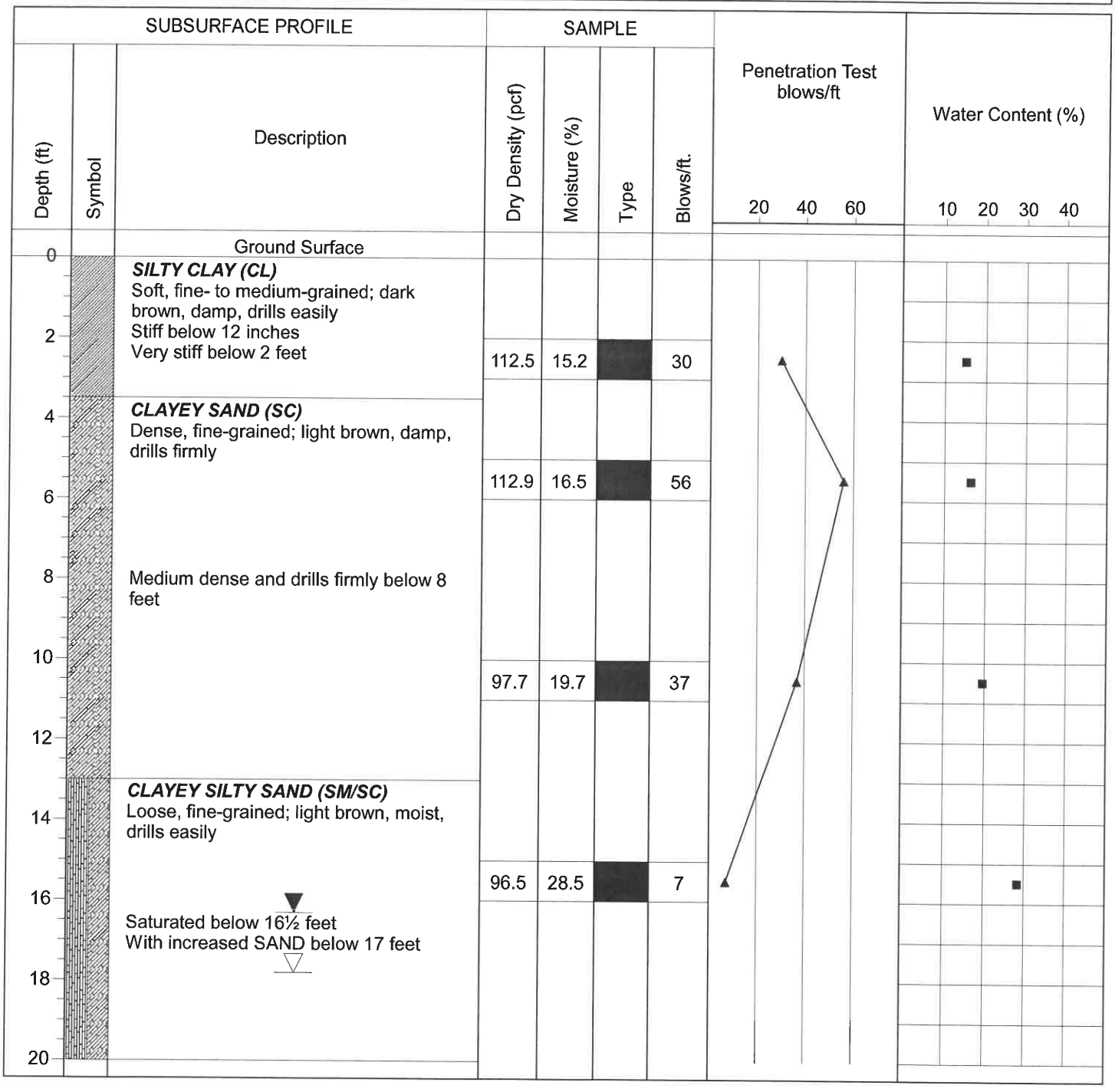
Client: SIM-PBK

Figure No.: A-3

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 16½ Feet



Drill Method: Straight Flight

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-4

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 15½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SANDY CLAY (CH)*** Soft, fine- to medium-grained; dark brown, damp, drills easily				
2		Firm below 12 inches	104.3	16.8		17
2		Stiff below 1½ feet				
4		***SANDY CLAY (CL)*** Very stiff, fine-grained; light brown, damp, drills easily				
6			103.8	16.0		17
8		***CLAYEY SAND (SC)*** Loose, fine-grained; light brown, moist, drills easily				
10			103.0	8.9		8
12						
14		***SILTY SAND/SAND (SM/SP)*** Loose, fine- to medium-grained with CLAY; dark grayish-brown and brown, very moist, drills easily				
16		Saturated below 15½ feet	100.0	19.8		8
18						
20		Medium dense below 20 feet				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B4

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-4

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 15½ Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
22		With increased SAND below 23 feet	101.9	13.5		21		
24								
26			103.9	17.9		18		
28								
30		End of Borehole						
32								
34								
36								
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B5

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-5

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***CLAYEY SAND (SC)*** FILL, fine- to medium-grained with CONCRETE and GRAVEL fragments; dark brown, damp, drills easily				
2		***SILTY CLAY (CL)*** Very stiff; dark brown, damp, drills easily	97.4	13.2		22
4		***SANDY CLAY (CH)*** Hard, fine-grained; light brown, damp, drills hard	111.9	16.9		66
8		***SILTY CLAY (CL)*** Very stiff; olive-brown, moist, drills easily	96.5	25.6		21
16		End of Borehole				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Straight Flight

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 15 Feet

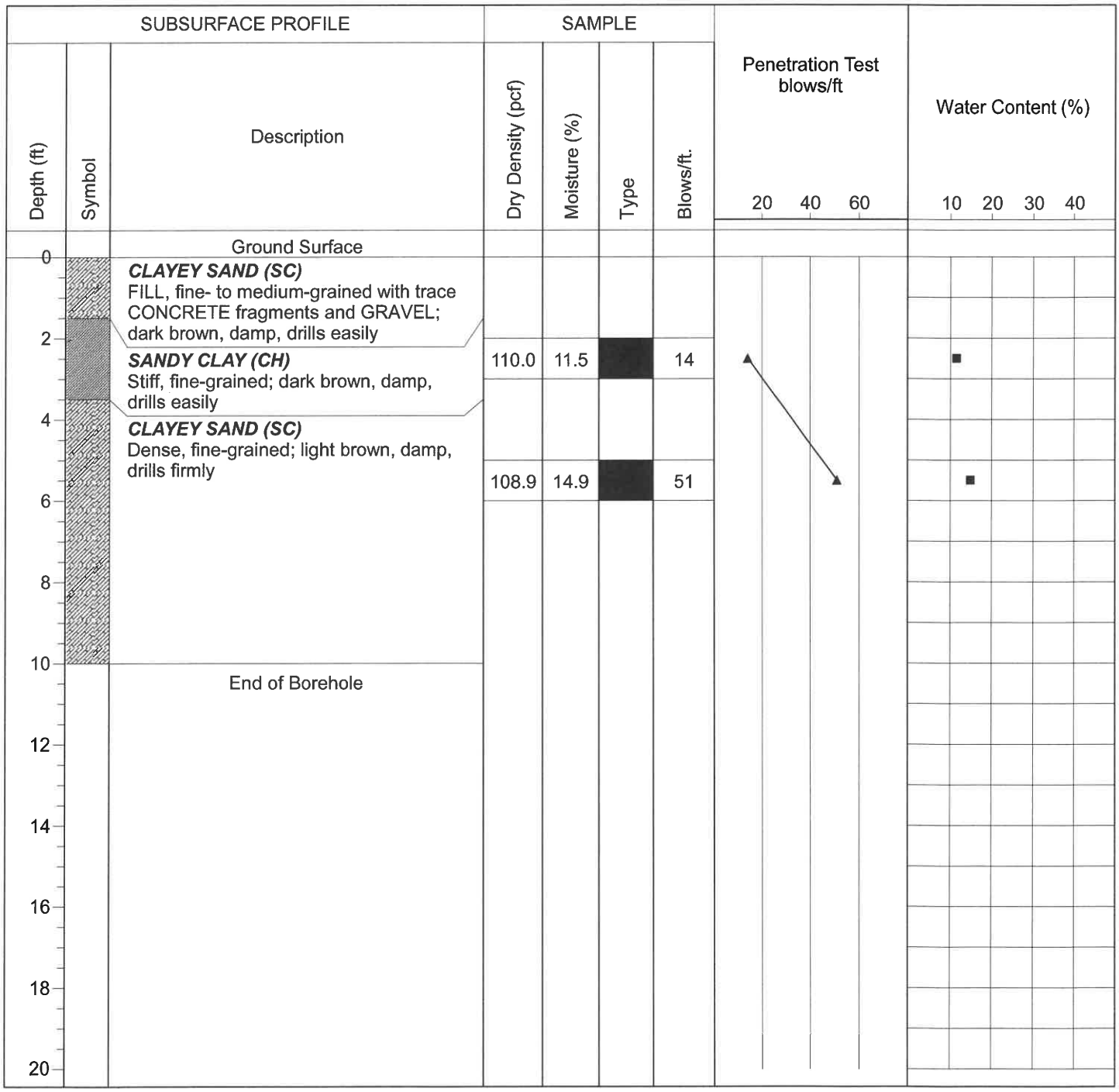
Log of Boring B6

Project: Dublin Unified New High School | **Project No:** 042-19017

Client: SIM-PBK | **Figure No.:** A-6

Location: Central Parkway and Chancery Lane, Dublin, California | **Logged By:** Wayne Andrade

Depth to Water> | **Initial:** None | **At Completion:** None



Drill Method: Straight Flight | **Drill Date:** 7-30-19

Drill Rig: CME 45C-1 | **Hole Size:** 4½ Inches

Driller: Chris Wyneken | **Elevation:** 10 Feet

Krazan and Associates

Log of Boring B7

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-7

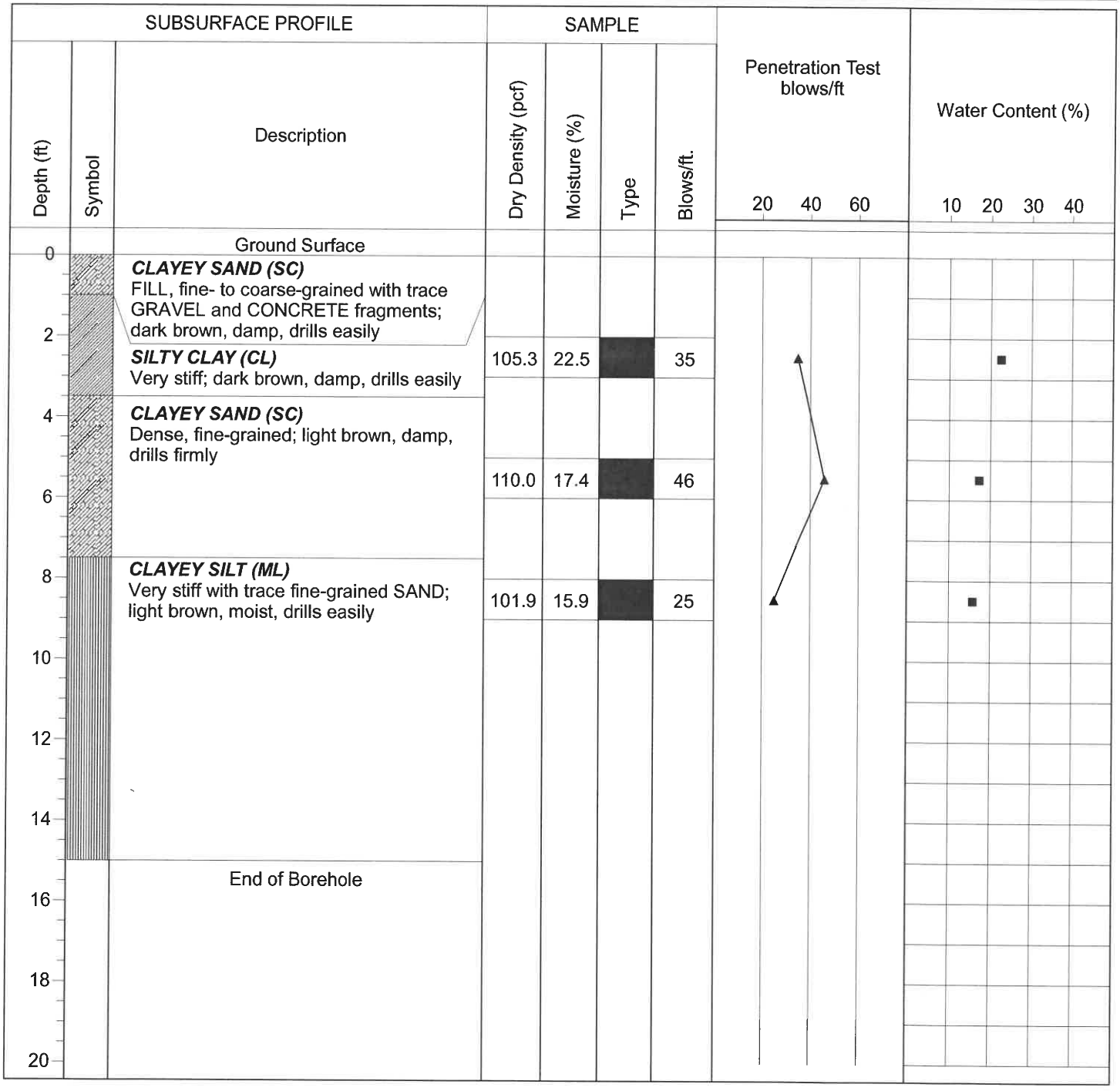
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Dublin Unified New High School

Project No: 042-19017

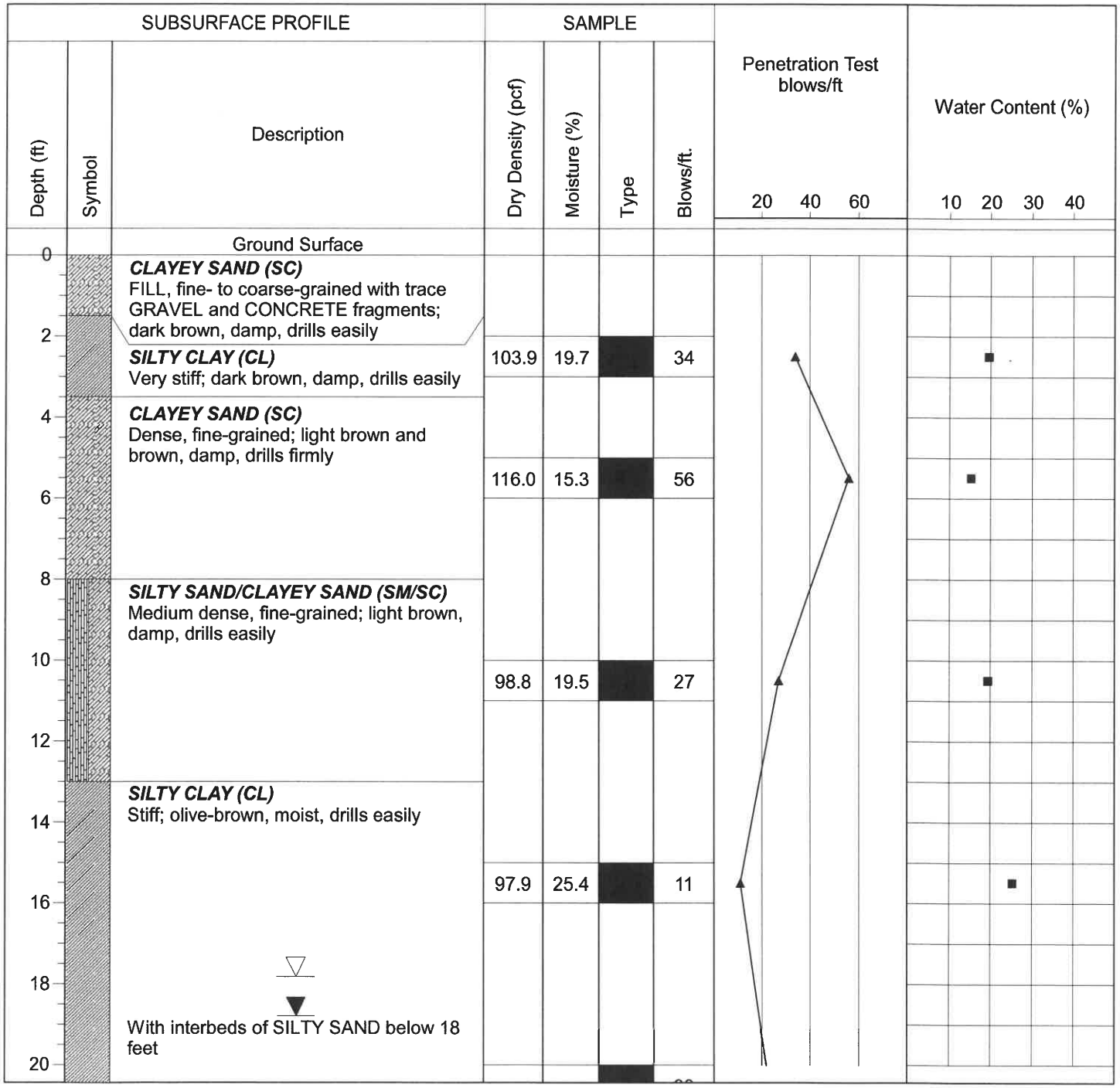
Client: SIM-PBK

Figure No.: A-8

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18 Feet



Drill Method: Straight Flight

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B8

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-8

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18 Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
			100.1	22.2		23		
22								
24								
		End of Borehole						
26								
28								
30								
32								
34								
36								
38								
40								

Drill Method: Straight Flight

Drill Date: 7-30-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B9

Project: Dublin Unified New High School

Project No: 042-19017

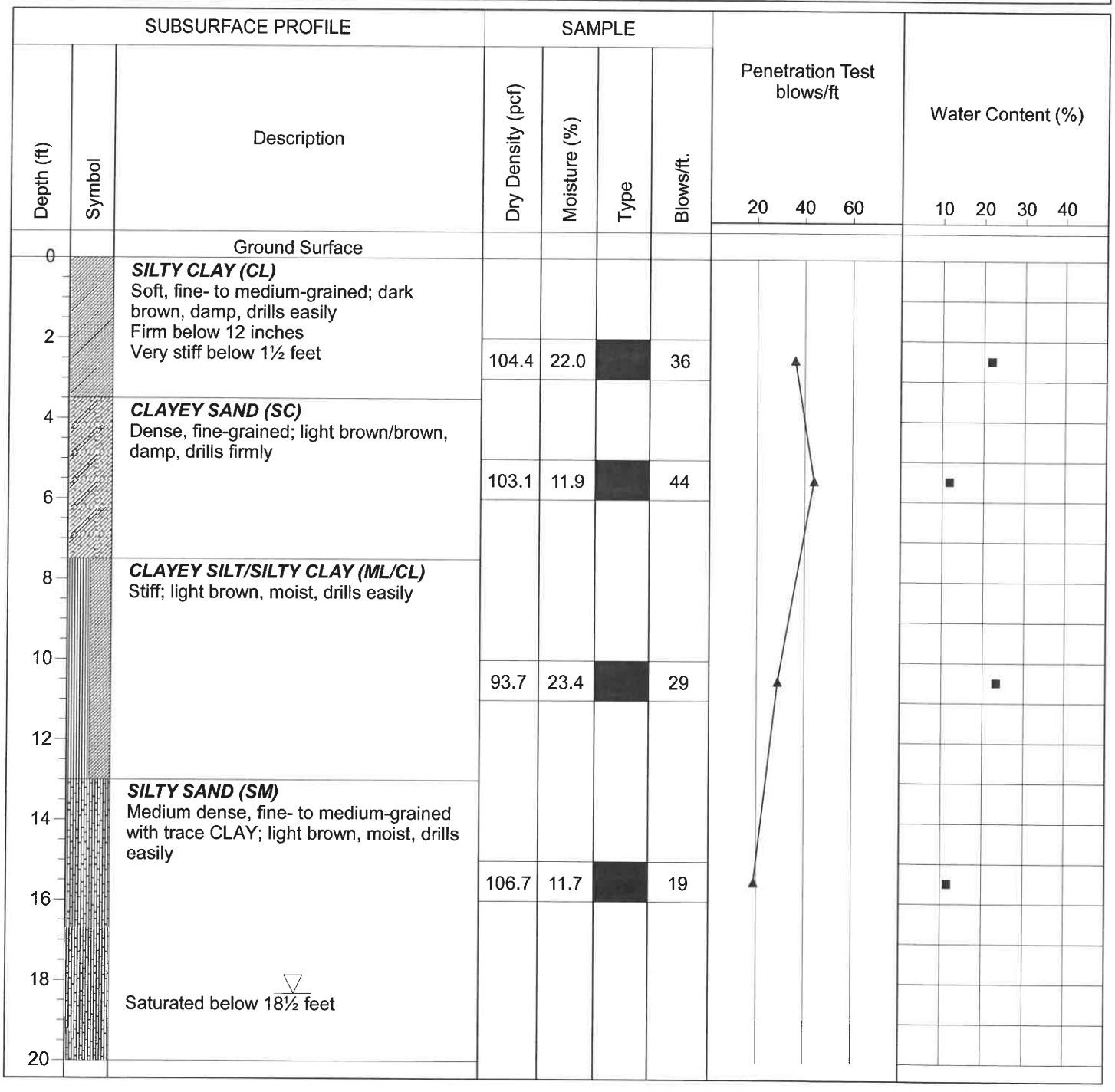
Client: SIM-PBK

Figure No.: A-9

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 18½ Feet



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B10

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-10

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY CLAY (CH)*** Soft, fine- to medium-grained; dark brown, damp, drills easily Firm below 12 inches				
2		***CLAYEY SAND (SC)*** Medium dense, fine-grained; brown and light brown, damp, drills easily	106.7	22.0	■	38
4		Very dense with interbeds of SILTY CLAY below 4½ feet				
6			98.1	18.3	■	71
8		***SILTY CLAY (CL)*** Stiff; olive-brown, damp, drills easily				
10		End of Borehole				
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B11

Project: Dublin Unified New High School

Project No: 042-19017

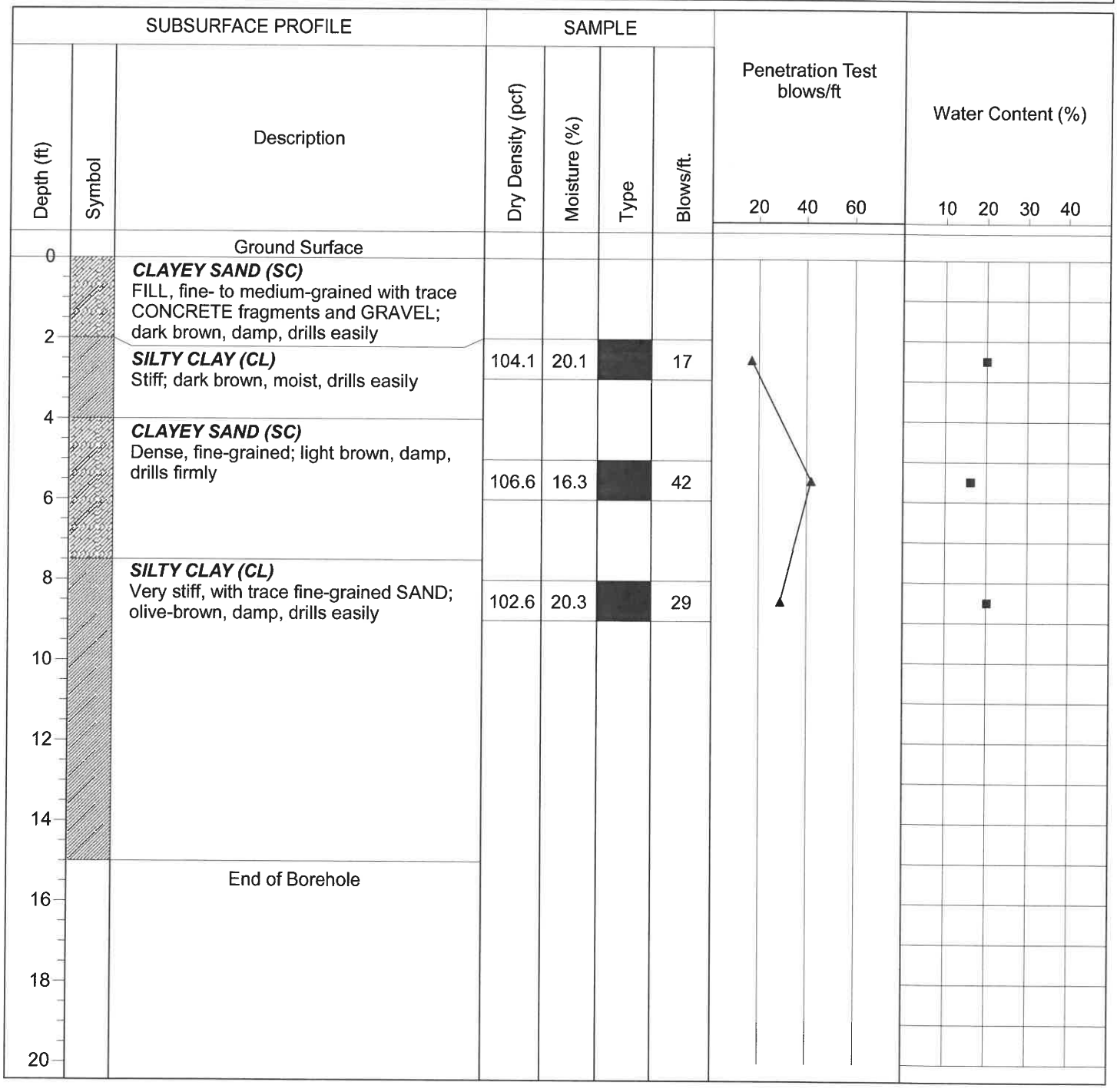
Client: SIM-PBK

Figure No.: A-11

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B12

Project: Dublin Unified New High School

Project No: 042-19017

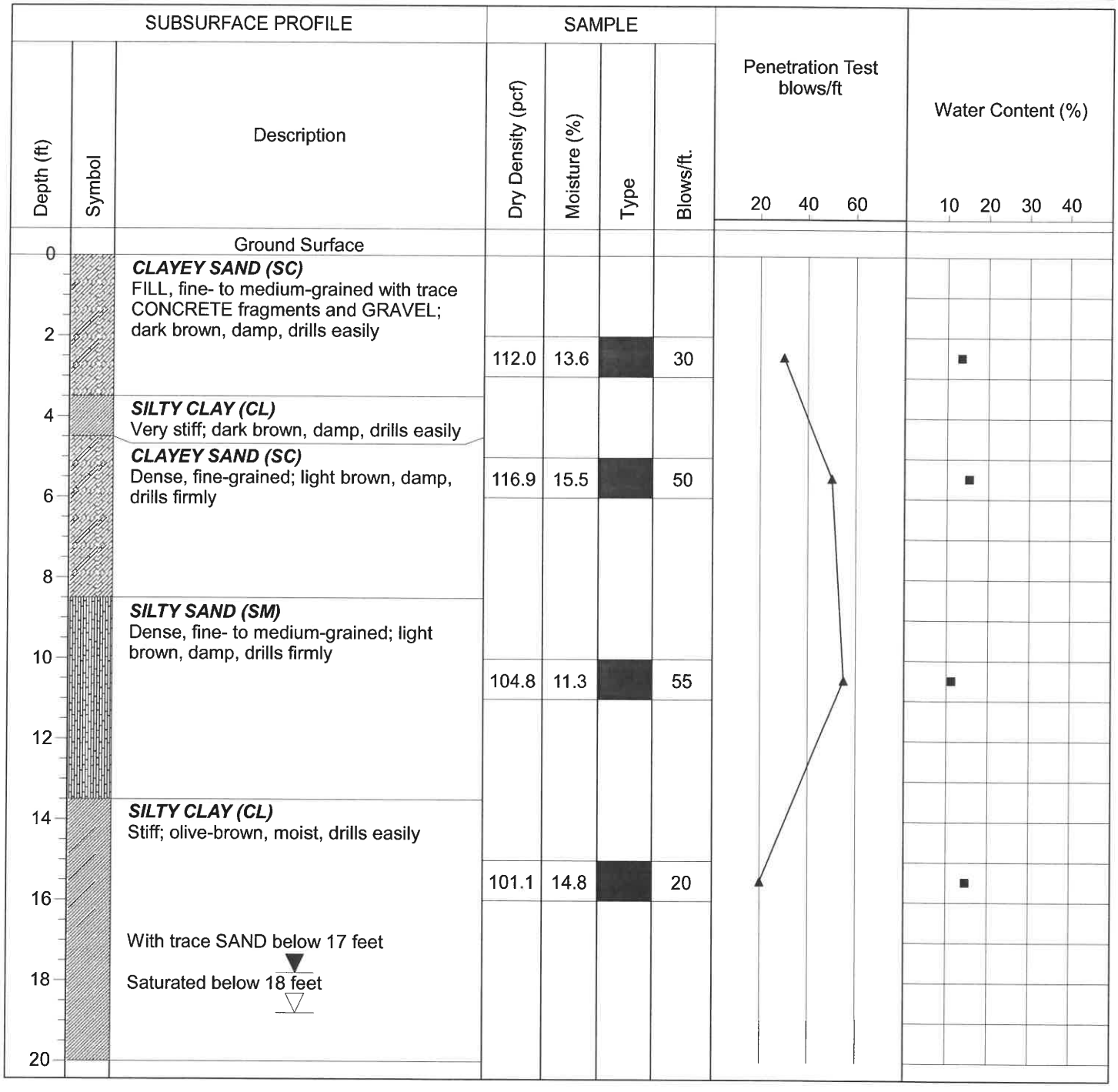
Client: SIM-PBK

Figure No.: A-12

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18 Feet



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B13

Project: Dublin Unified New High School

Project No: 042-19017

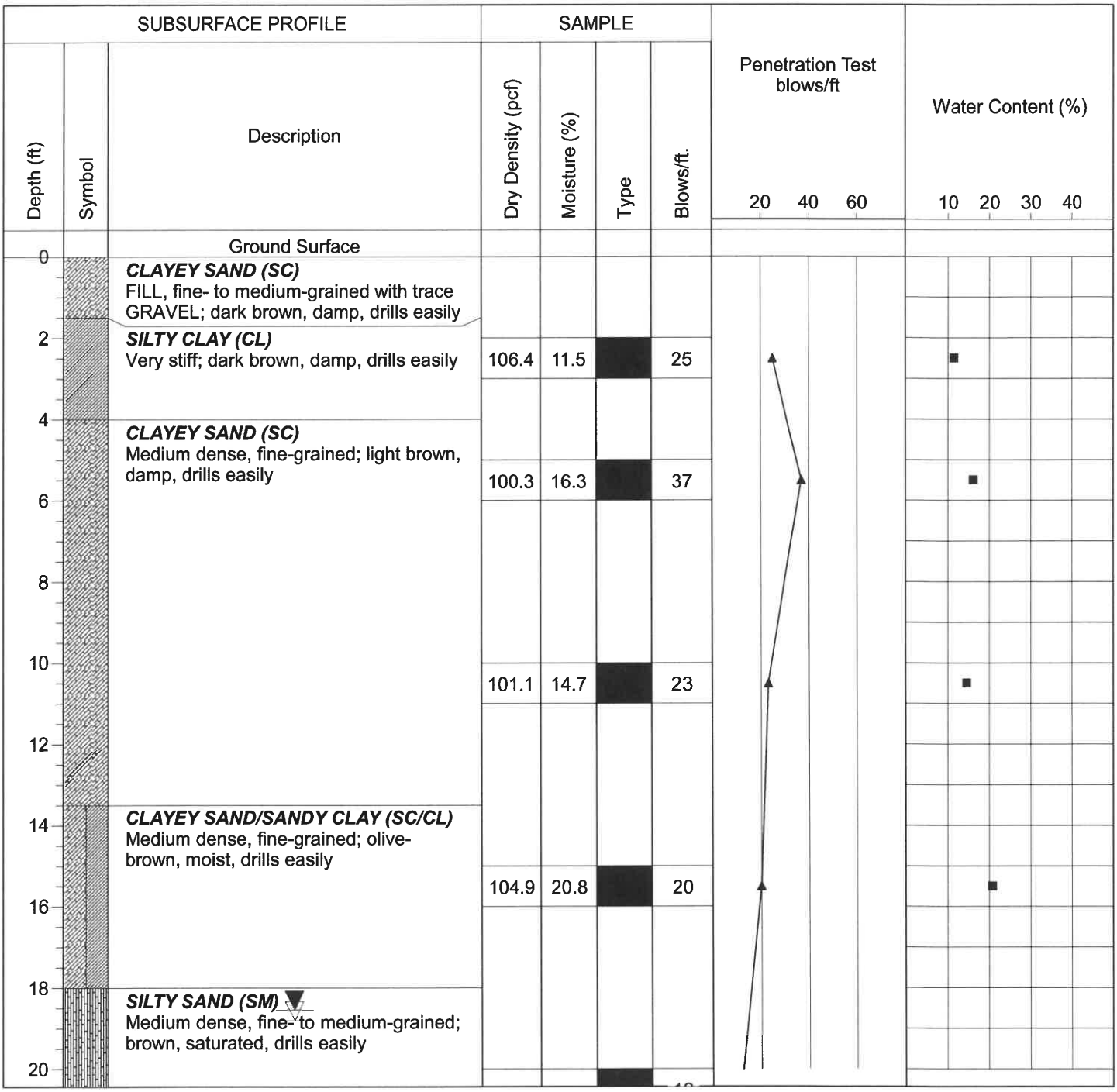
Client: SIM-PBK

Figure No.: A-13

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18¾ Feet



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B13

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-13

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18¾ Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
			98.5	26.6		12		
22								
24								
		End of Borehole						
26								
28								
30								
32								
34								
36								
38								
40								

Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B14

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-14

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***CLAYEY SAND (SC)*** FILL, fine- to medium-grained; dark brown, damp, drills easily				
2			105.4	15.6	■	32
4		***SILTY CLAY (CL)*** Very stiff; dark brown, moist, drills easily				
6		***CLAYEY SAND (SC)*** Dense, fine-grained; light brown, damp, drills firmly	115.4	15.6	■	60
10		End of Borehole				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B15

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-15

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***CLAYEY SAND (SC)*** FILL, fine- to coarse-grained with trace CONCRETE fragments and GRAVEL; dark brown, damp, drills easily				
2		Light brown/brown mix below 2 feet	104.9	13.8	■	29
4		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Dense, fine-grained; light brown, damp, drills firmly				
6			95.2	20.1	■	59
8						
10		End of Borehole				
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B16

Project: Dublin Unified New High School

Project No: 042-19017

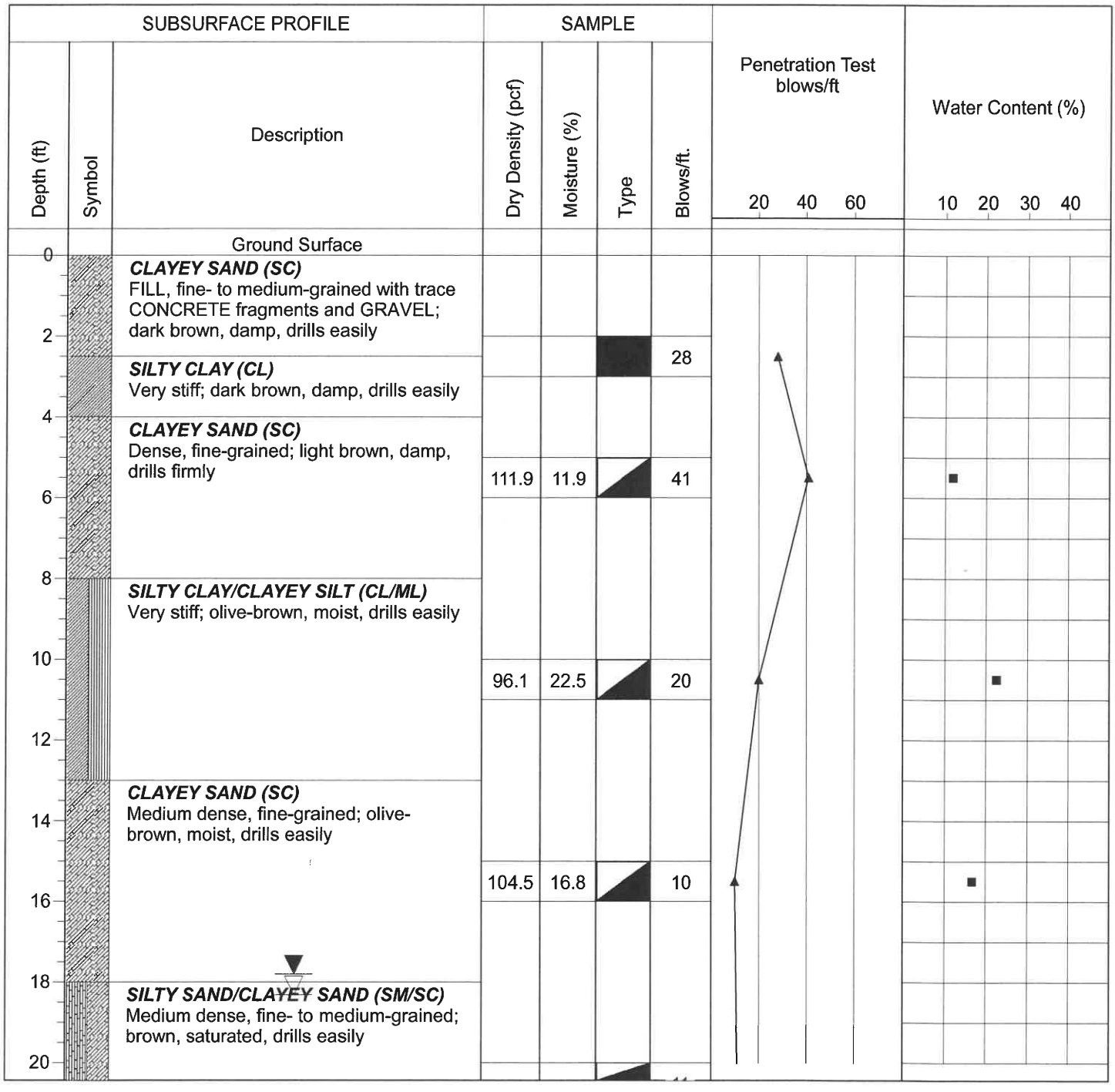
Client: SIM-PBK

Figure No.: A-16

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 20 Feet



Drill Method: Hollow Stem

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B16

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-16

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: 19 Feet

At Completion: 20 Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
22			104.2	20.0		11		
24		***SANDY CLAY (CL)*** Hard, fine-grained; light brown, saturated, drills easily						
26			113.1	17.1		30		
28								
30		End of Borehole						
32								
34								
36								
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B17

Project: Dublin Unified New High School

Project No: 042-19017

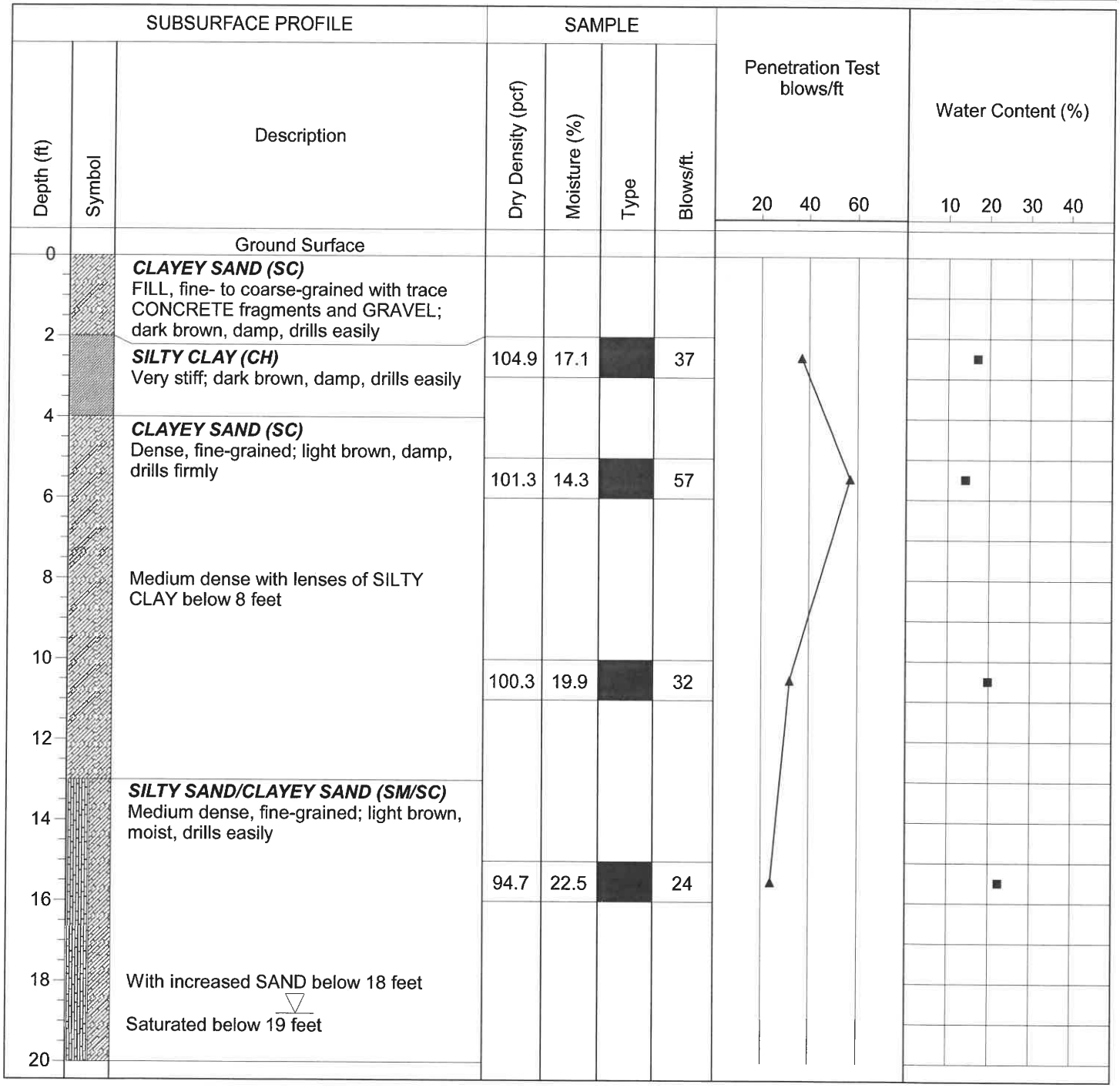
Client: SIM-PBK

Figure No.: A-17

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 19 Feet



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B18

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-18

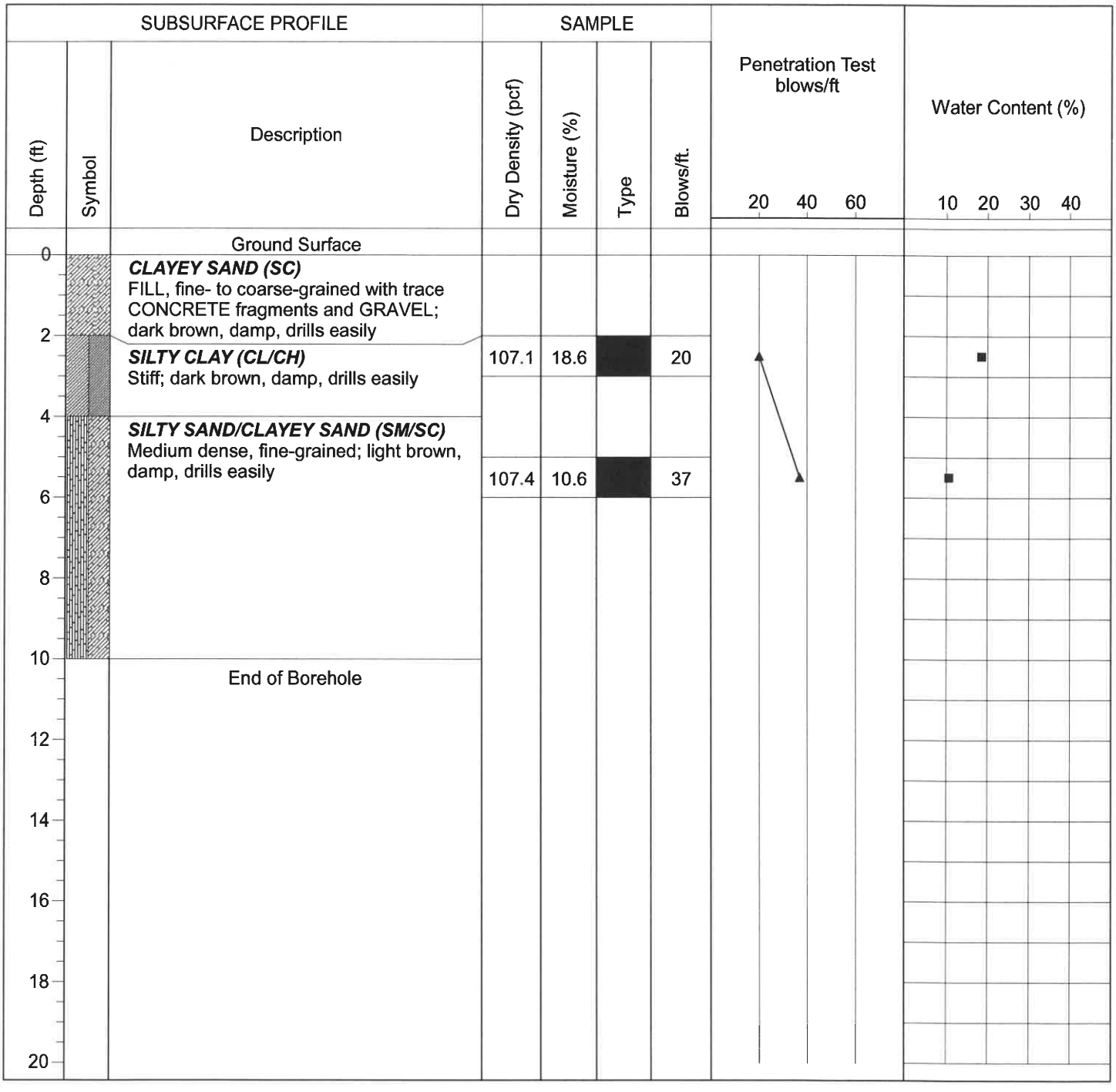
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B19

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-19

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18½ Feet **At Completion:** 18½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SUBSURFACE PROFILE / SAMPLE				
0		Ground Surface				
		CLAYEY SAND (SC) FILL, fine- to medium-grained; dark brown, damp, drills easily				
2		***SILTY CLAY (CL)*** Very stiff; dark brown, damp, drills easily	107.4	11.9		24
4		***SANDY CLAY (CL)*** Very stiff, fine-grained; light brown/brown, damp, drills easily	111.2	15.5		26
6						
8						
10			95.9	22.9		19
12						
14		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Loose, fine- to medium-grained; light brown, moist, drills easily				
16			105.1	15.1		10
18		***SILTY SAND/SANDY SILT (SM/ML)*** Medium dense, fine- to medium-grained; olive and brown, saturated, drills easily				
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 6½ Inches

Elevation: 50 Feet

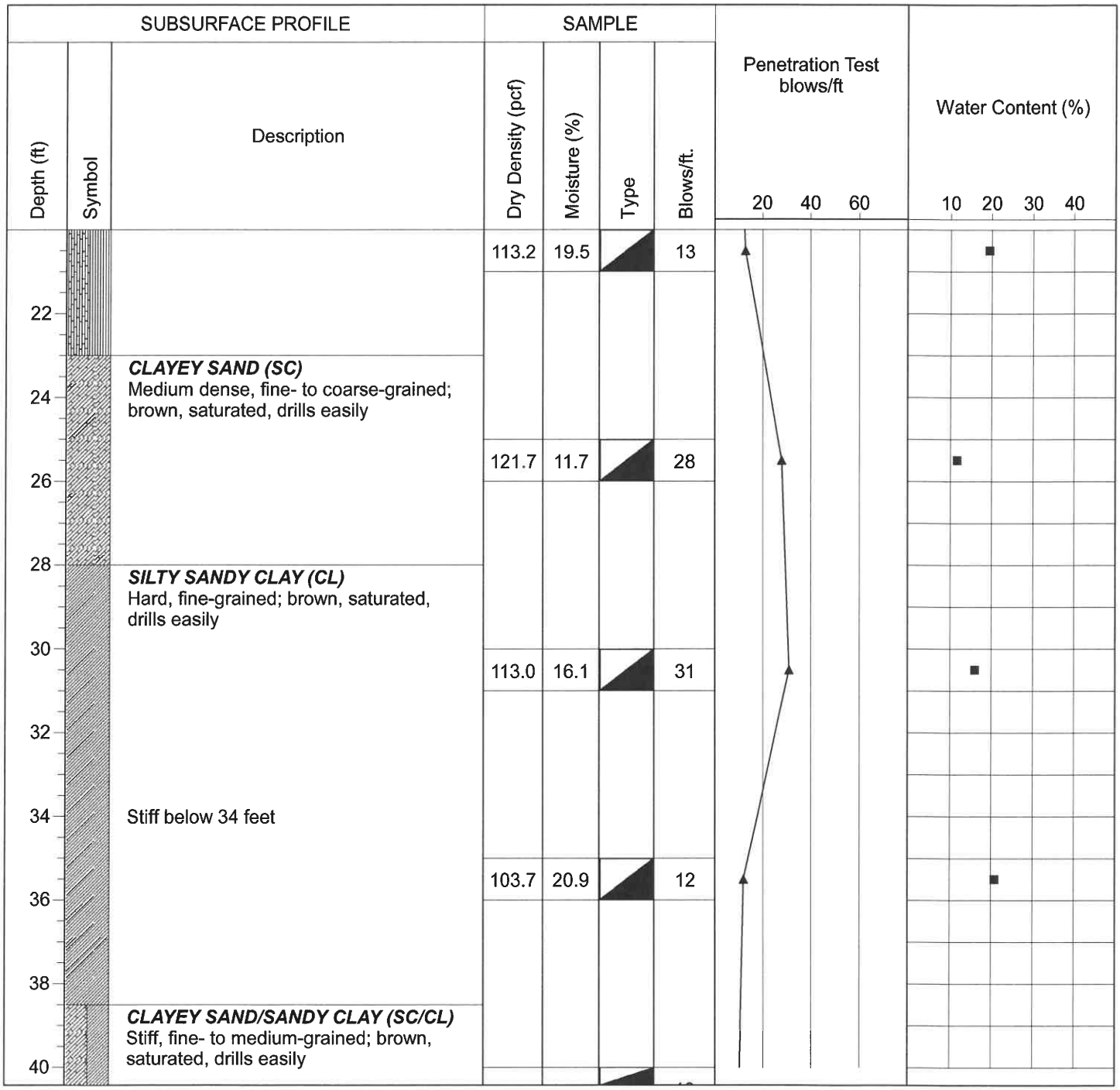
Log of Boring B19

Project: Dublin Unified New High School
Project No: 042-19017

Client: SIM-PBK
Figure No.: A-19

Location: Central Parkway and Chancery Lane, Dublin, California
Logged By: Wayne Andrade

Depth to Water> **Initial:** 18½ Feet **At Completion:** 18½ Feet



Drill Method: Hollow Stem
Drill Date: 7-31-19

Drill Rig: CME 45C-1
Hole Size: 6½ Inches

Driller: Chris Wyneken
Elevation: 50 Feet

Krazan and Associates

Log of Boring B19

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-19

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18½ Feet **At Completion:** 18½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
42			103.1	20.0		10
44		***CLAYEY SAND (SC)*** Medium dense, fine- to medium-grained; brown, saturated, drills easily				
46			124.8	10.0		23
48						
50		End of Borehole				
52						
54						
56						
58						
60						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Log of Boring B20

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-20

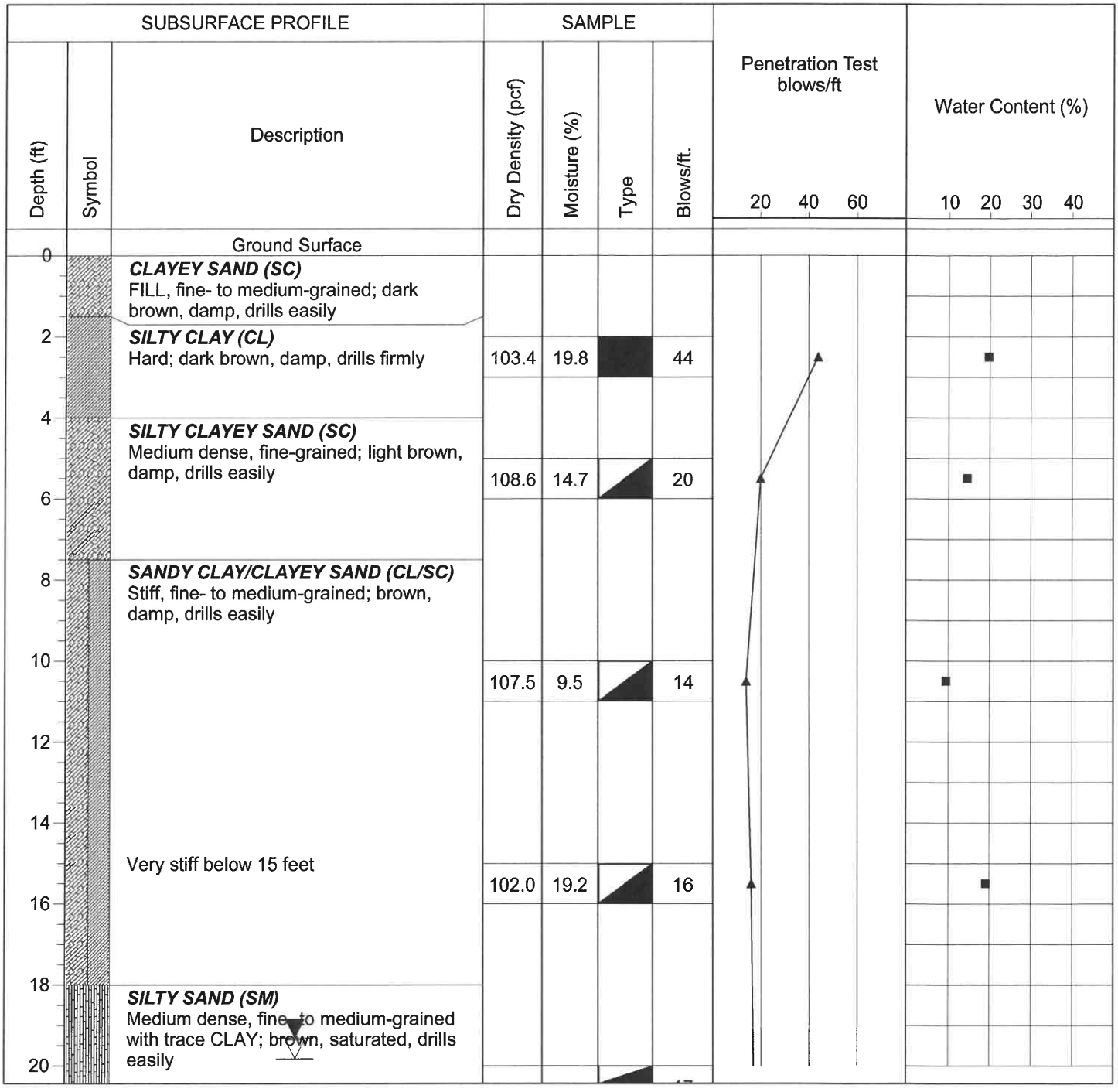
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: 20 Feet

At Completion: 19½ Feet



Drill Method: Hollow Stem

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B20

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-20

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 20 Feet **At Completion:** 19½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22			97.7	14.7		17
24		***SANDY CLAY (CL)*** Hard, fine-grained; brown, saturated, drills easily				
26			118.9	14.8		36
28						
30		End of Borehole				
32						
34						
36						
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B21

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-21

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***CLAYEY SAND (SC)*** FILL, fine- to coarse-grained; dark brown, damp, drills easily				
2		***SILTY CLAY (CL)*** Very stiff; dark brown and light brown, damp, drills easily	114.1	9.4		37
4		***CLAYEY SAND (SC)*** Medium dense, fine-grained; light brown, damp, drills easily				
6			106.7	11.7		32
8						
10		End of Borehole				
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B22

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-22

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***CLAYEY SAND (SC)*** FILL, fine- to medium-grained with trace CONCRETE fragments and GRAVEL; light brown, damp, drills easily				
2			97.2	15.1		29
4		***SILTY CLAY (CL)*** Very stiff; dark brown, damp, drills easily				
6		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Medium dense, fine-grained; light brown, moist, drills easily	99.9	18.7		27
8		***SILTY CLAY (CL)*** Very stiff; olive-brown, damp, drills easily	97.4	19.3		29
10						
12		With trace fine-grained SAND below 13 feet				
14						
16		End of Borehole				
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 7-31-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Log of Boring B23

Project: Dublin Unified New High School

Project No: 042-19017

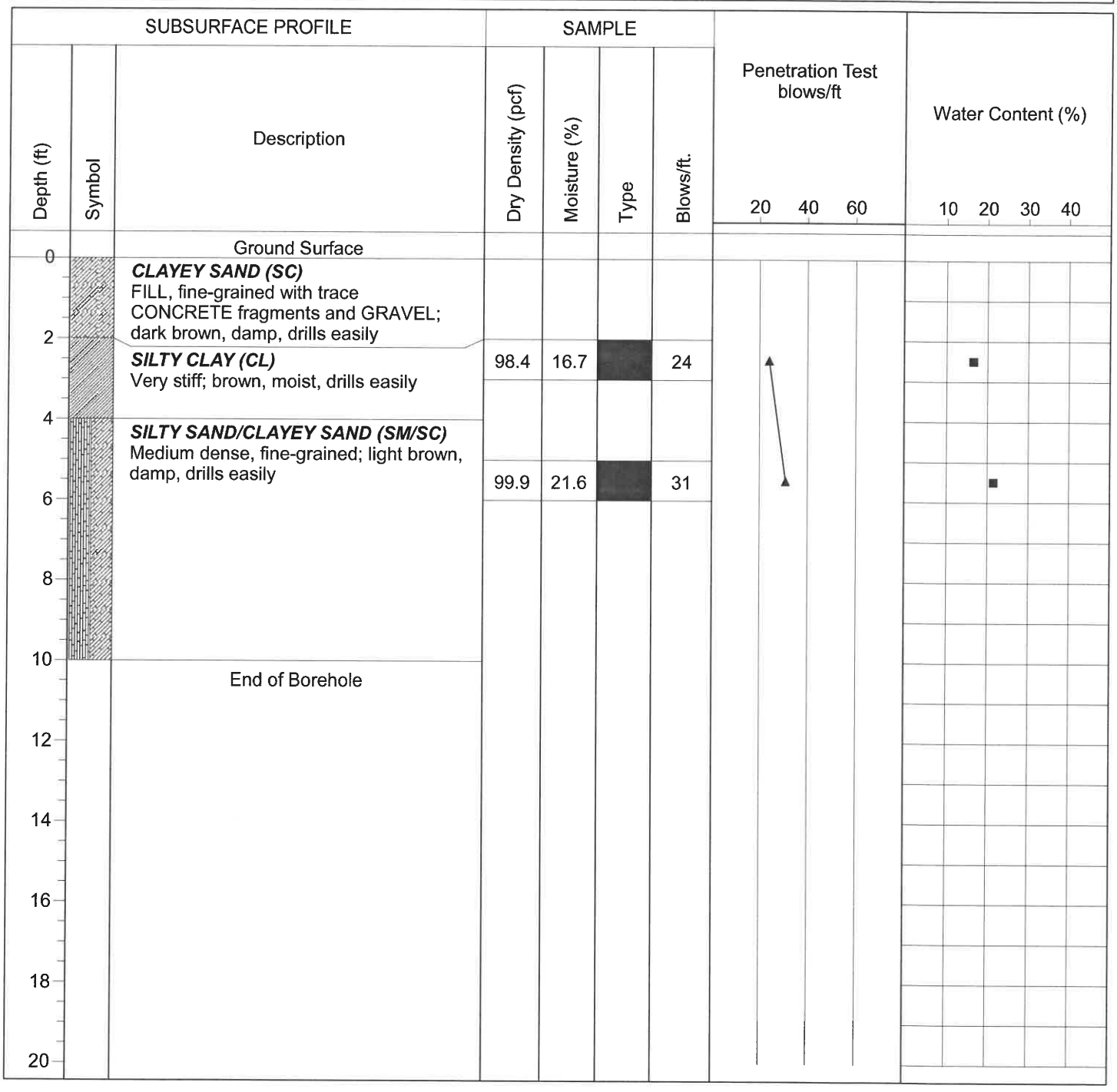
Client: SIM-PBK

Figure No.: A-23

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B24

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-24

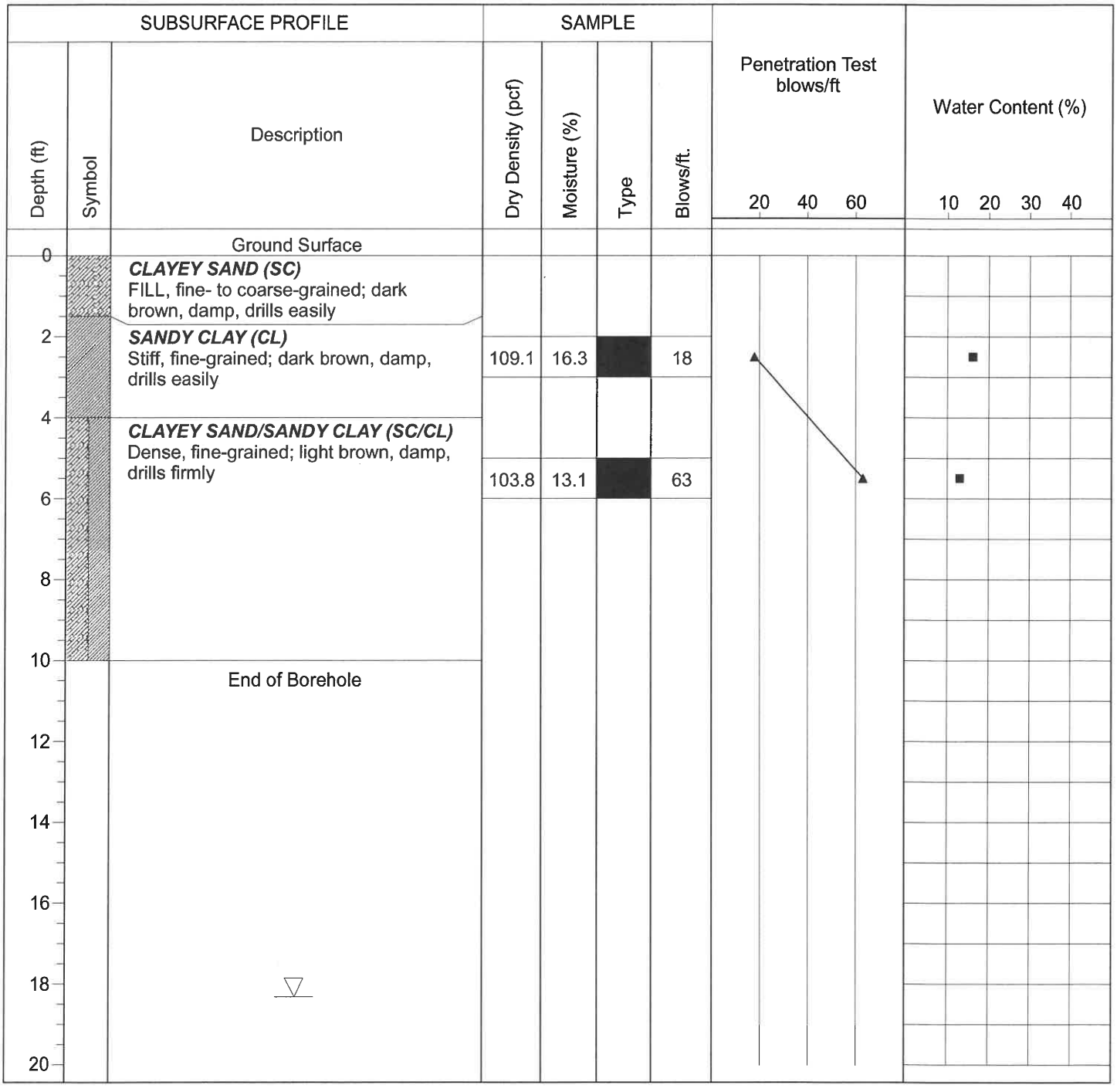
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 7-31-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B25

Project: Dublin Unified New High School

Project No: 042-19017

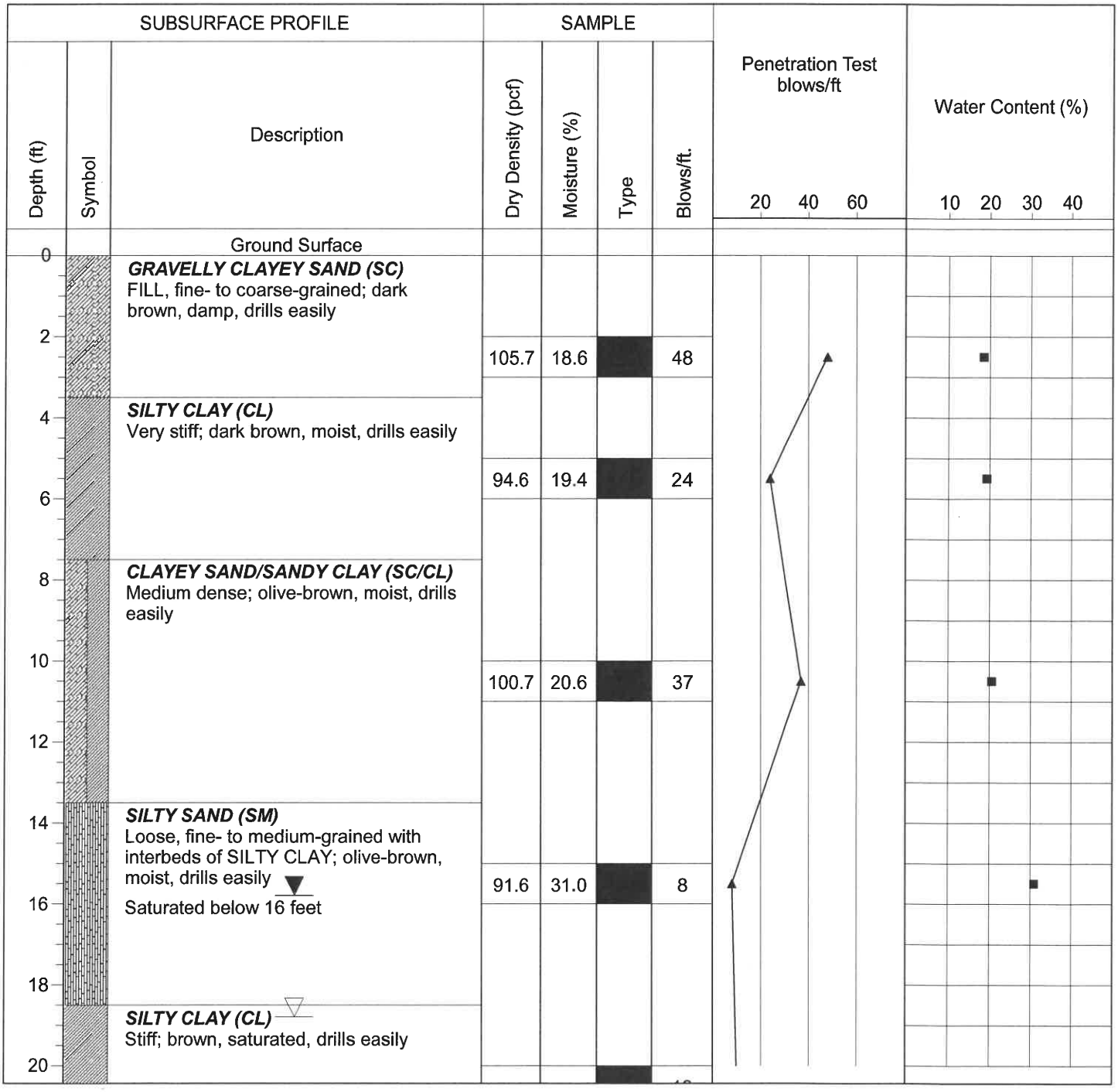
Client: SIM-PBK

Figure No.: A-25

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 16 Feet



Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B25

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-25

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: 19 Feet

At Completion: 16 Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
			102.8	22.6		10	▲	■
22								
24								
		End of Borehole						
26								
28								
30								
32								
34								
36								
38								
40								

Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B26

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-26

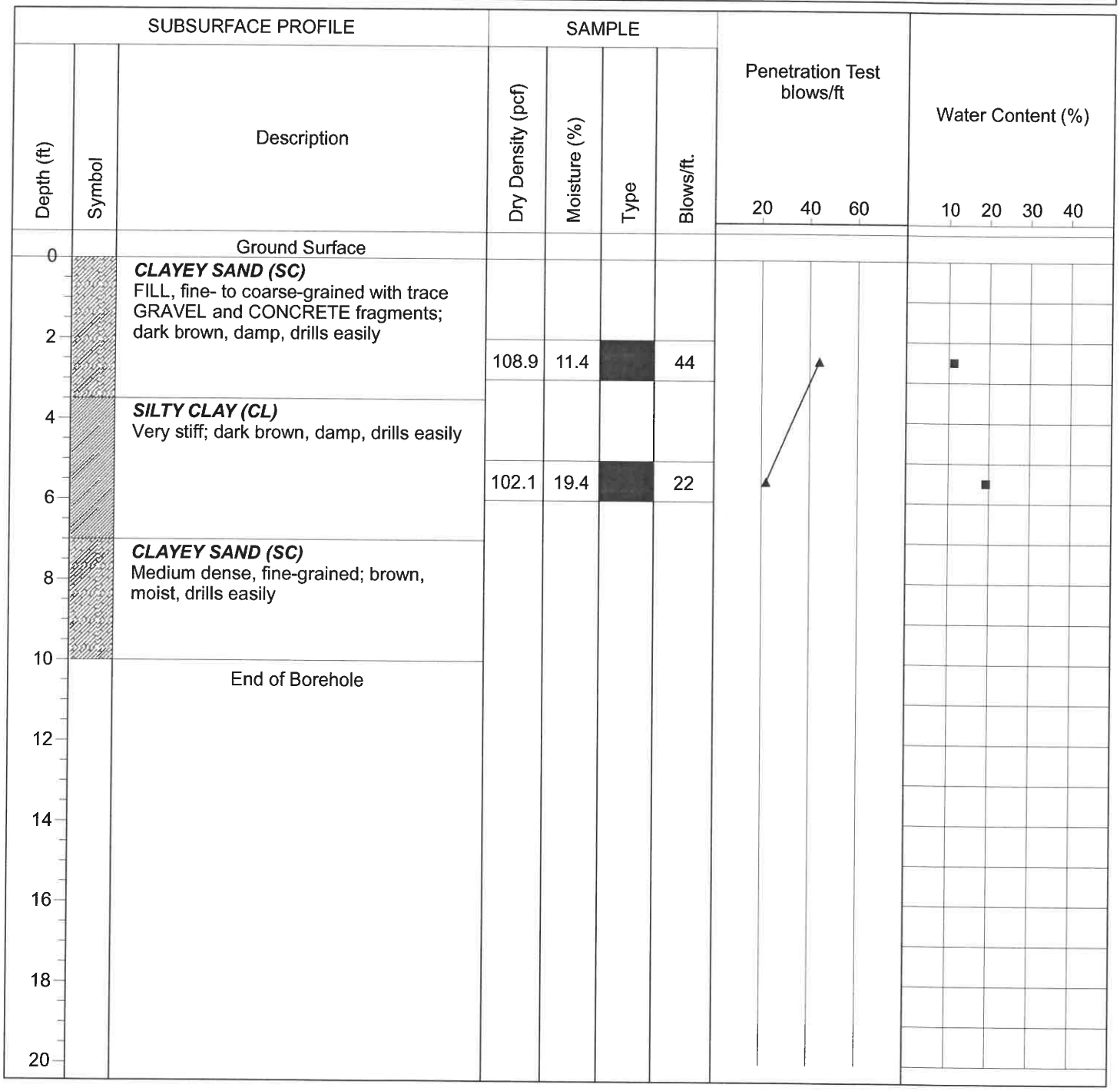
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B27

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-27

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
		CLAYEY SAND (SC) FILL, fine- to coarse-grained; dark brown, damp, drills easily				
2		***SILTY CLAY (CL)*** Very stiff; dark brown, damp, drills easily	106.9	10.5	■	29
4		***CLAYEY SAND (SC)*** Dense, fine-grained; light brown, damp, drills firmly	108.7	17.6	■	61
8		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Very stiff, fine-grained; brown, moist, drills easily	105.2	17.6	■	25
16		End of Borehole				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B28

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-28

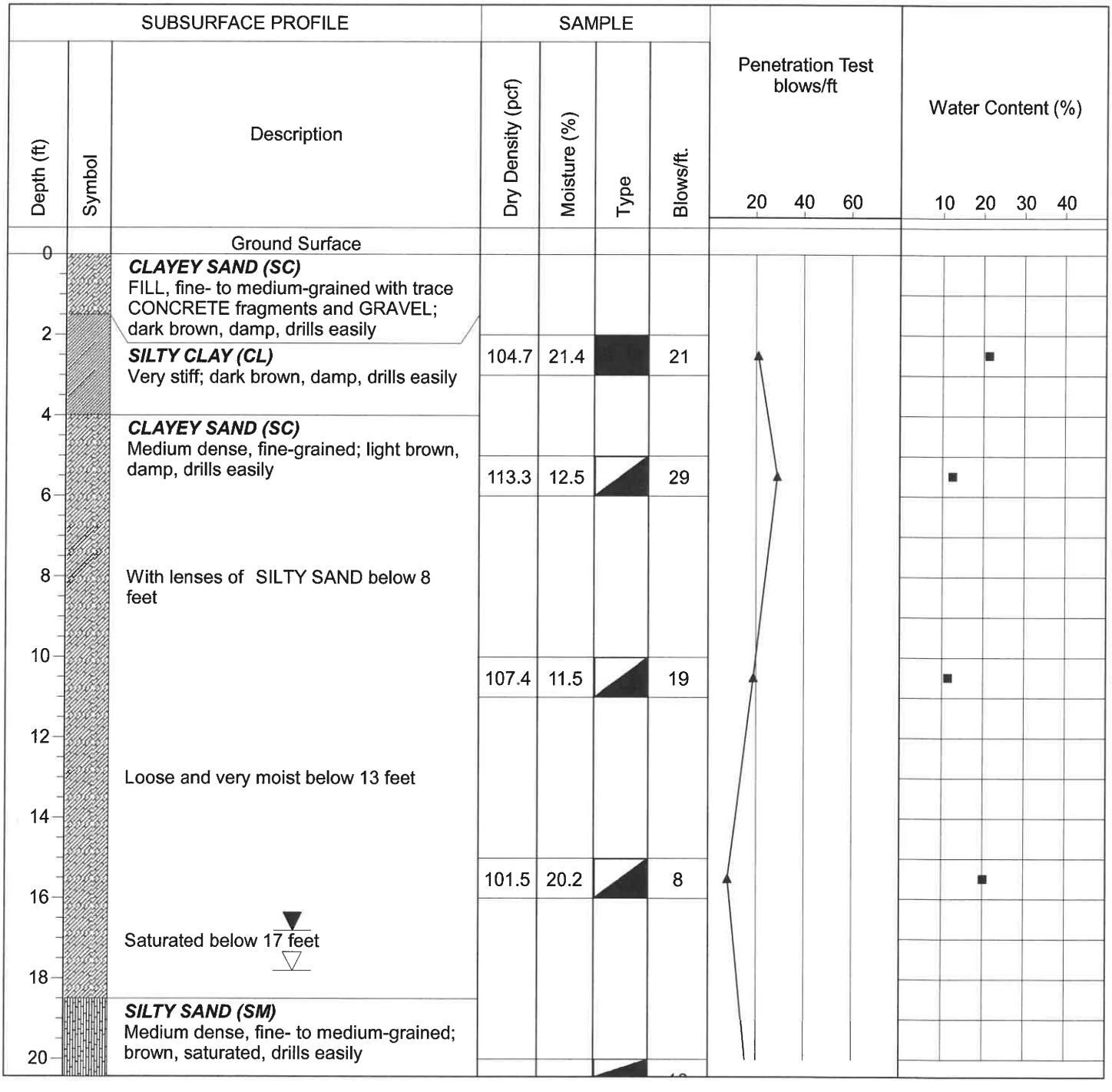
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: 18 Feet

At Completion: 17 Feet



Drill Method: Hollow Stem

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B28

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-28

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 18 Feet **At Completion:** 17 Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22			107.0	17.5		16
24		***CLAYEY SILTY SAND (SM/SC)*** Medium dense, fine-grained; brown, saturated, drills easily				
26			111.4	17.5		18
28						
30		End of Borehole				
32						
34						
36						
38						
40						

SUBSURFACE PROFILE | SAMPLE | Penetration Test blows/ft (20, 40, 60) | Water Content (%) (10, 20, 30, 40)

Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 6½ Inches

Elevation: 30 Feet

Log of Boring B29

Project: Dublin Unified New High School

Project No: 042-19017

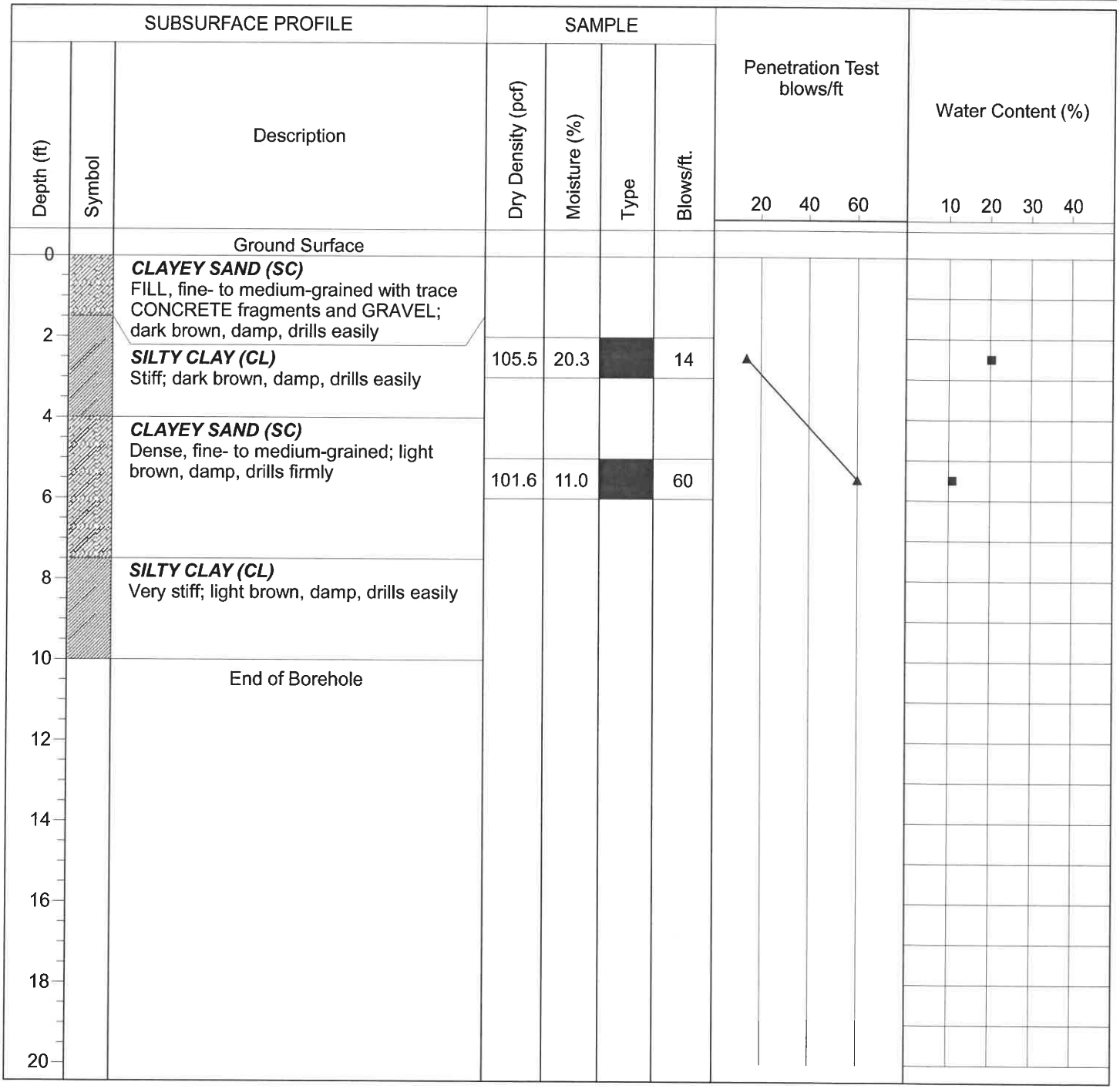
Client: SIM-PBK

Figure No.: A-29

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B30

Project: Dublin Unified New High School

Project No: 042-19017

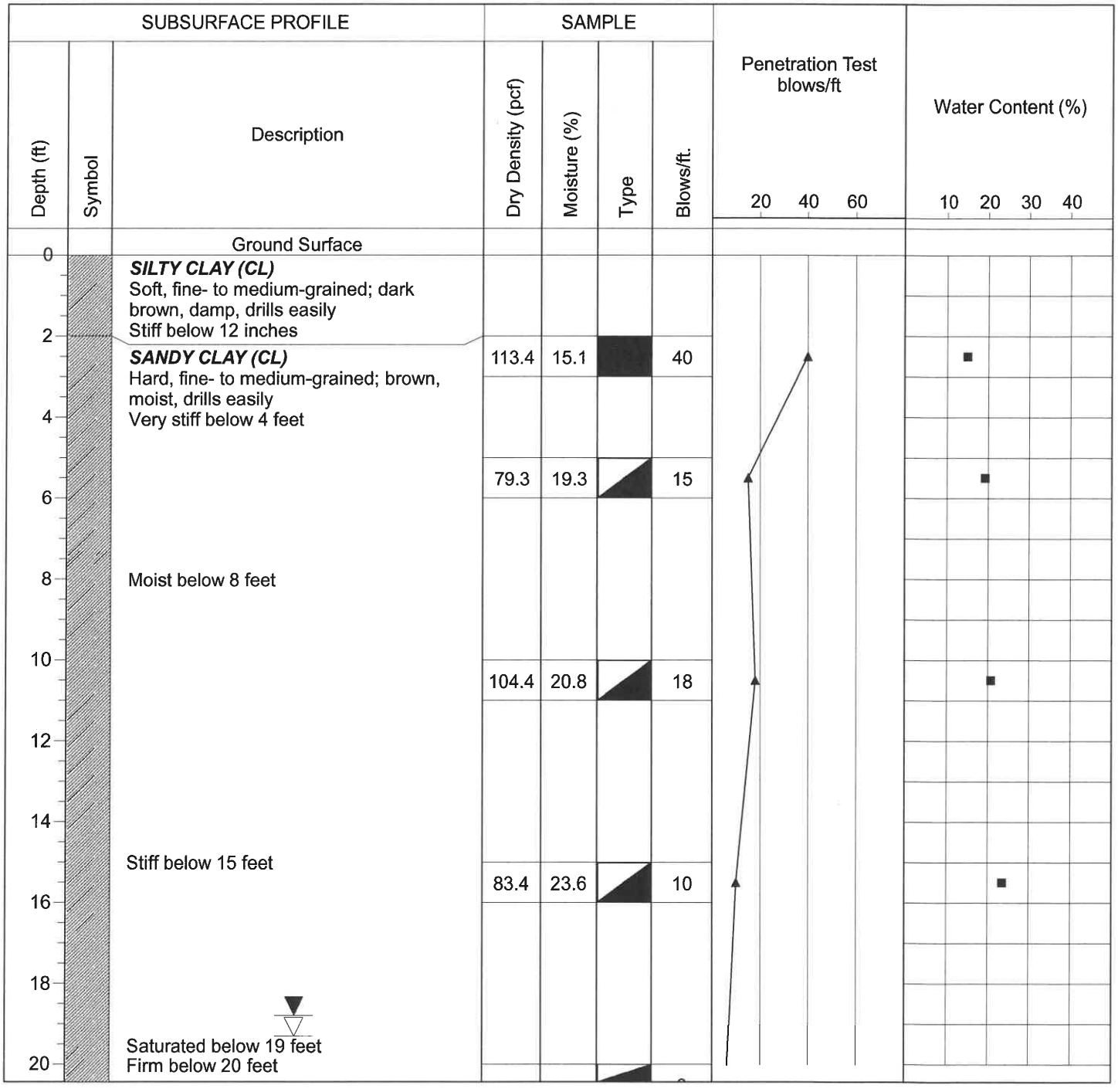
Client: SIM-PBK

Figure No.: A-30

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 19½ Feet



Drill Method: Hollow Stem

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 50 Feet

Log of Boring B30

Project: Dublin Unified New High School

Project No: 042-19017

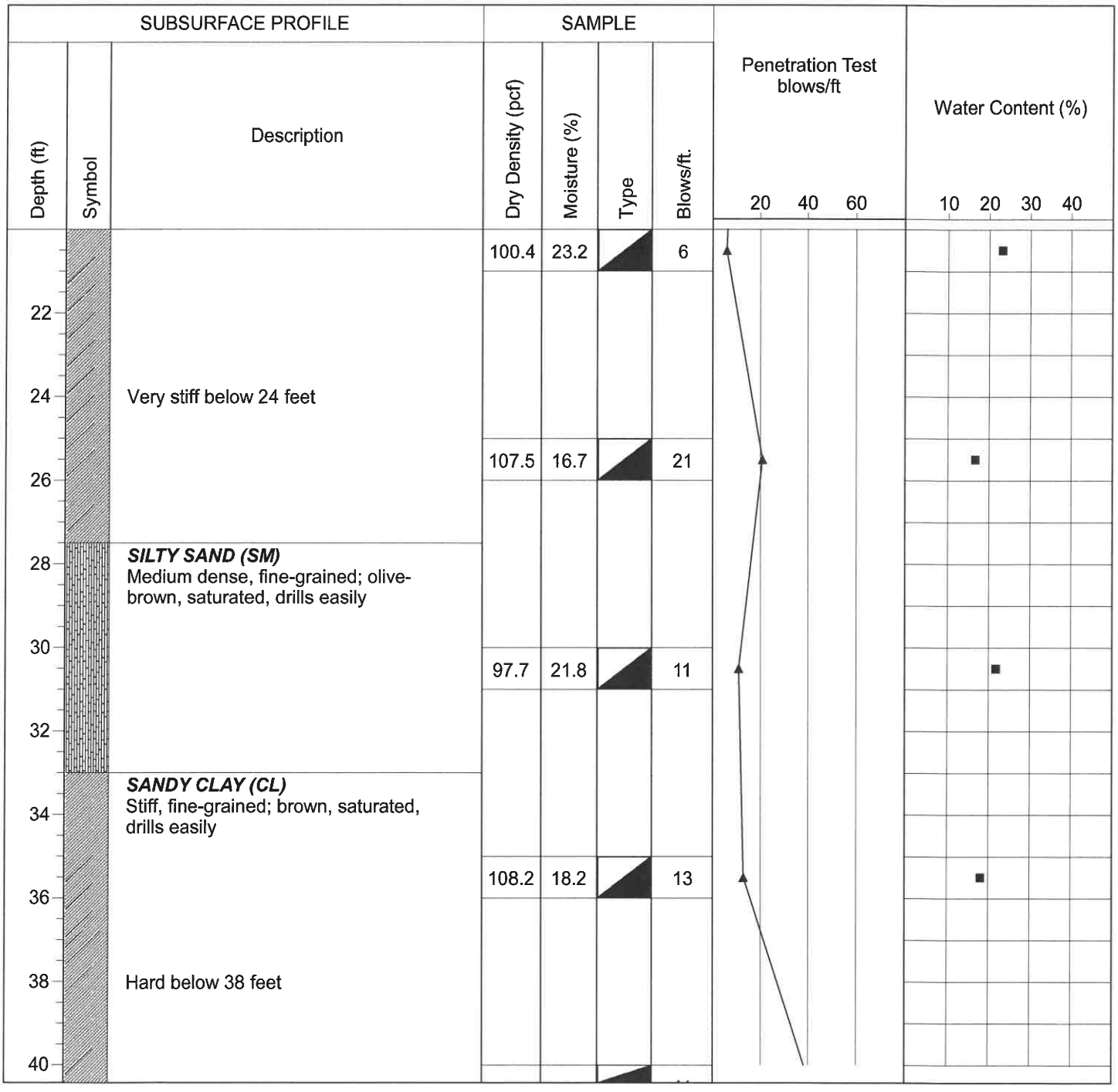
Client: SIM-PBK

Figure No.: A-30

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 19½ Feet



Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Log of Boring B30

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-30

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 19½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
42			111.4	17.6		41
44		***SANDY SILT (ML)*** Medium dense, fine-grained with trace CLAY; brown, saturated, drills easily				
46			111.7	19.5		28
48						
50		End of Borehole				
52						
54						
56						
58						
60						

SUBSURFACE PROFILE | SAMPLE

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Log of Boring B31

Project: Dublin Unified New High School

Project No: 042-19017

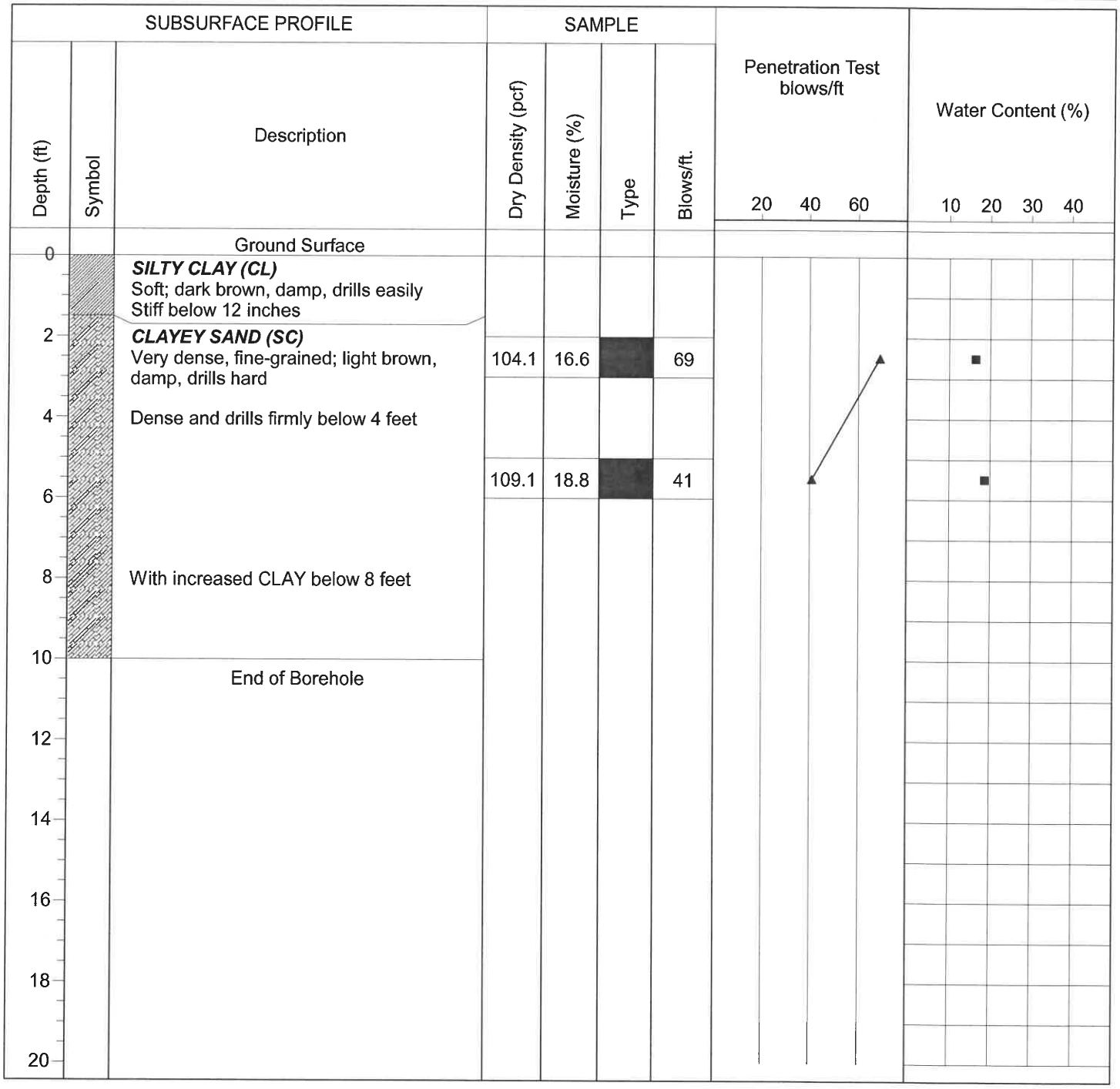
Client: SIM-PBK

Figure No.: A-31

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B32

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-32

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***GRAVELLY CLAYEY SAND (SC)*** FILL, fine- to coarse-grained; dark brown, damp, drills easily				
2		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Medium dense, fine-grained; olive-brown, damp, drills easily	96.0	22.9		37
4		***CLAYEY SILTY SAND (SM/SC)*** Dense, fine- to medium-grained; light brown, damp, drills firmly	106.5	15.7		42
8		***CLAYEY SILT (ML)*** Medium dense, with trace fine-grained SAND; olive-brown, moist, drills easily	106.6	17.3		34
16			94.2	14.4		19
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B33

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

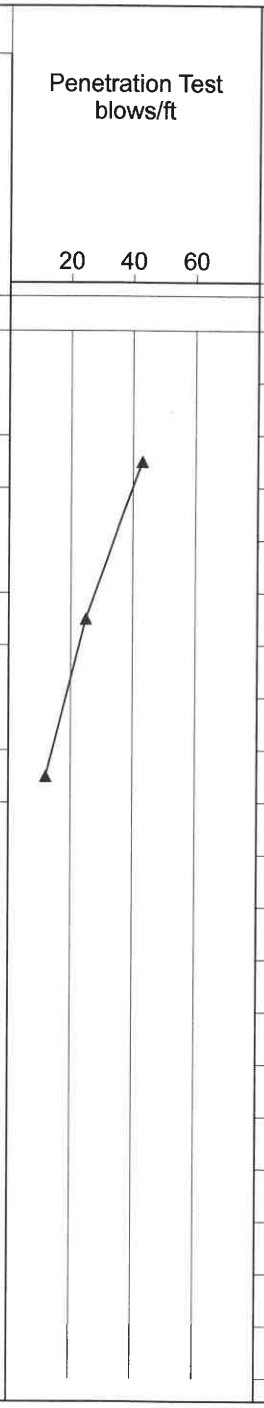
Figure No.: A-33

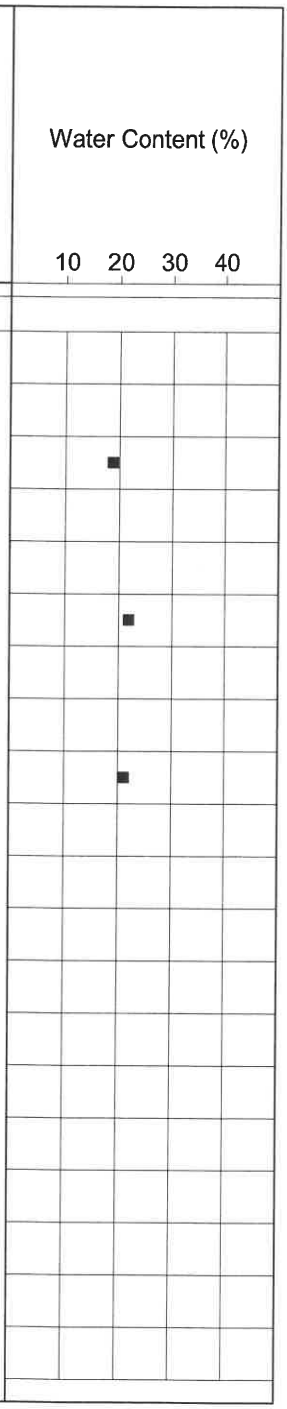
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY CLAY (CL)*** Soft; dark brown, damp, drills easily Stiff below 12 inches				
2		***CLAYEY SAND (SC)*** Dense fine- to medium-grained; light brown, damp, drills firmly	108.2	18.9		43
4		Medium dense below 4 feet				
6			98.2	21.9		25
8		***CLAYEY SAND/SANDY CLAY (SC/CL)*** Loose, fine-grained; light brown, moist, drills easily	95.8	21.1		12
10						
12						
14						
16		End of Borehole				
18						
20						





Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B34

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-34

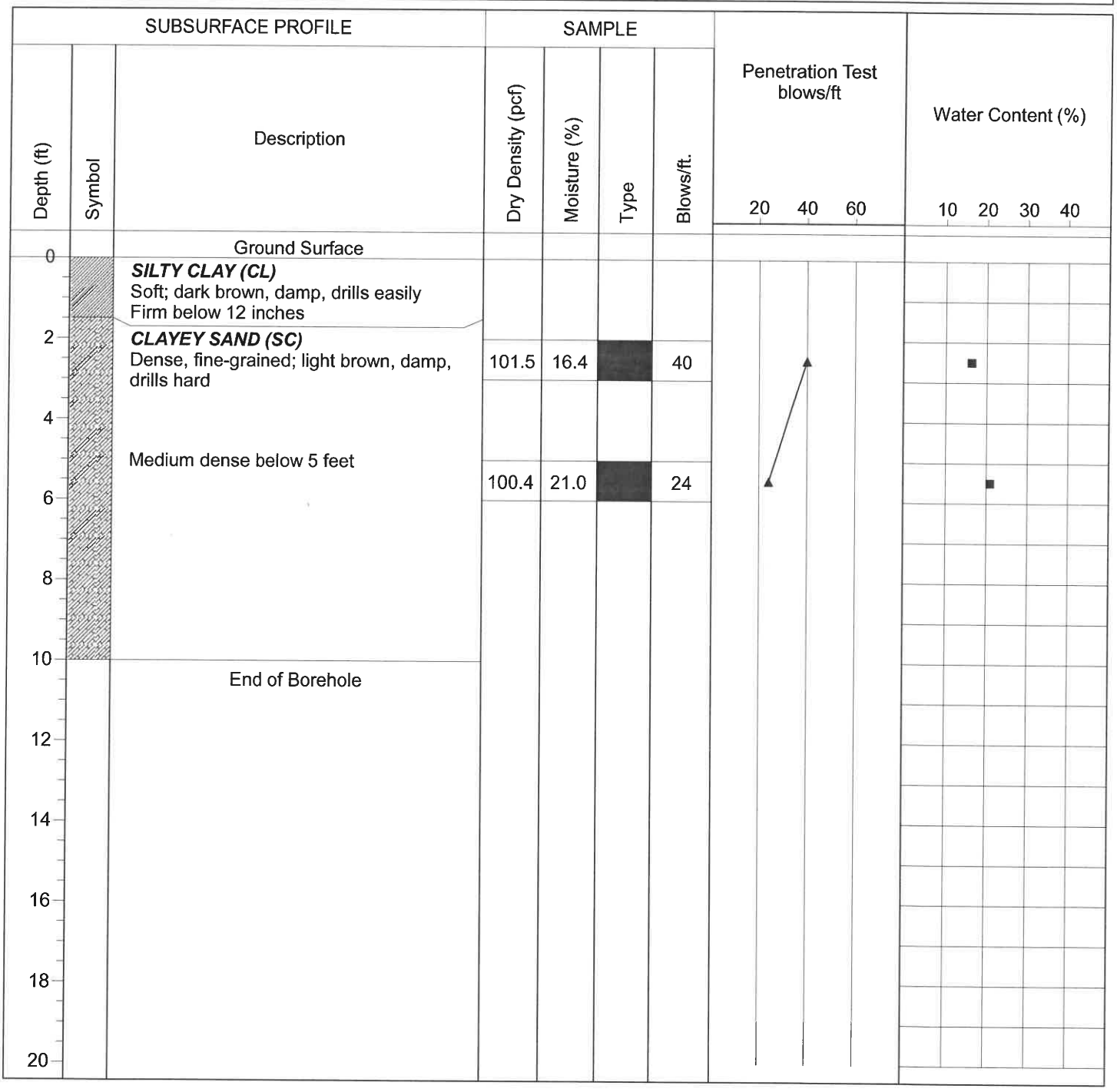
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B35

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-35

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
		SILTY CLAY (CL) Soft; dark brown, damp, drills easily				
2		***CLAYEY SILTY SAND (SM/SC)*** Medium dense, fine-grained with lenses of SANDY CLAY; brown, damp, drills easily	100.9	19.8		24
4		Loose with increased SAND below 8 feet				
6			90.1	26.3		15
8		With increased CLAY and decreased SAND below 8 feet	89.3	29.2		12
10						
12						
14						
16		End of Borehole				
18						
20						

SUBSURFACE PROFILE

SAMPLE

Penetration Test blows/ft

20 40 60

Water Content (%)

10 20 30 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B36

Project: Dublin Unified New High School

Project No: 042-19017

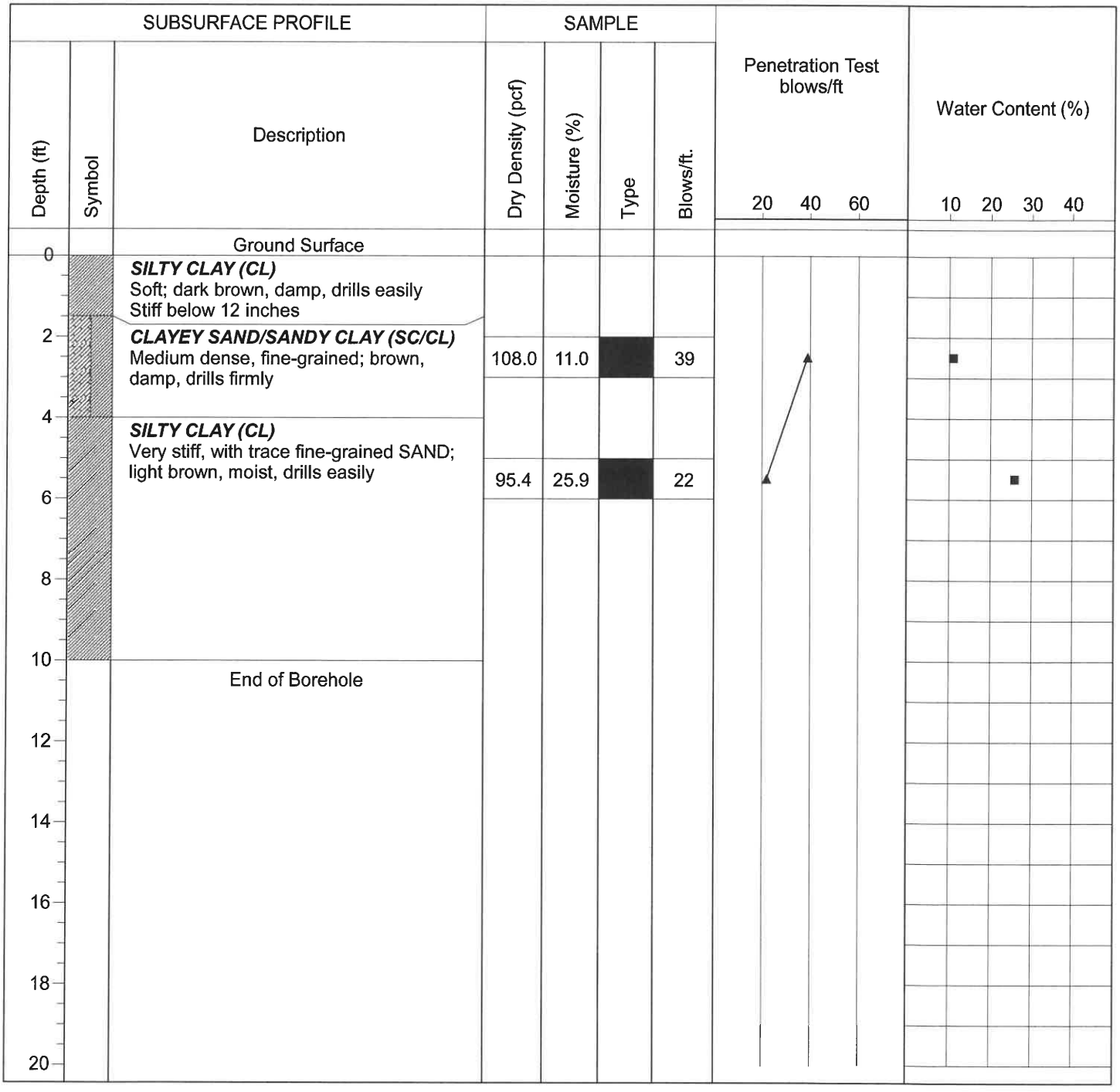
Client: SIM-PBK

Figure No.: A-36

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B37

Project: Dublin Unified New High School

Project No: 042-19017

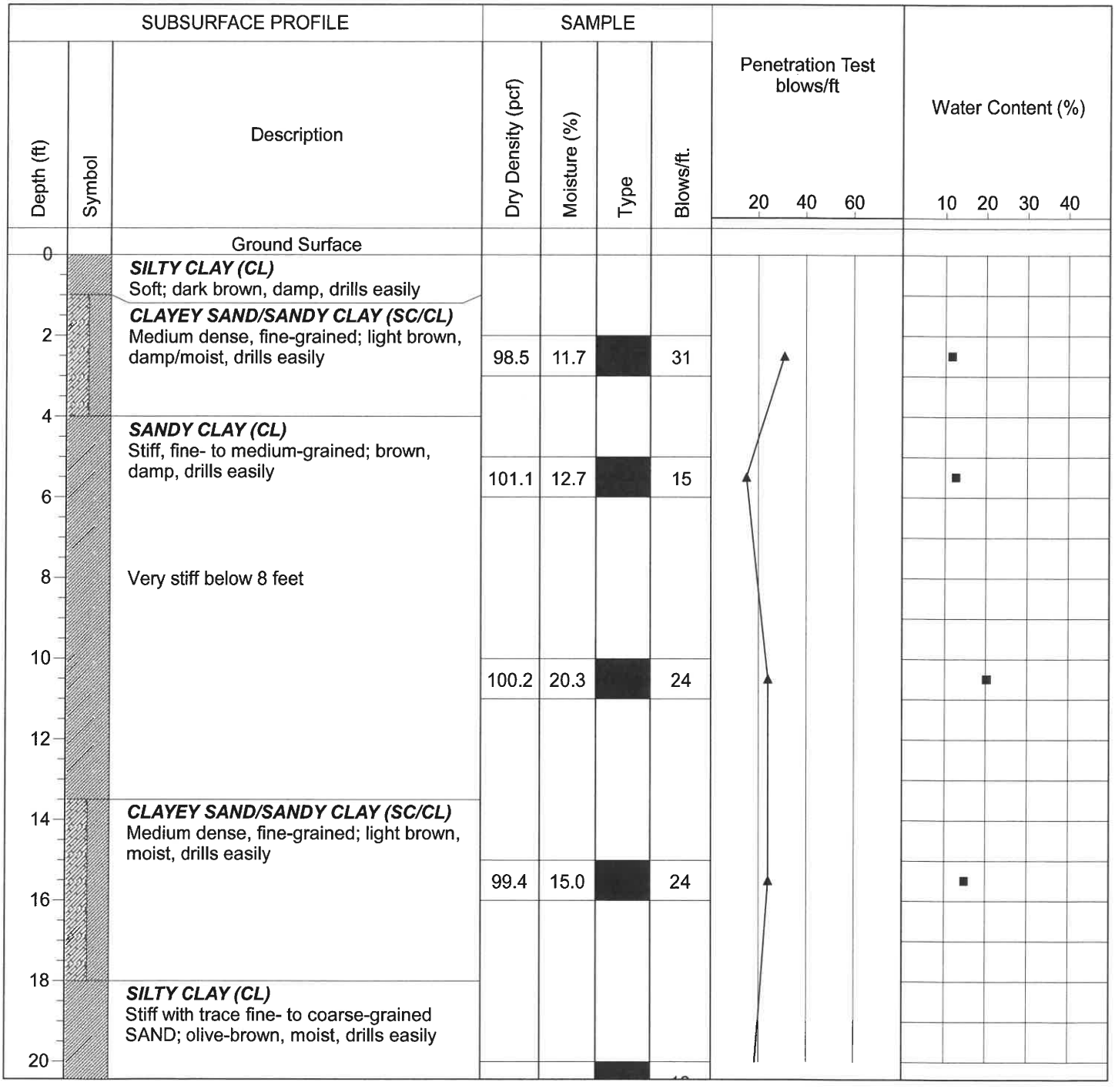
Client: SIM-PBK

Figure No.: A-37

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 23 Feet **At Completion:** 21 Feet



Drill Method: Straight Flight

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B37

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-37

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 23 Feet **At Completion:** 21 Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
22		Saturated below 21 feet ▽	110.0	20.0		18		
24								
26		End of Borehole						
28								
30								
32								
34								
36								
38								
40								

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 25 Feet

Log of Boring B38

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

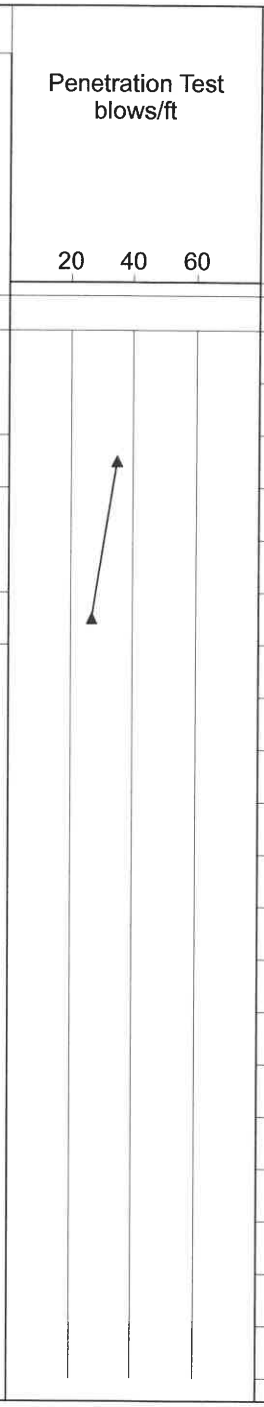
Figure No.: A-38

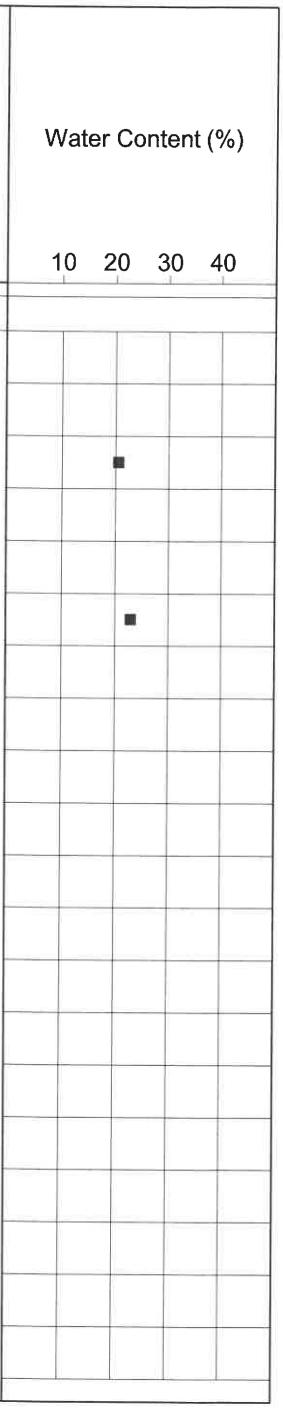
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
		SILTY CLAY (CL) Soft; dark brown, damp, drills easily Stiff below 12 inches				
2		***SANDY SILTY CLAY (CL)*** Very stiff, fine-grained; light brown, moist, drills easily	105.9	20.6		35
4						
6			94.1	23.0		27
8						
10		End of Borehole				
12						
14						
16						
18						
20						





Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-1-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B39

Project: Dublin Unified New High School

Project No: 042-19017

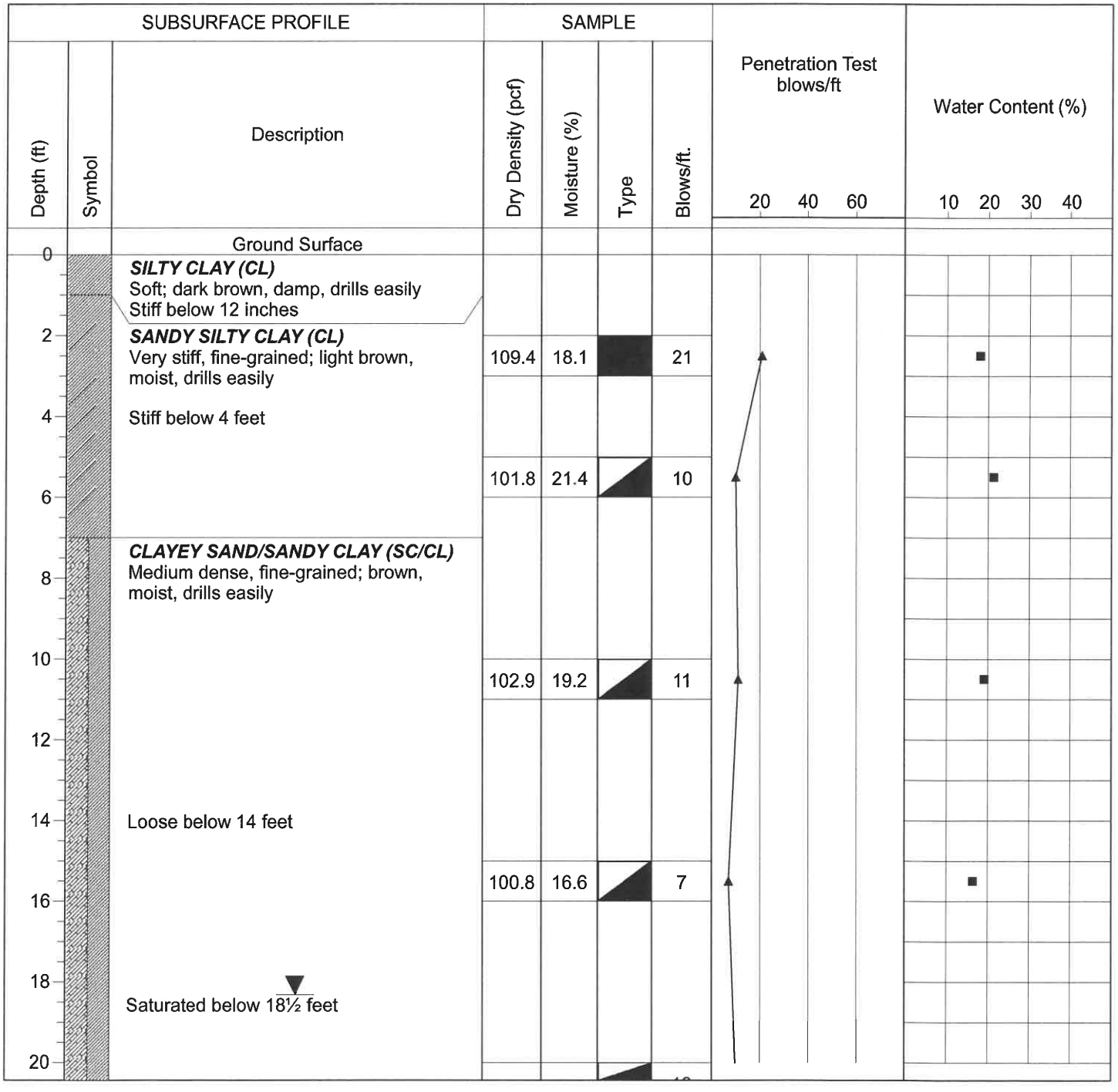
Client: SIM-PBK

Figure No.: A-39

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18½ Feet



Drill Method: Hollow Stem

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B39

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-39

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18½ Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22			110.4	18.9		10
24		***CLAYEY SAND (SC)*** Dense, fine- to coarse-grained with trace GRAVEL; brown, saturated, drills easily				
26			117.5	15.2		30
28						
30		End of Borehole				
32						
34						
36						
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 8-1-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 6½ Inches

Driller: Chris Wyneken

Elevation: 30 Feet

Log of Boring B40

Project: Dublin Unified New High School

Project No: 042-19017

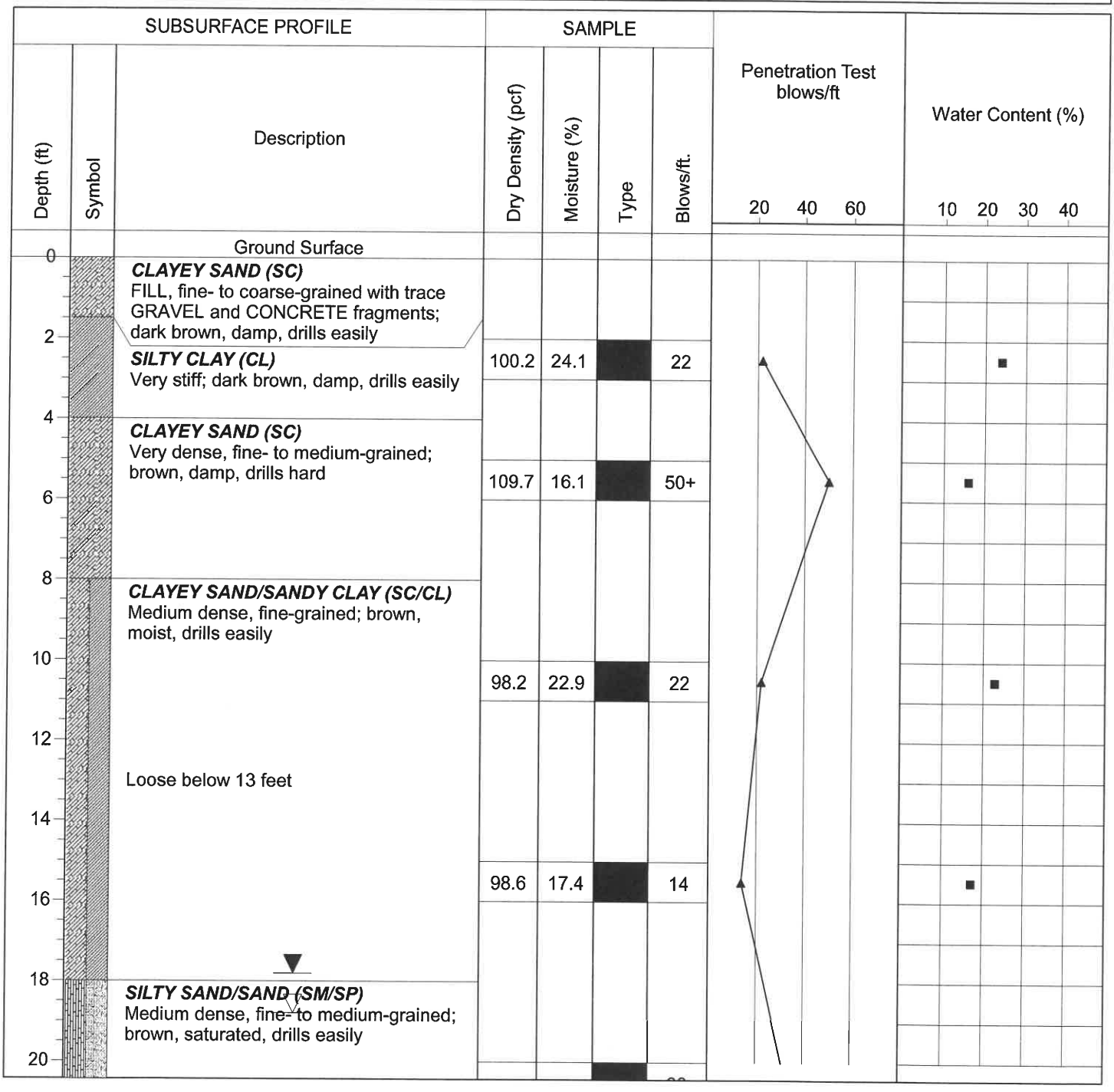
Client: SIM-PBK

Figure No.: A-40

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18 Feet



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B40

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-40

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18 Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22			108.5	22.4		33
24		***CLAYEY SAND (SC)*** Medium dense, fine-grained; brown, saturated, drills easily				
26		End of Borehole				
28						
30						
32						
34						
36						
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

Hole Size: 4½ Inches

Elevation: 25 Feet

Log of Boring B41

Project: Dublin Unified New High School

Project No: 042-19017

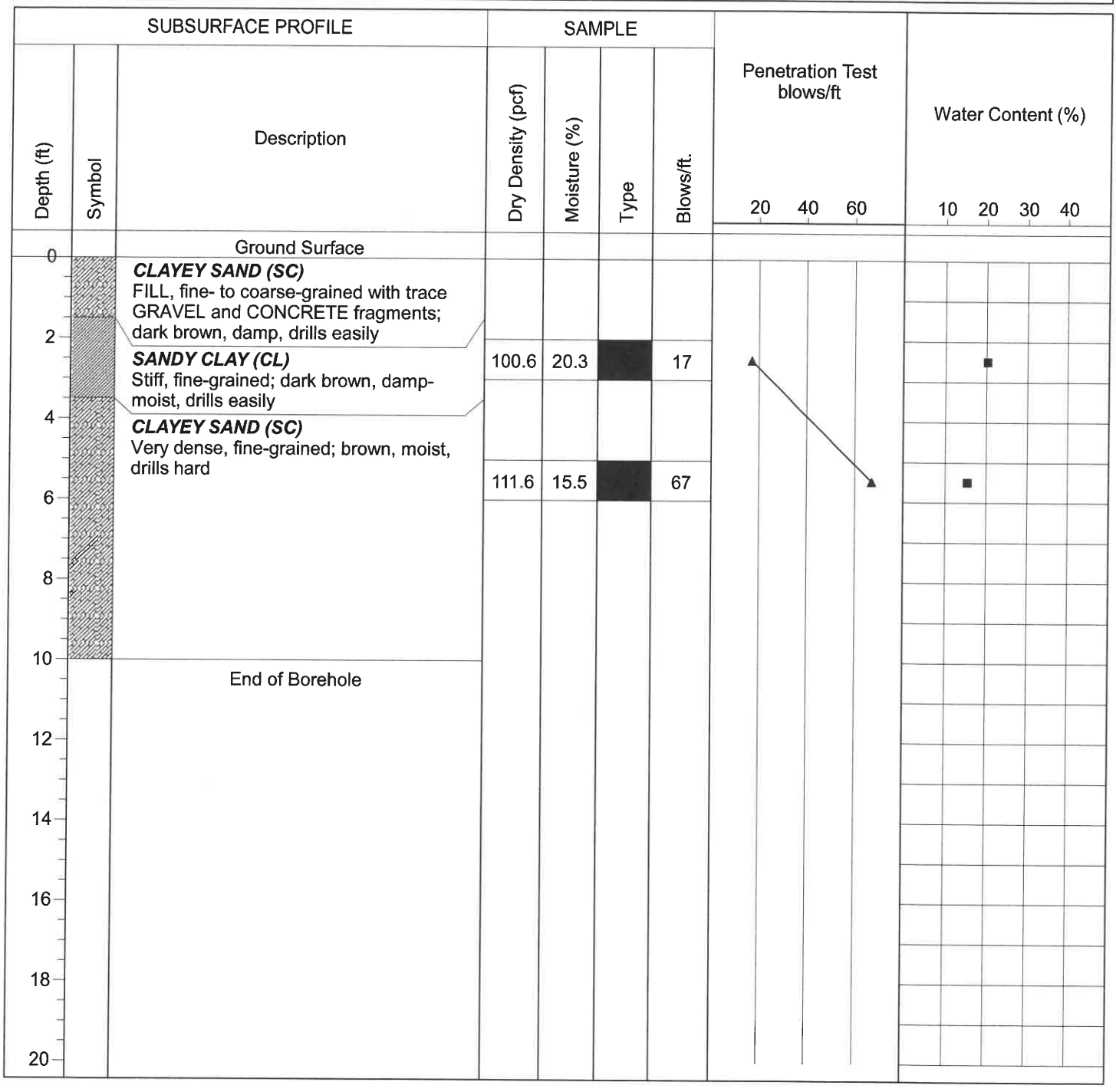
Client: SIM-PBK

Figure No.: A-41

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** None **At Completion:** None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B42

Project: Dublin Unified New High School

Project No: 042-19017

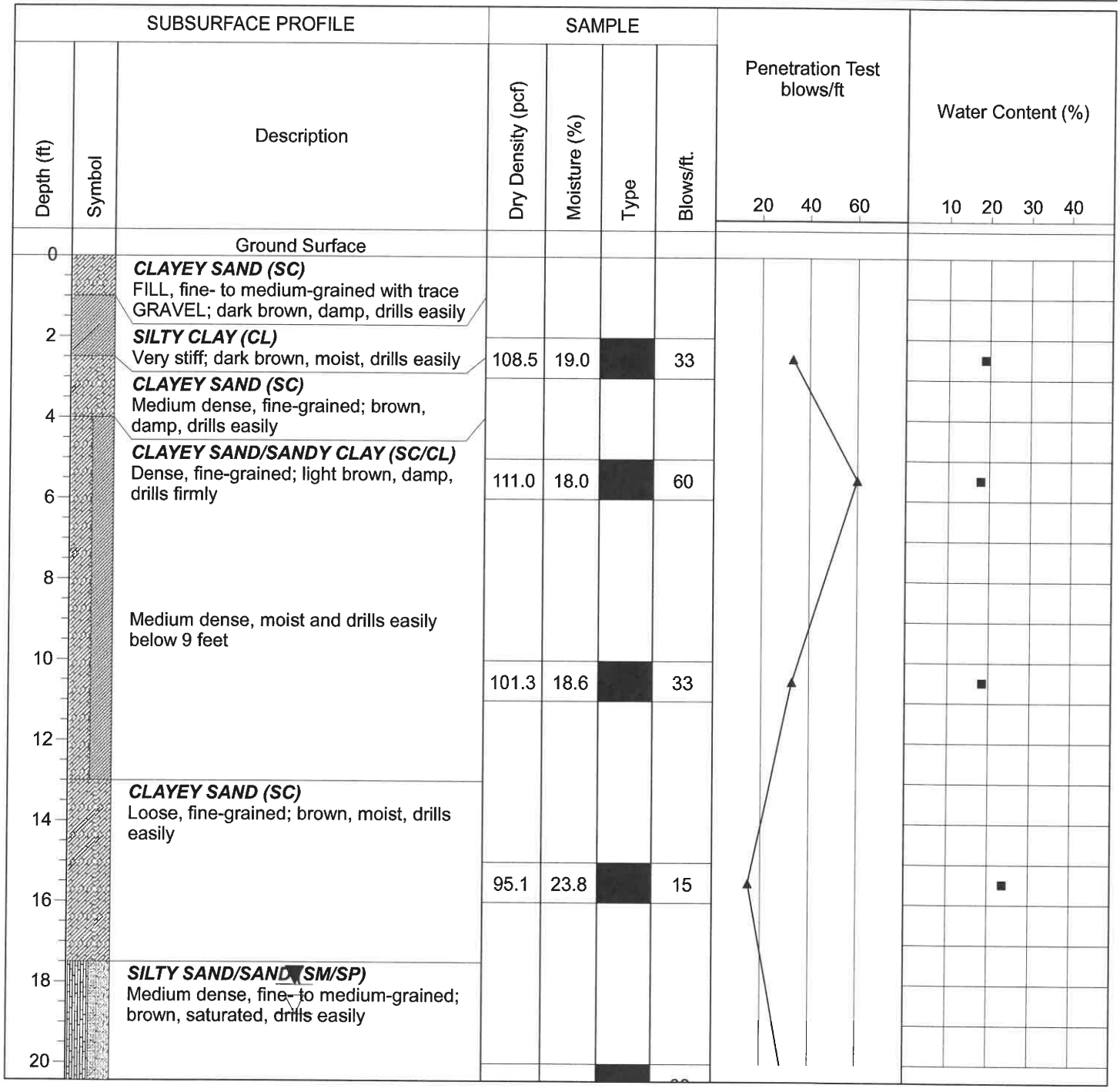
Client: SIM-PBK

Figure No.: A-42

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18¼ Feet



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 25 Feet

Log of Boring B42

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-42

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18¼ Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
22			99.3	18.8		30		
24								
26		End of Borehole						
28								
30								
32								
34								
36								
38								
40								

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

Hole Size: 4½ Inches

Elevation: 25 Feet

Log of Boring B43

Project: Dublin Unified New High School

Project No: 042-19017

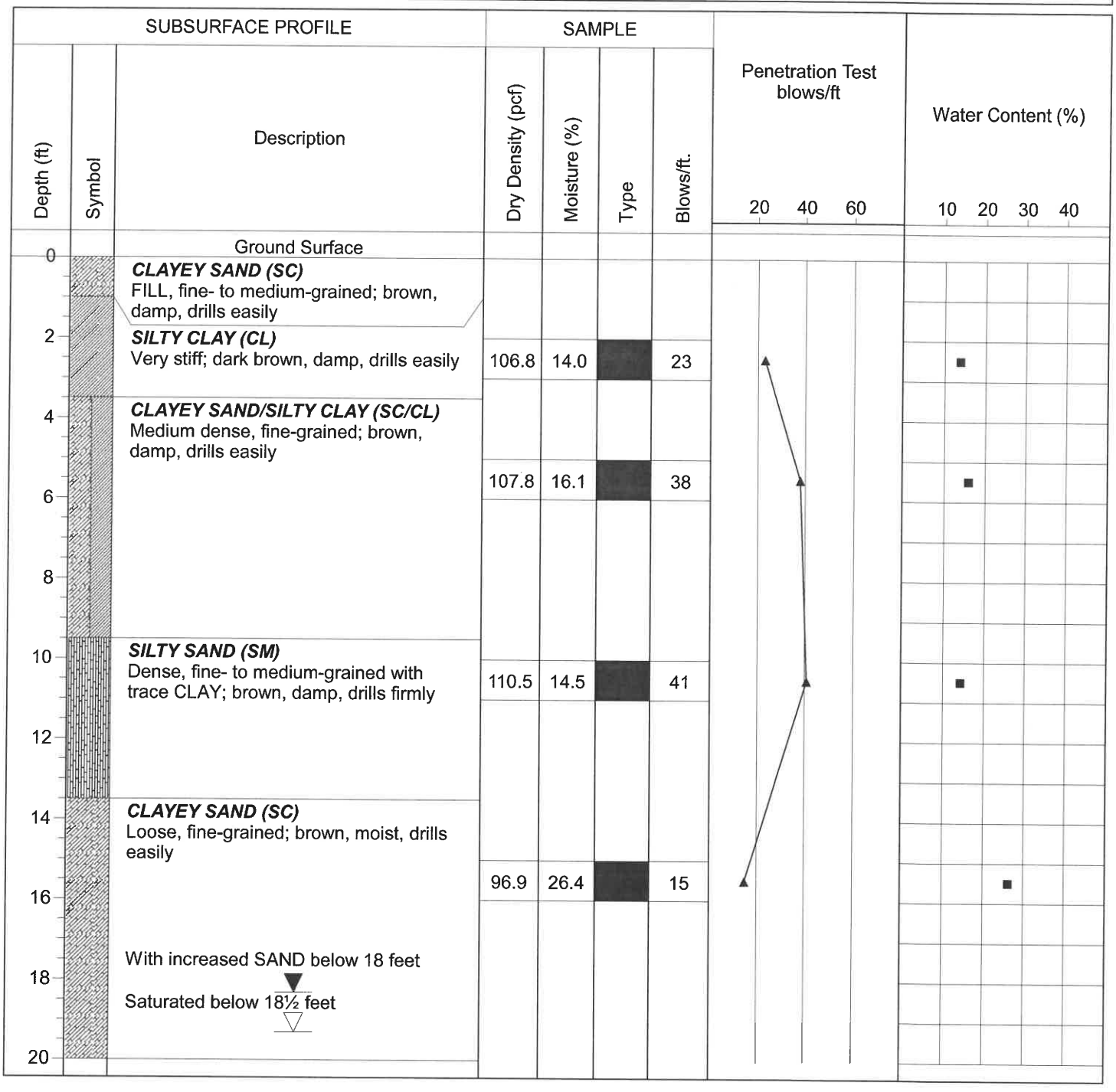
Client: SIM-PBK

Figure No.: A-43

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19½ Feet **At Completion:** 18½ Feet



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

Hole Size: 4½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B44

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-44

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
		CLAYEY SAND (SC) FILL, fine- to medium-grained with trace GRAVEL; brown, damp, drills easily				
2		***SILTY CLAY (CL)*** Very stiff; dark brown, damp, drills easily				24
4		***CLAYEY SILTY SAND (SM/SC)*** Dense, fine-grained; brown, damp, drills easily				
6			107.7	16.3		50
		Medium dense below 7 feet				
8			100.1	21.7		37
10						
12						
14						
		End of Borehole				
16						
18						
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B45

Project: Dublin Unified New High School

Project No: 042-19017

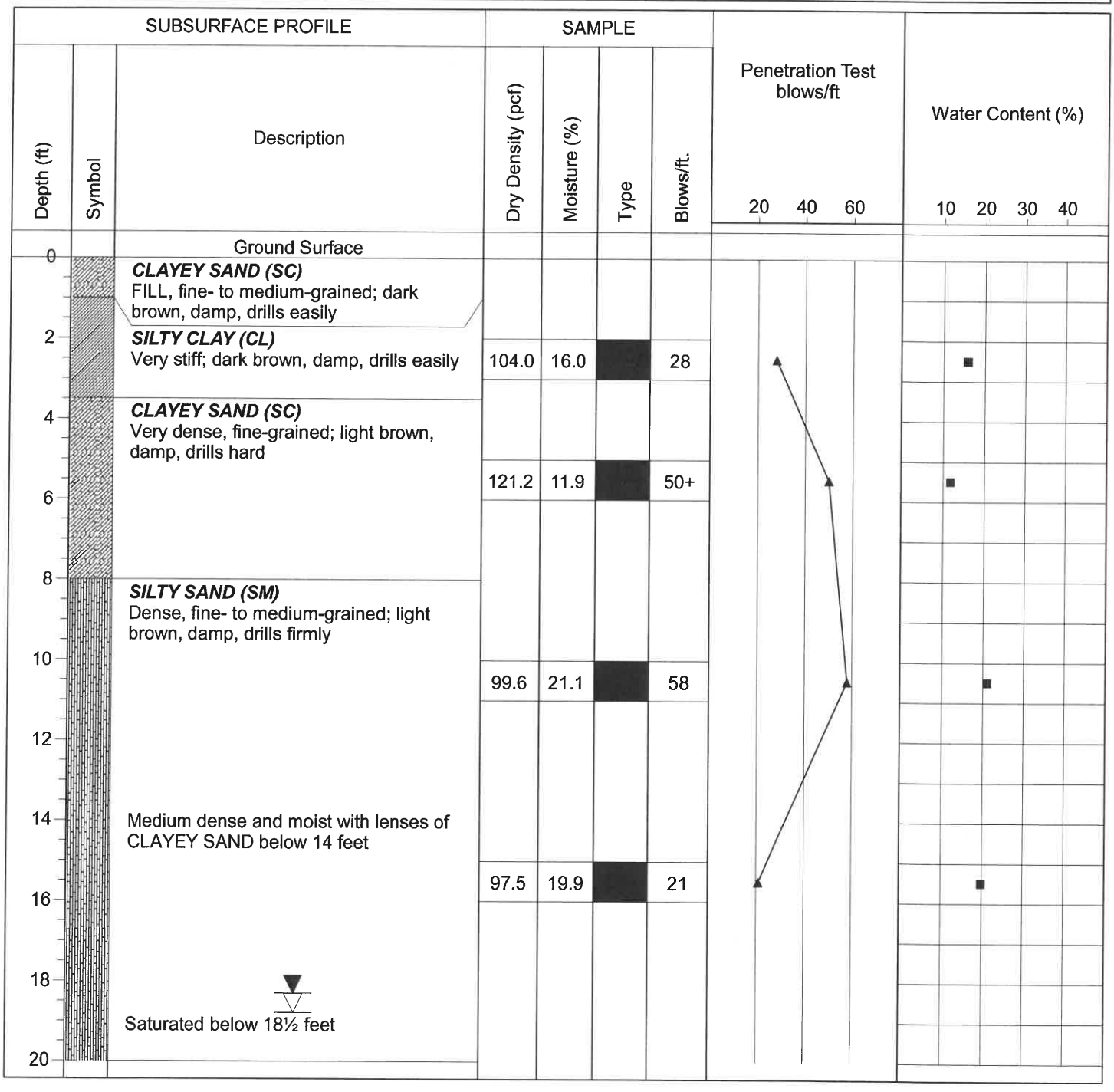
Client: SIM-PBK

Figure No.: A-45

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 18½ Feet



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B46

Project: Dublin Unified New High School

Project No: 042-19017

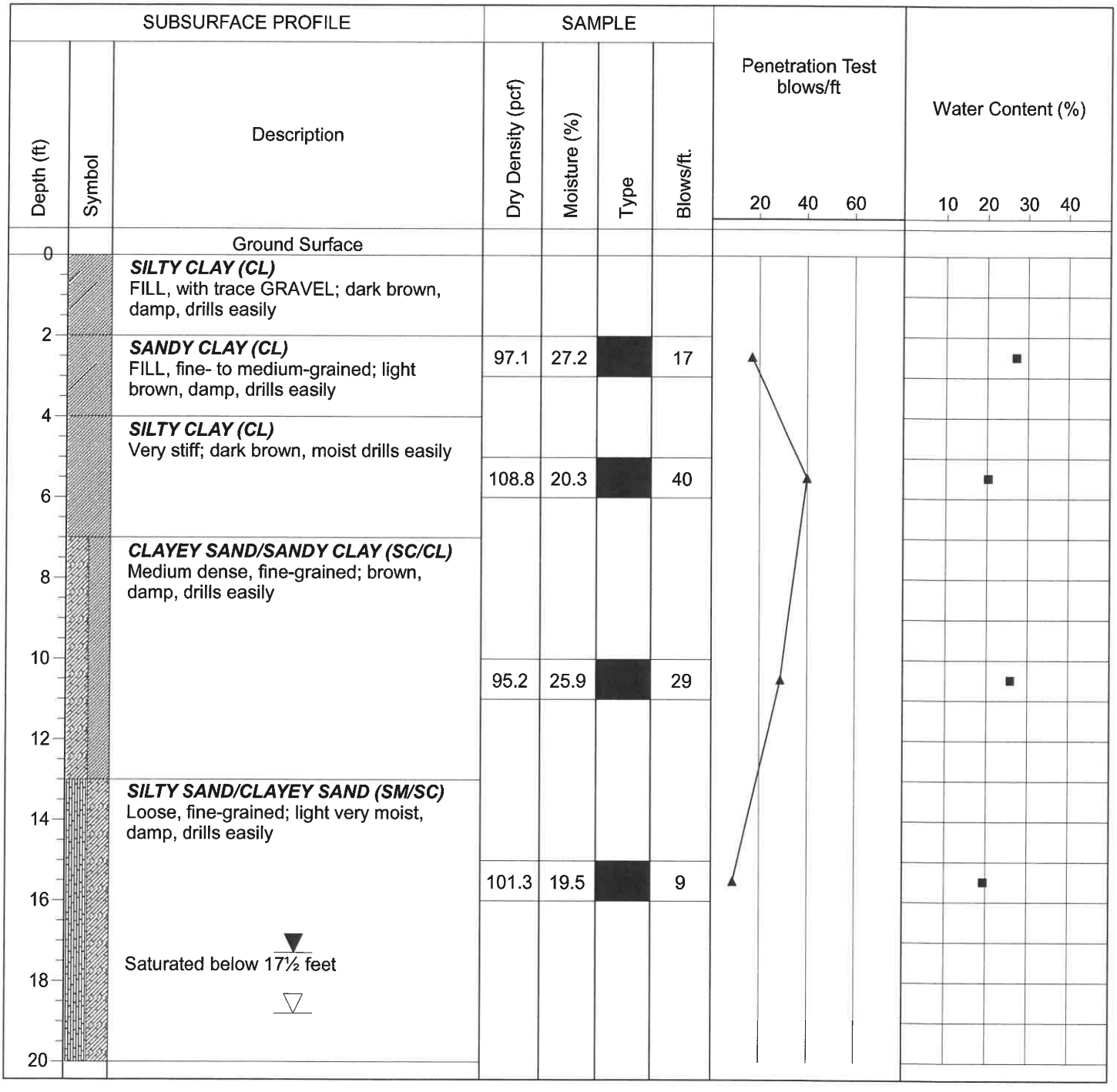
Client: SIM-PBK

Figure No.: A-46

Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water> **Initial:** 19 Feet **At Completion:** 17½ Feet



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B47

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-47

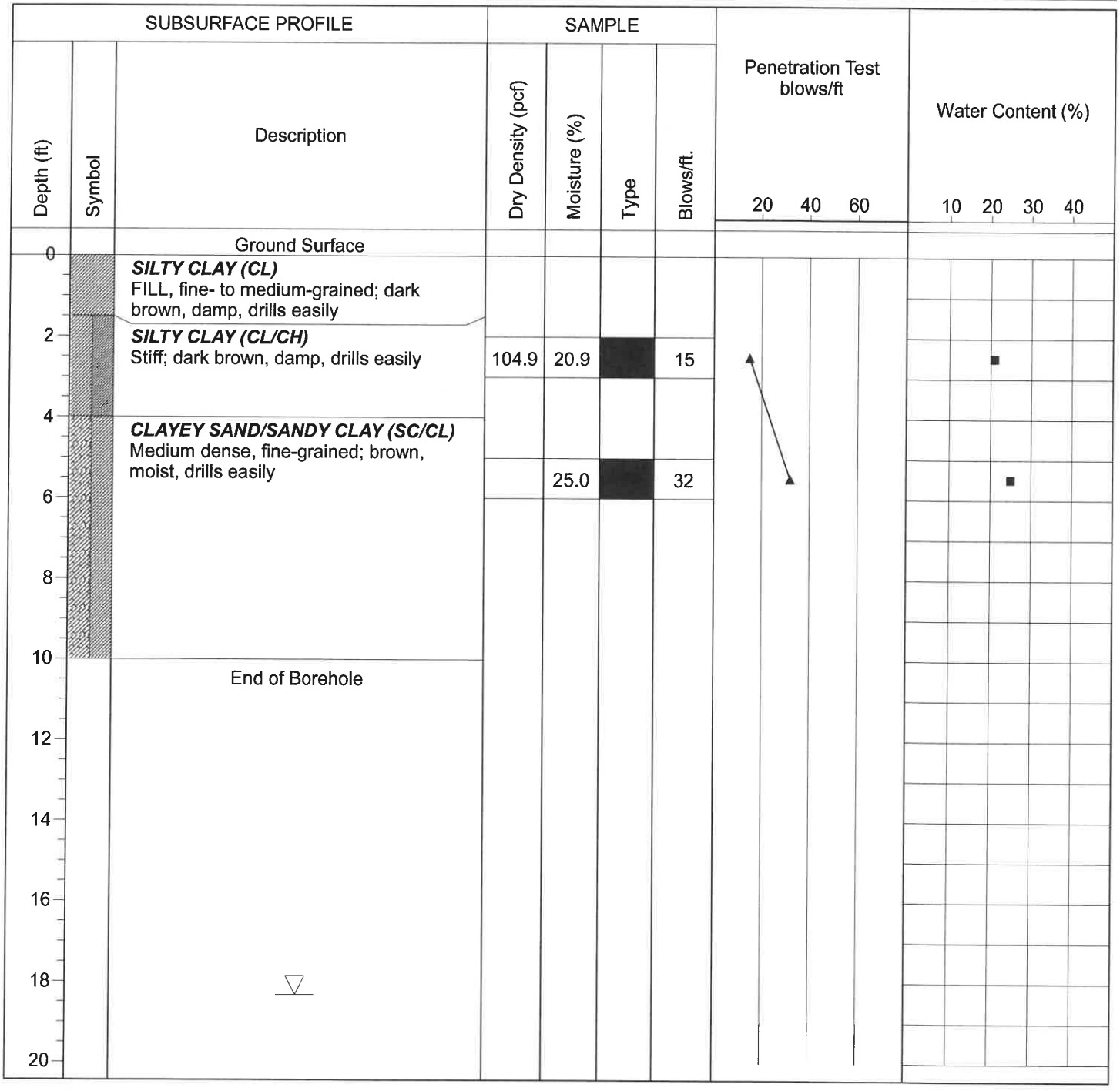
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B48

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-48

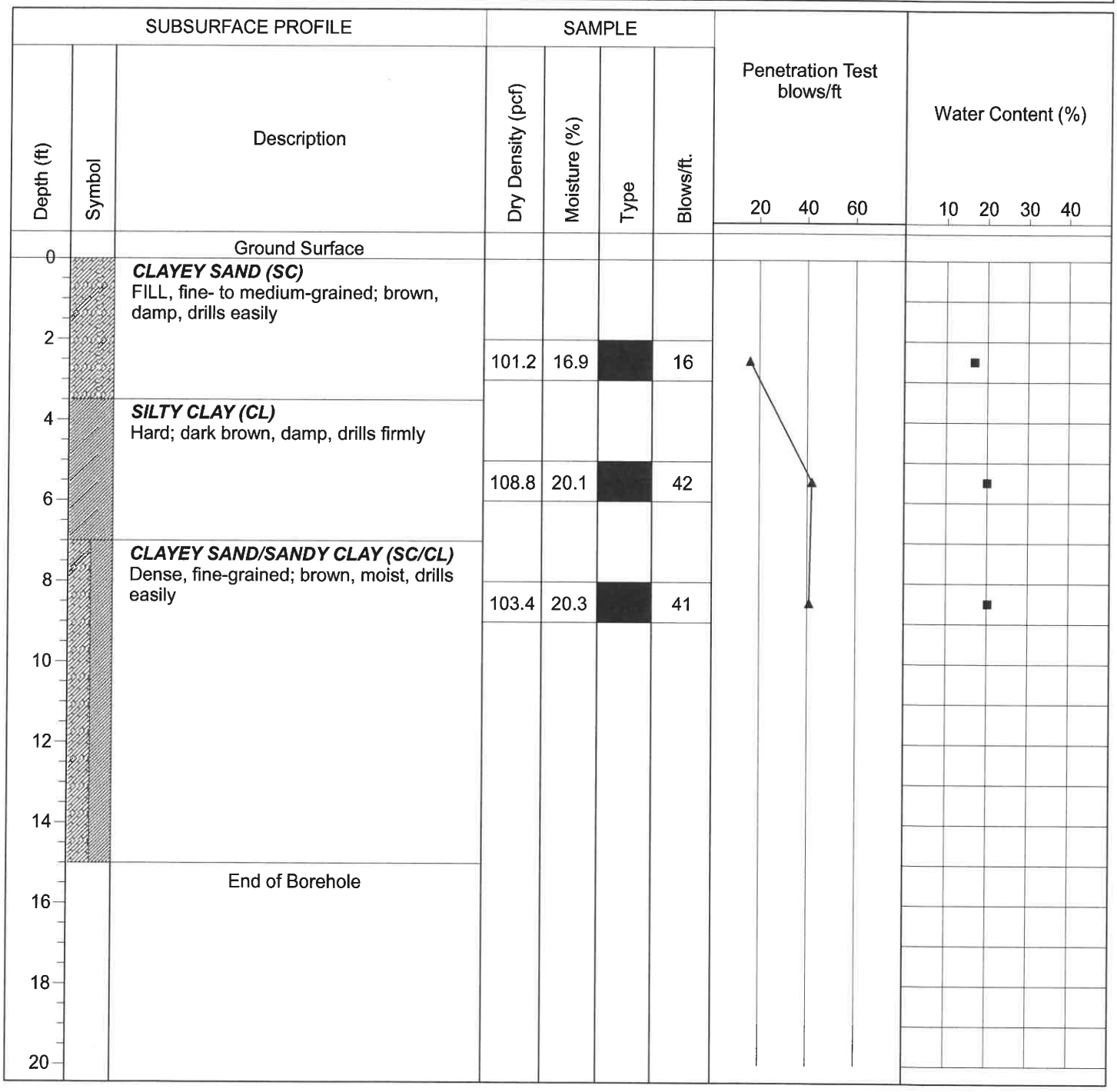
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Date: 8-2-19

Drill Rig: CME 45C-1

Krazan and Associates

Hole Size: 4½ Inches

Driller: Chris Wyneken

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B49

Project: Dublin Unified New High School

Project No: 042-19017

Client: SIM-PBK

Figure No.: A-49

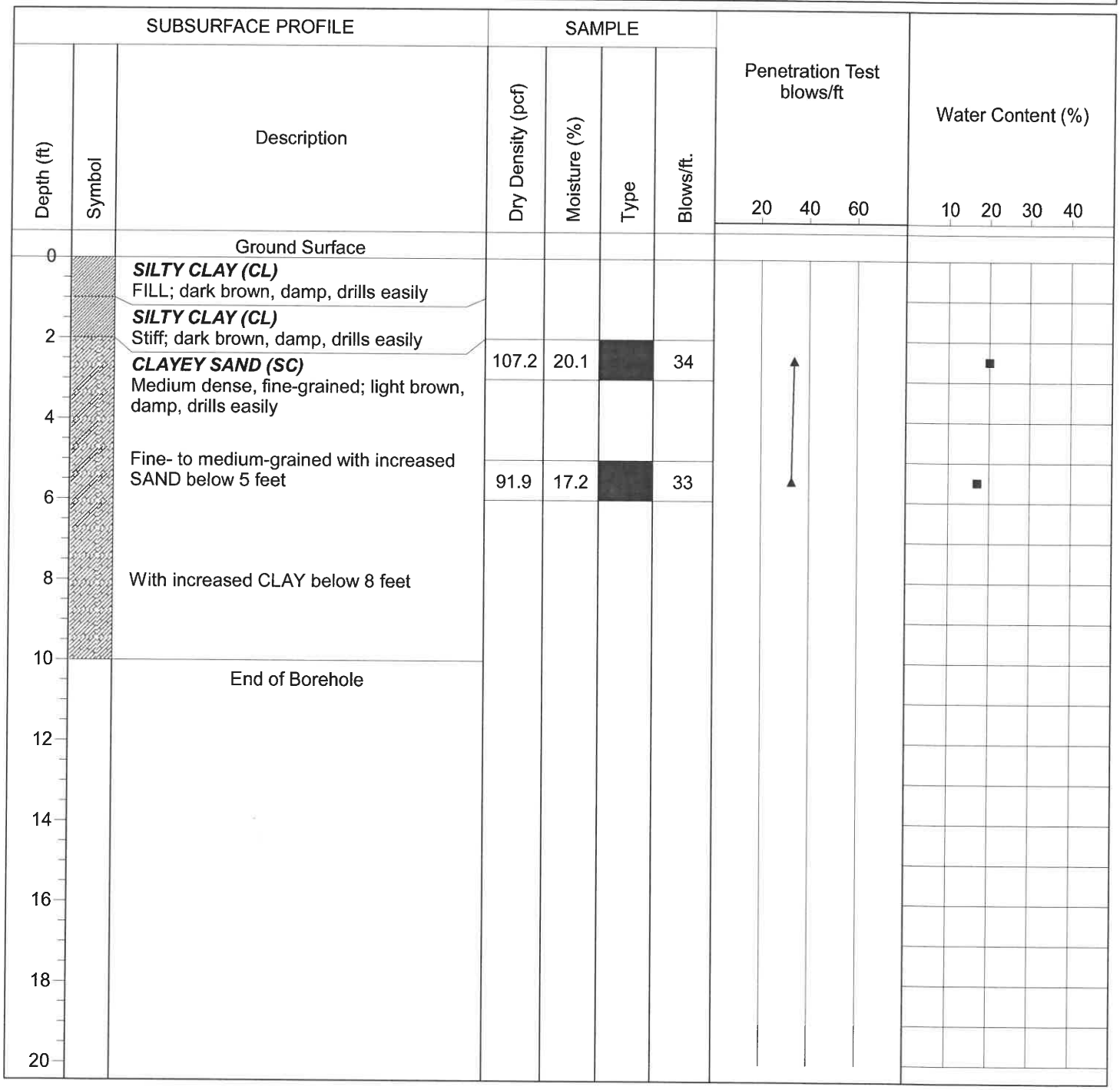
Location: Central Parkway and Chancery Lane, Dublin, California

Logged By: Wayne Andrade

Depth to Water>

Initial: None

At Completion: None



Drill Method: Straight Flight

Drill Rig: CME 45C-1

Driller: Chris Wyneken

Krazan and Associates

Drill Date: 8-2-19

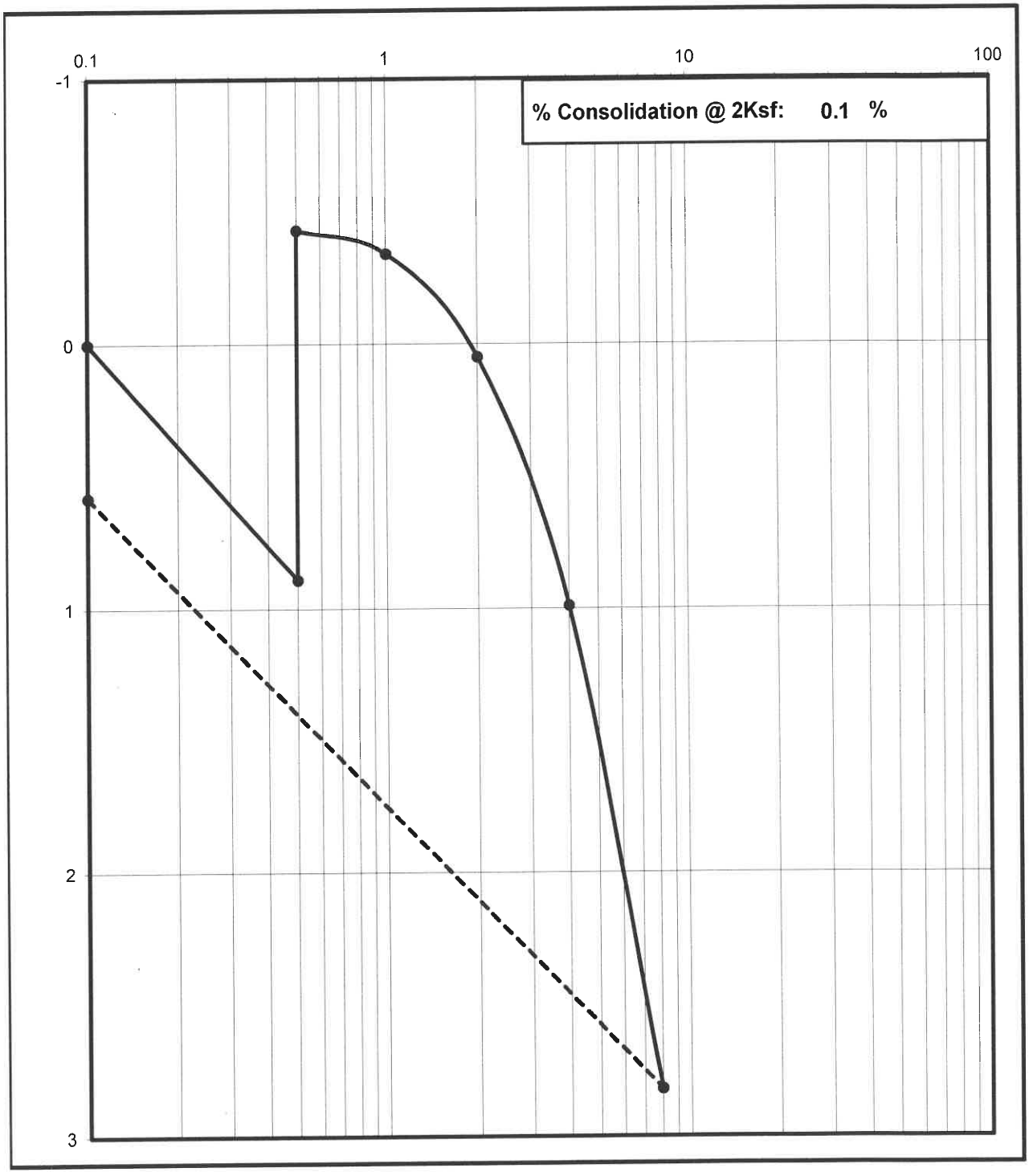
Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Consolidation Test

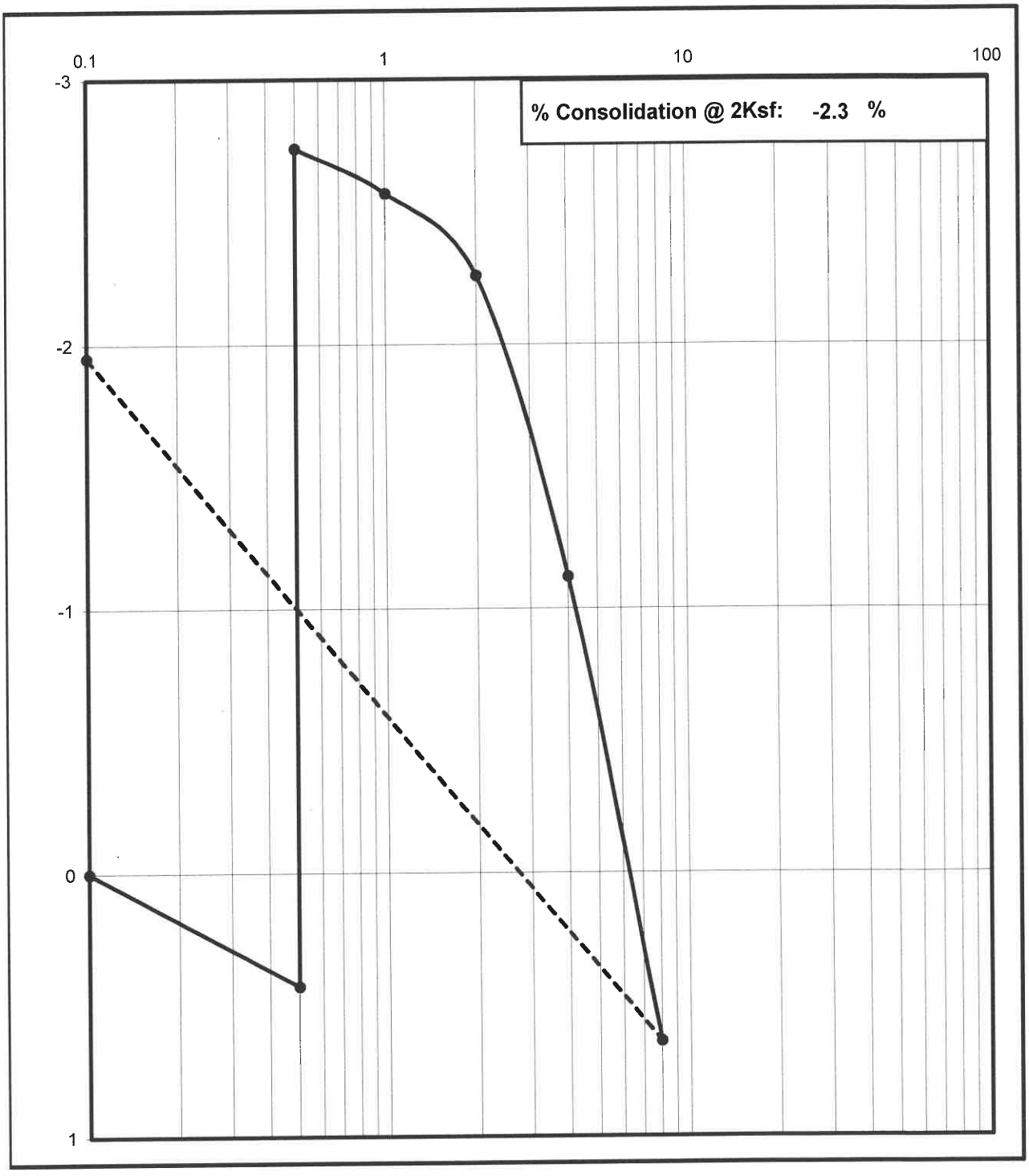
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B4 @ 2-3'	8/13/2019	CH



Krazan Testing Laboratory

Consolidation Test

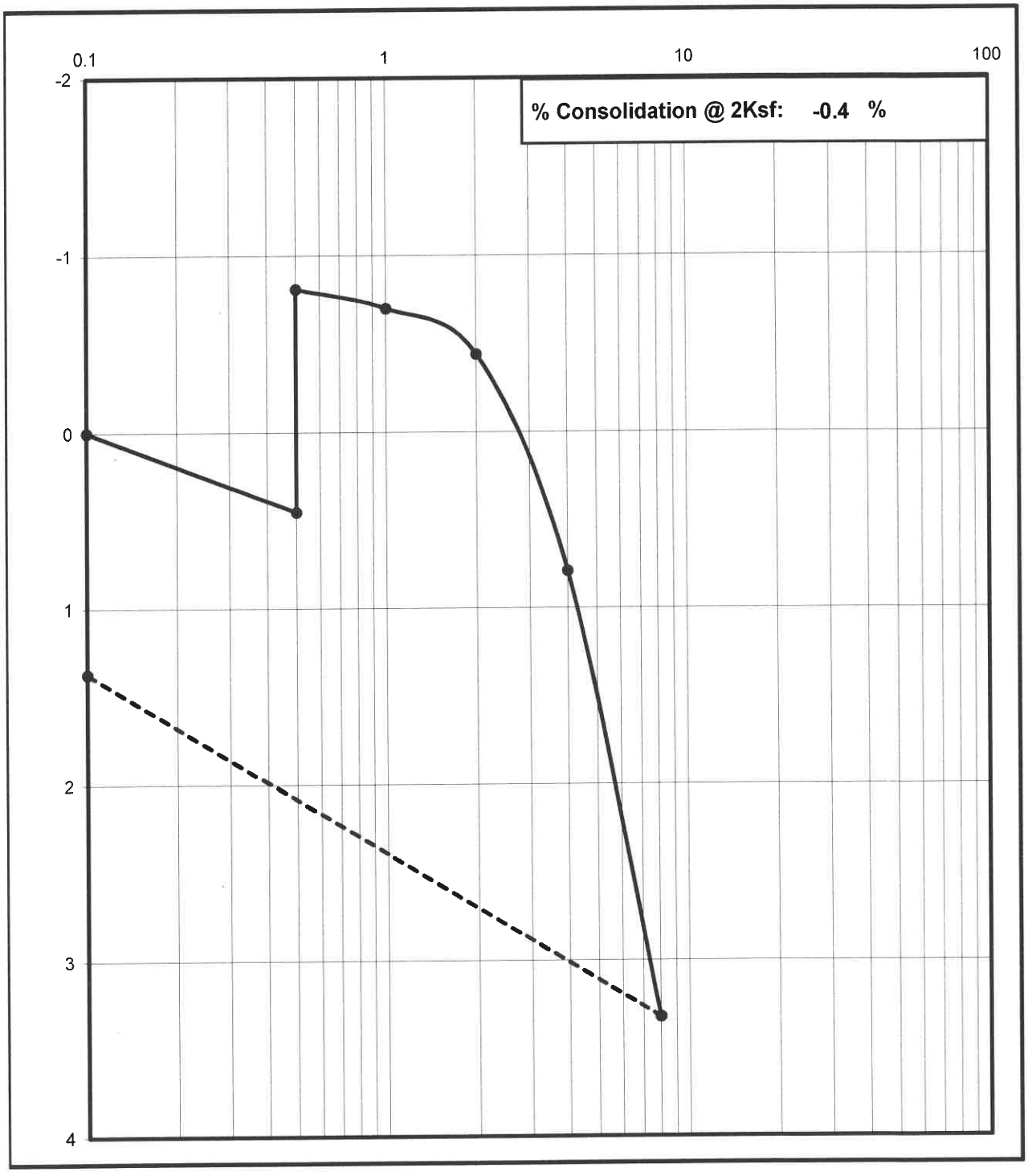
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B5 @ 5-6'	8/13/2019	CH



Krazan Testing Laboratory

Consolidation Test

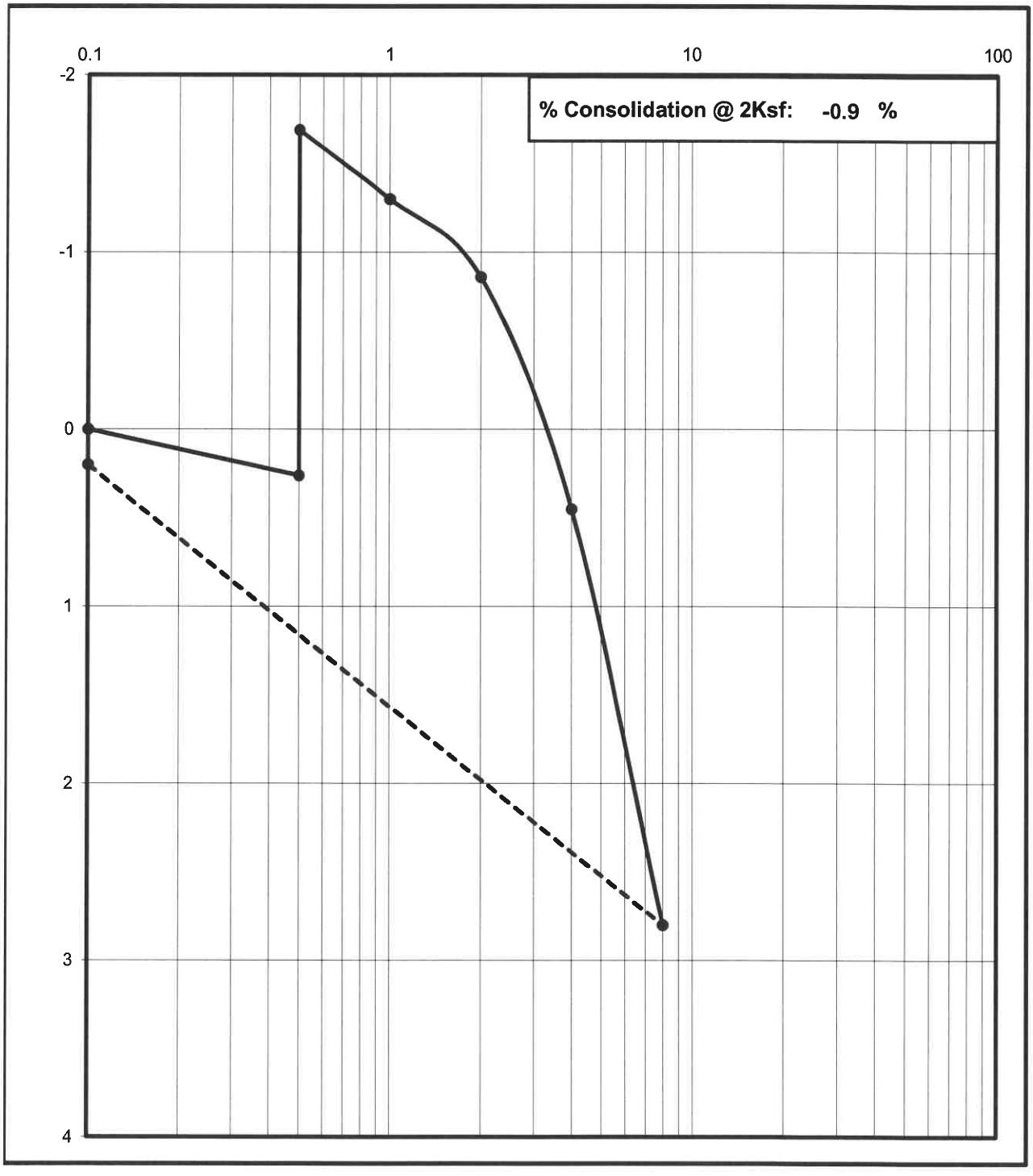
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B6 @ 2-3'	8/13/2019	CH



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Consolidation Test

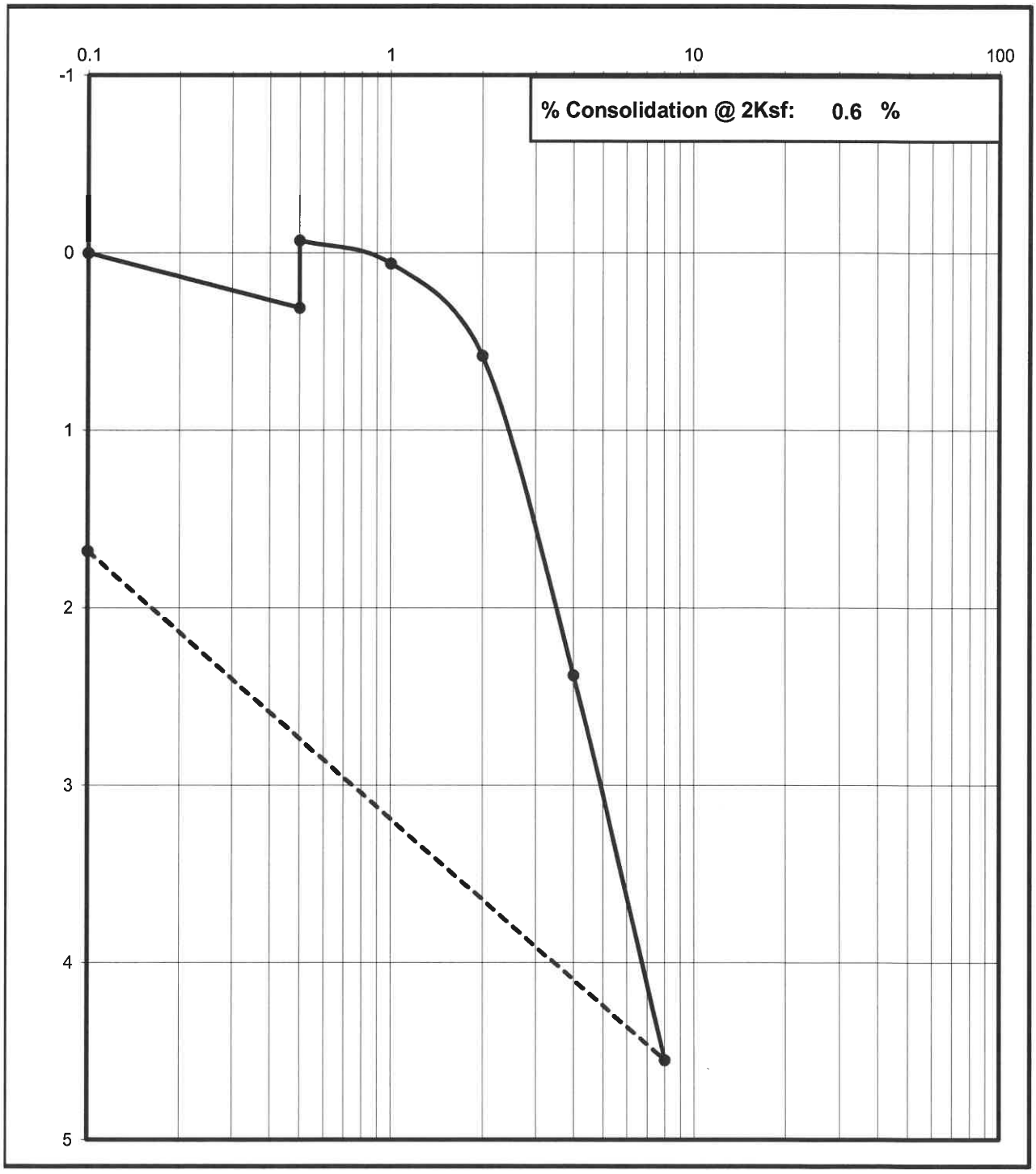
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B24 @ 2-3'	8/13/2019	CL



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Consolidation Test

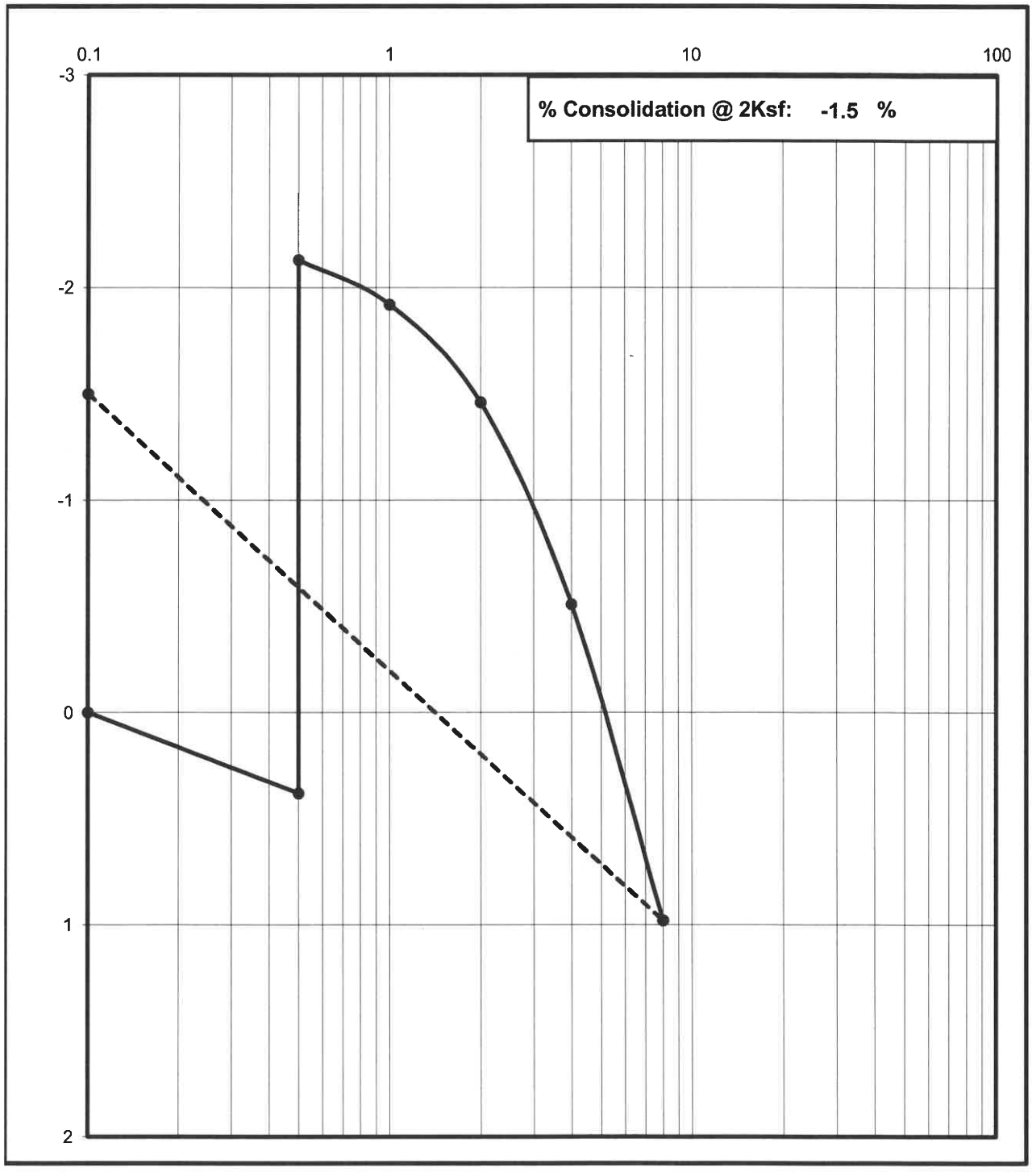
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B37 @ 5-6'	8/13/2019	CL



Krazan Testing Laboratory

Consolidation Test

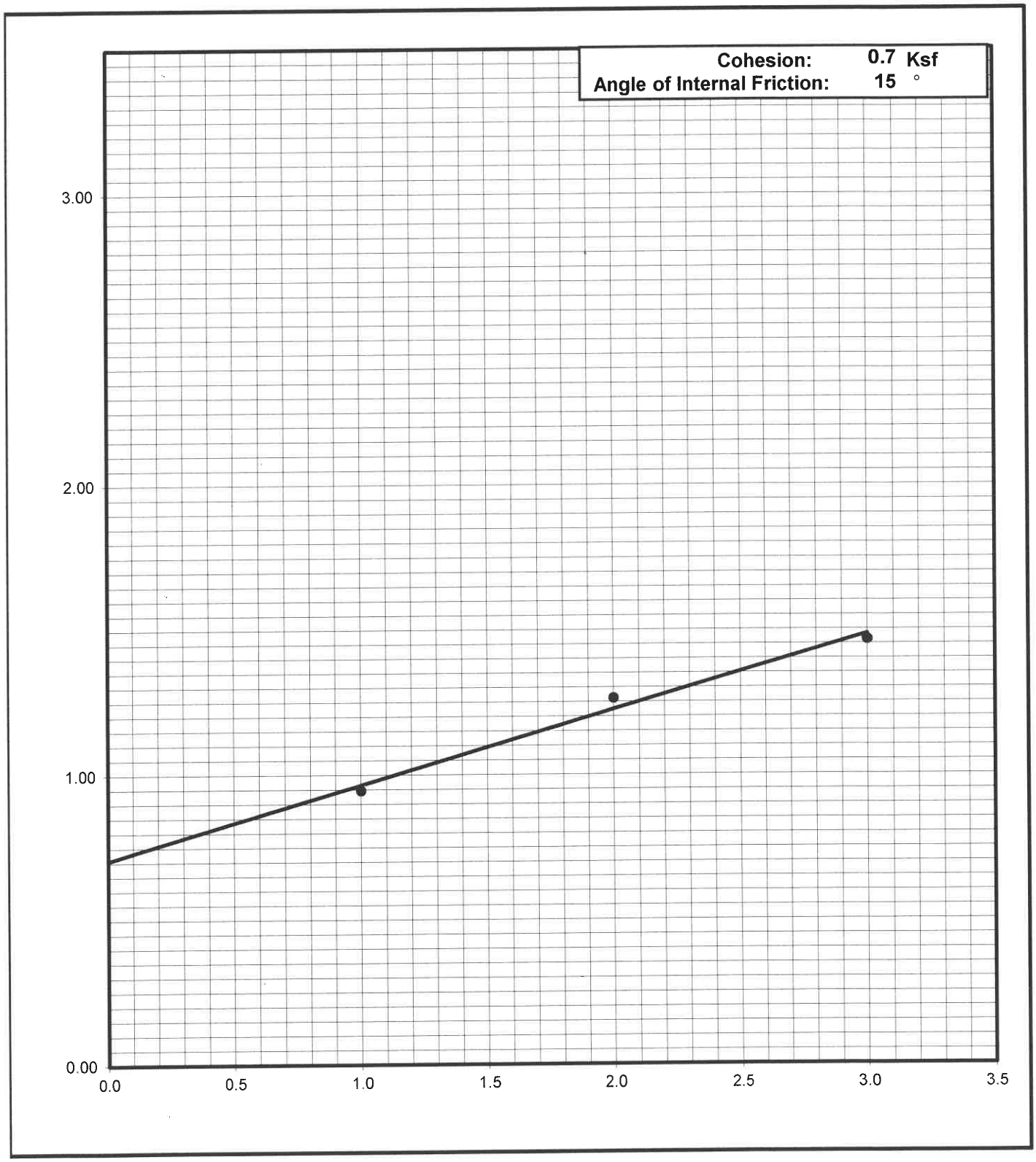
Project No	Boring No. & Depth	Date	Soil Classification
042-19017	B41 @ 2-3'	8/13/2019	CL



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

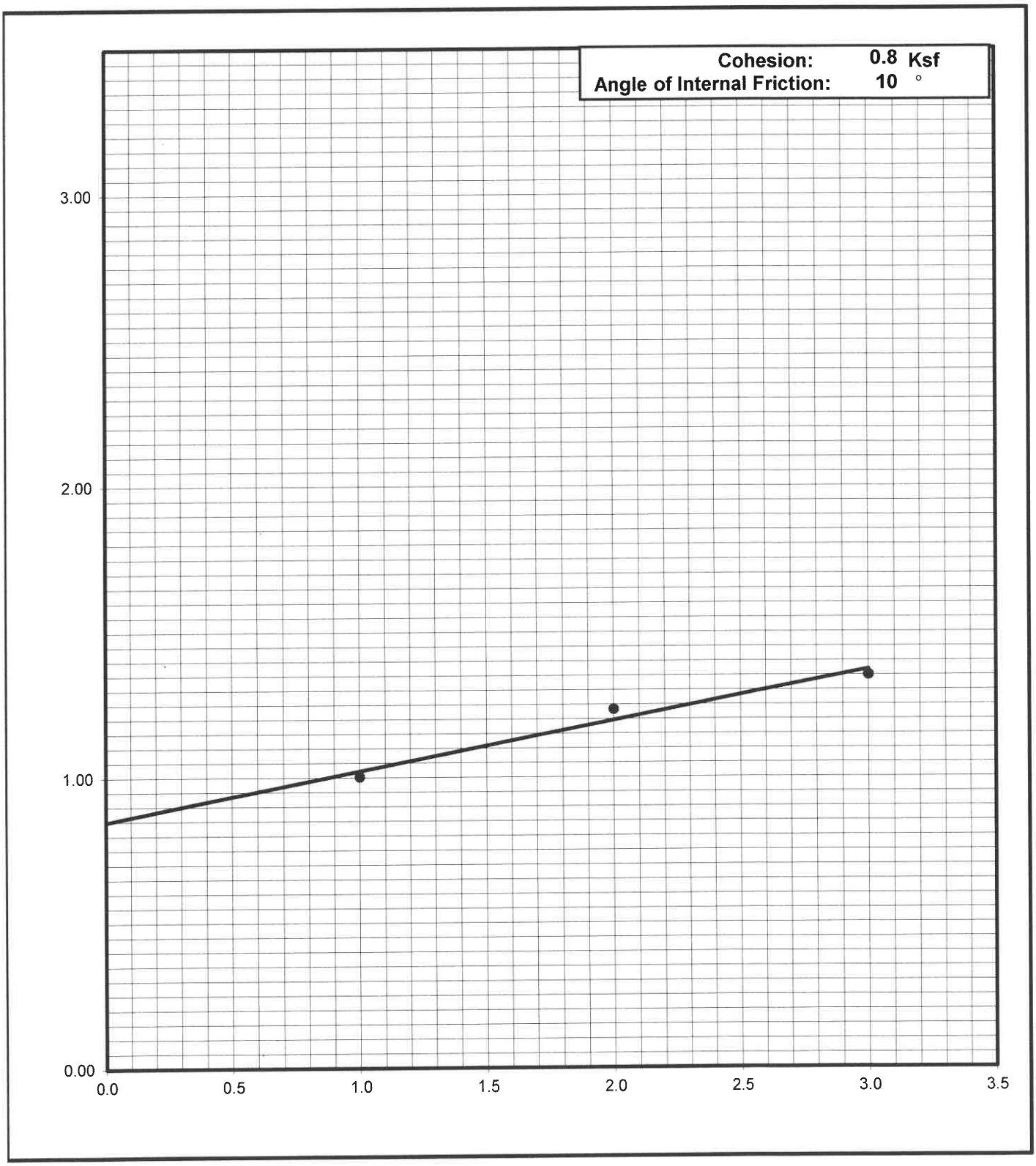
Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B5 @ 2-3'	CL	8/13/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

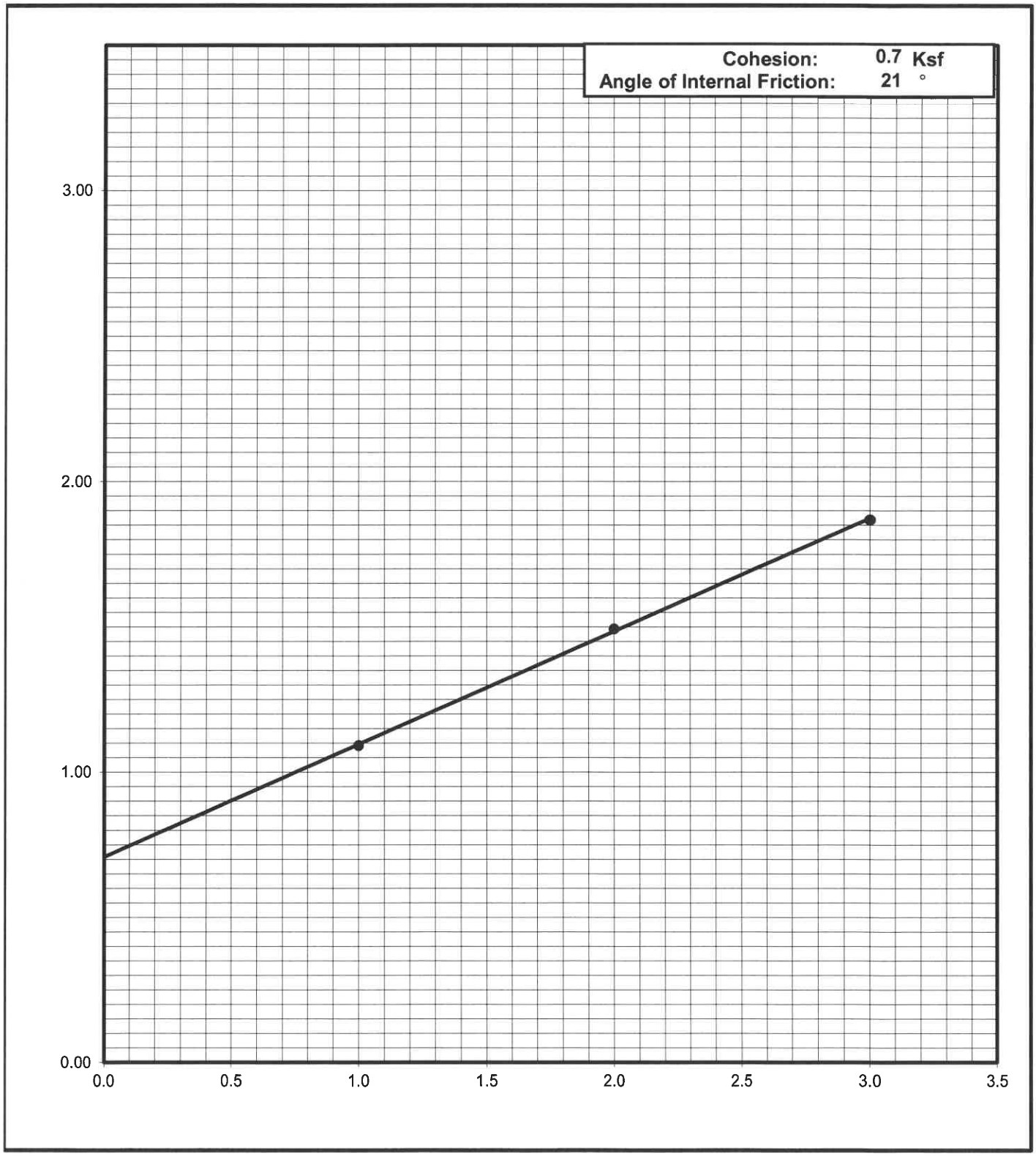
Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B11 @ 2-3'	CL	8/13/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

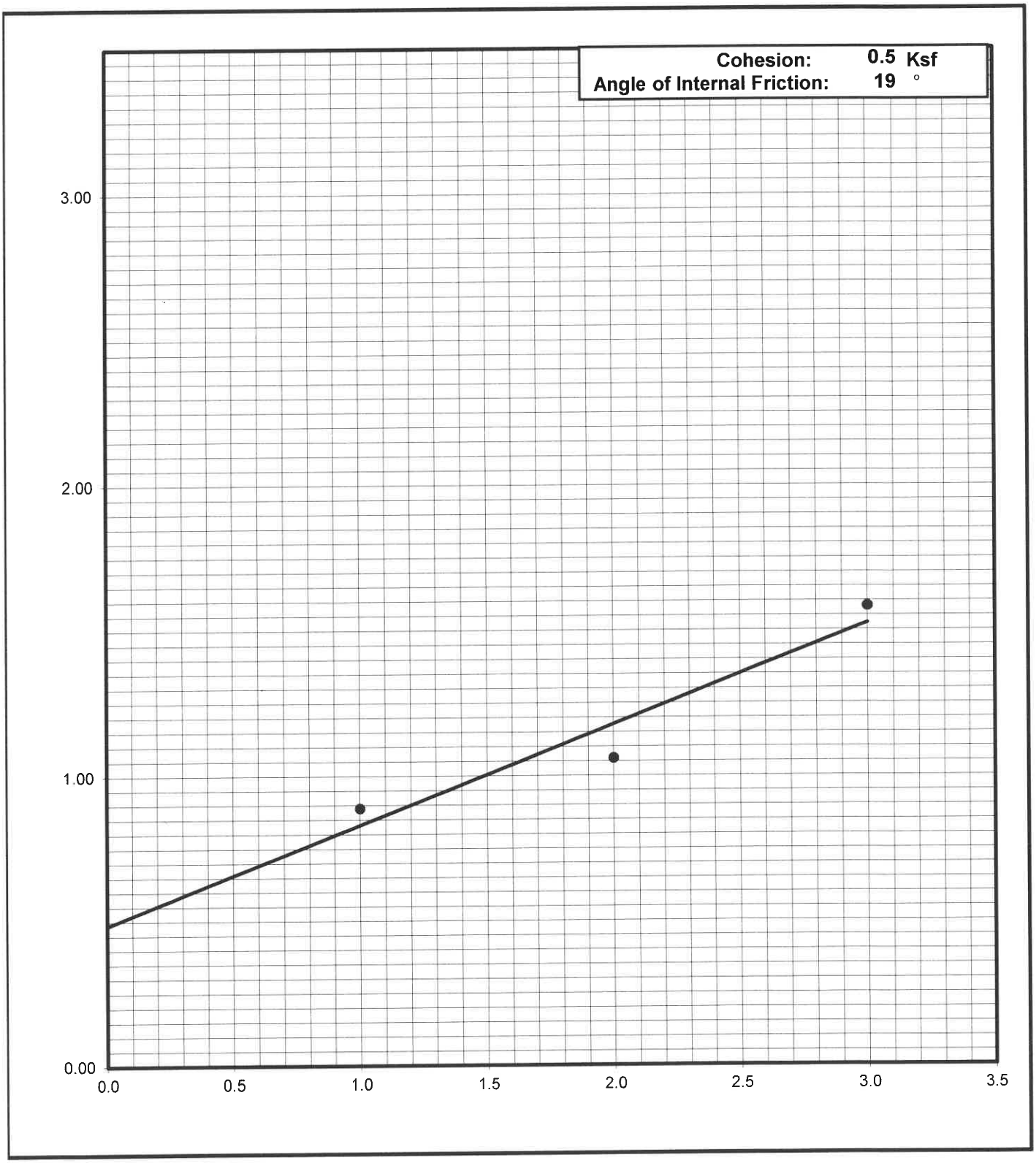
Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B18 @ 2-3'	CL/CH	8/13/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

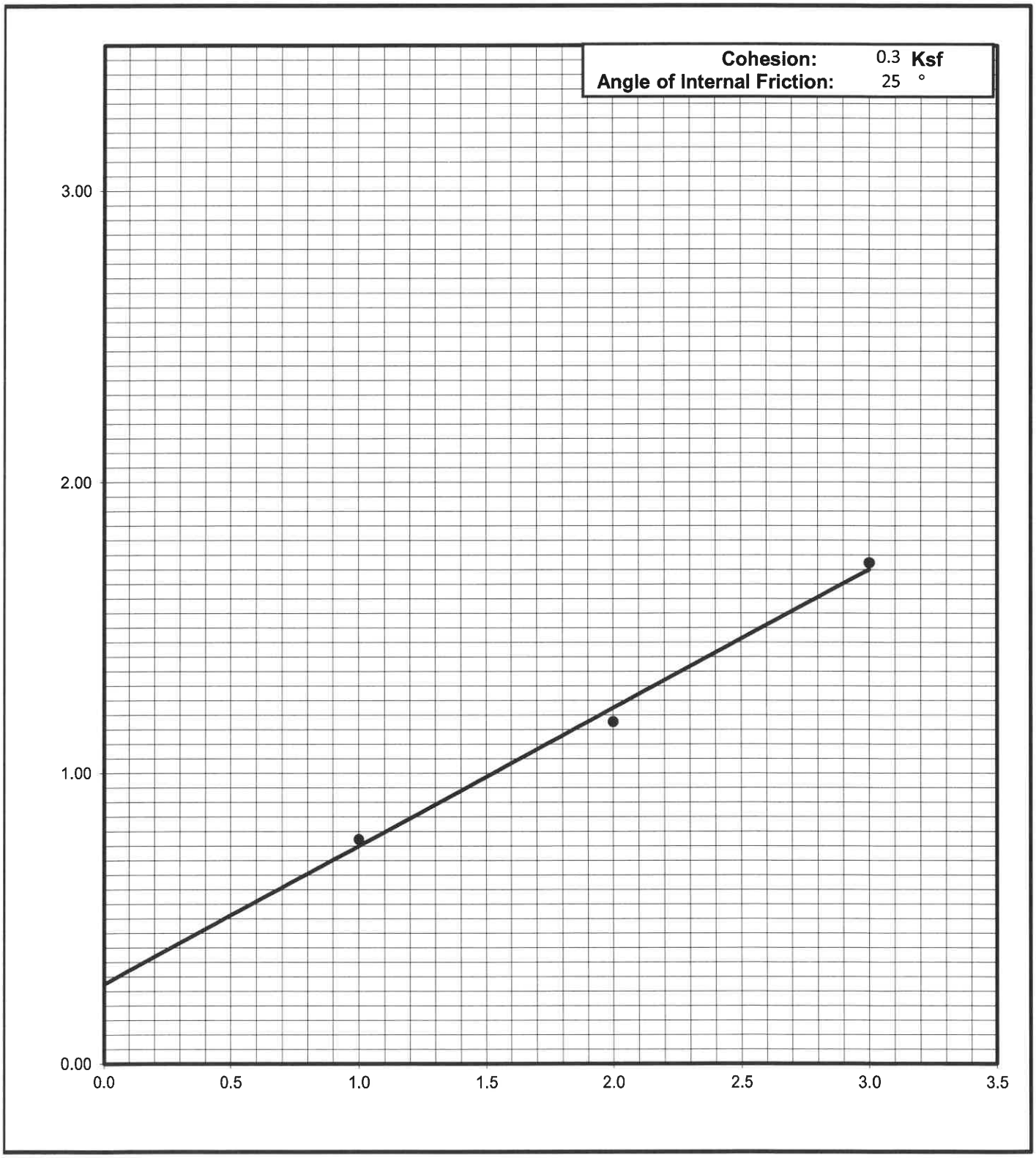
Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B22 @ 5-6'	SC/CL	8/13/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

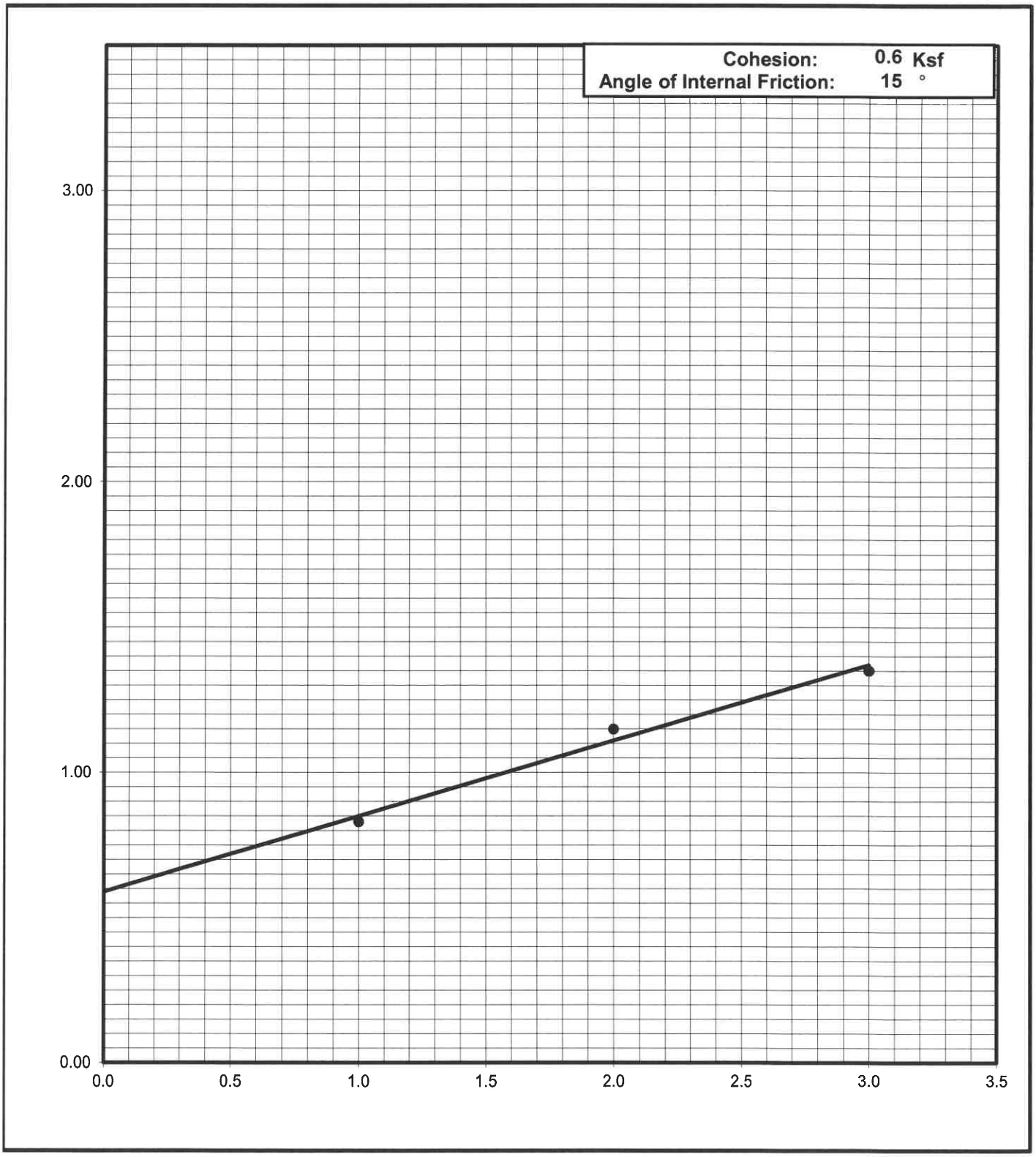
Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B35 @ 5-6'	CL	8/13/2019



Krazan Testing Laboratory

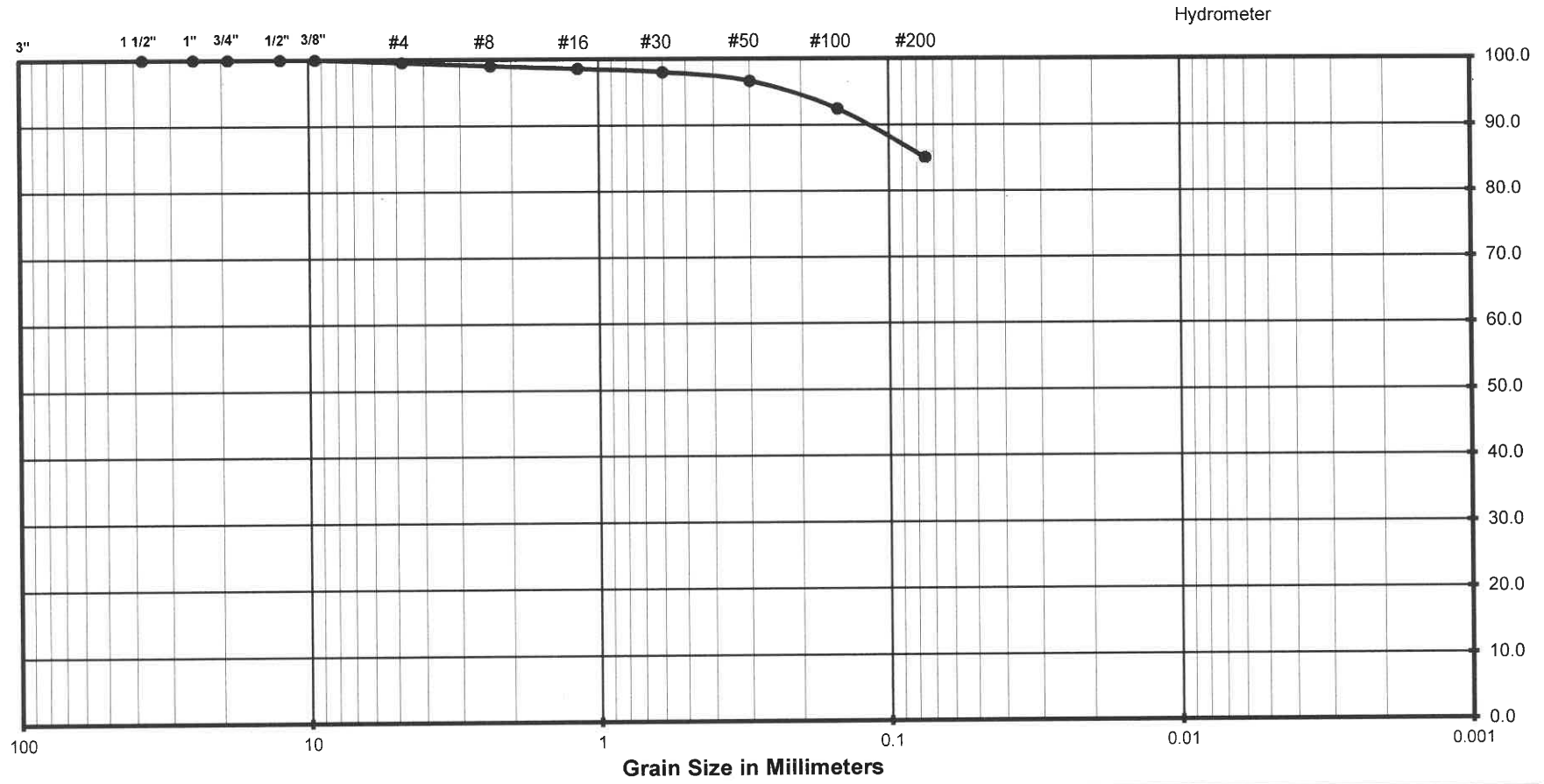
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
042-19017	B47 @ 2-3'	CL/CH	8/13/2019



Krazan Testing Laboratory

Grain Size Analysis



(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CH
Sample Number	B4 @ 2-3'

Krazan Testing Laboratory

Grain Size Analysis

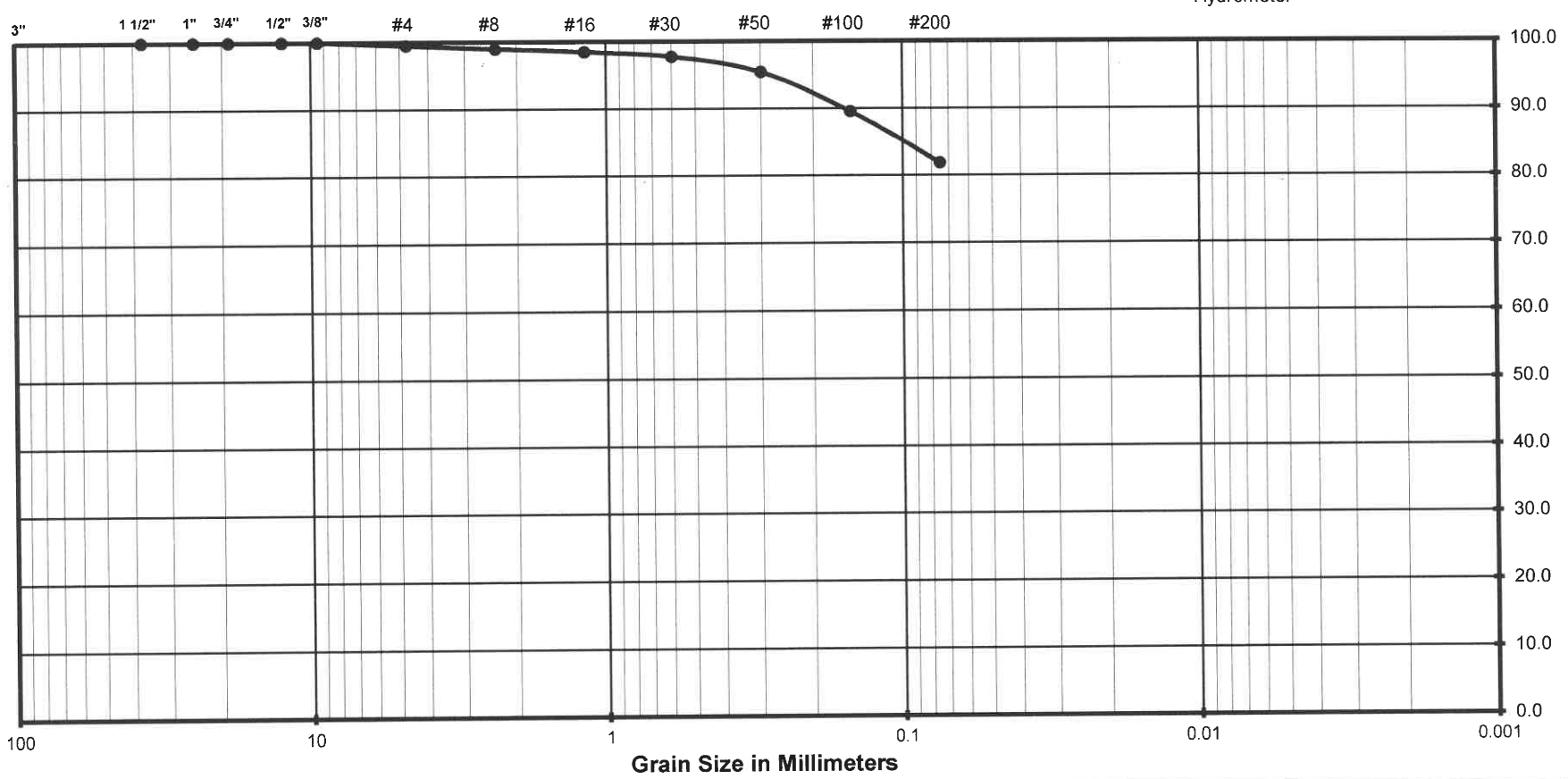


(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CH
Sample Number	B5 @ 5-6'

Krazan Testing Laboratory

Grain Size Analysis



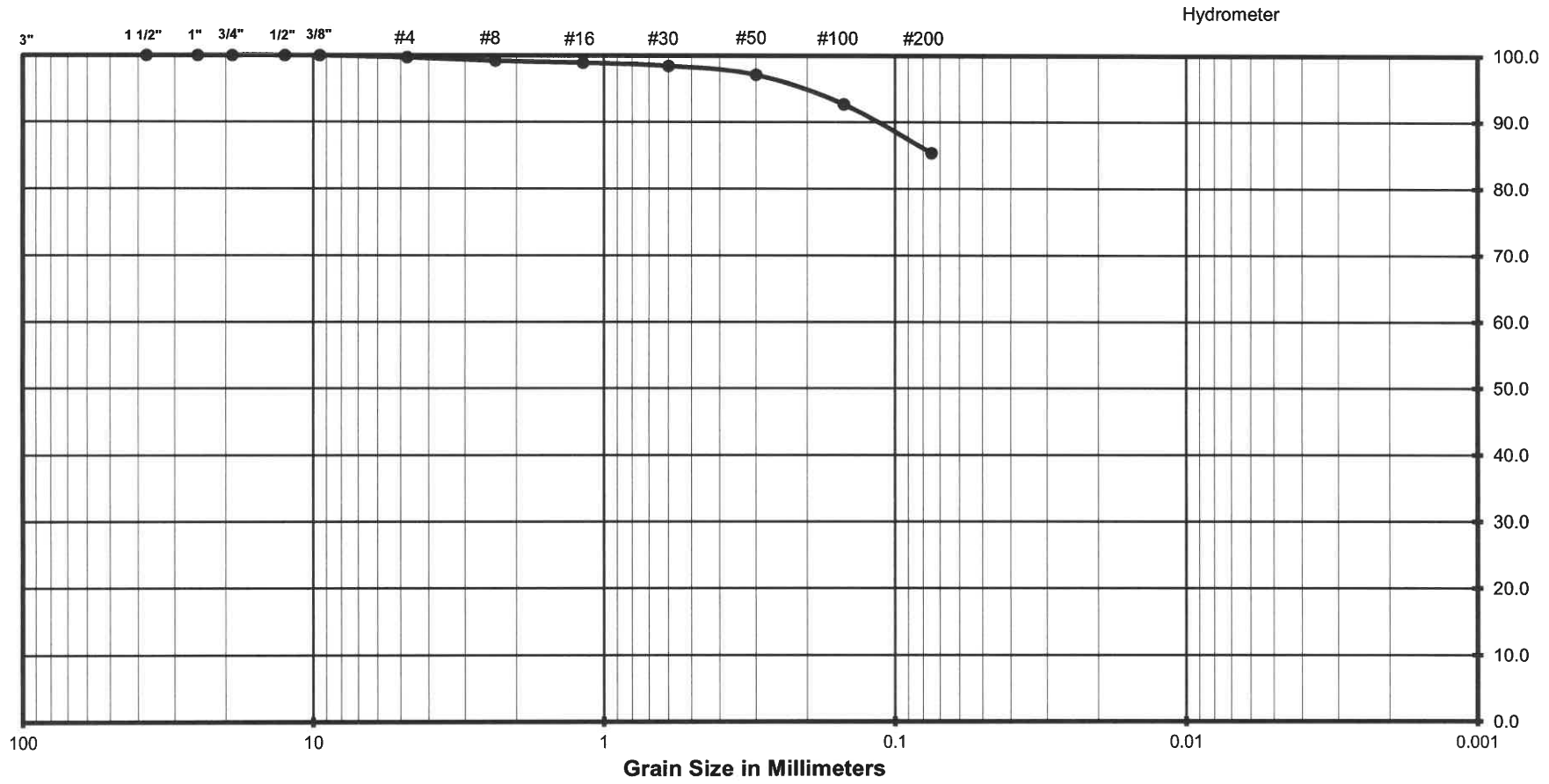
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CH
Sample Number	B6 @ 2-3'

Krazan Testing Laboratory

Grain Size Analysis

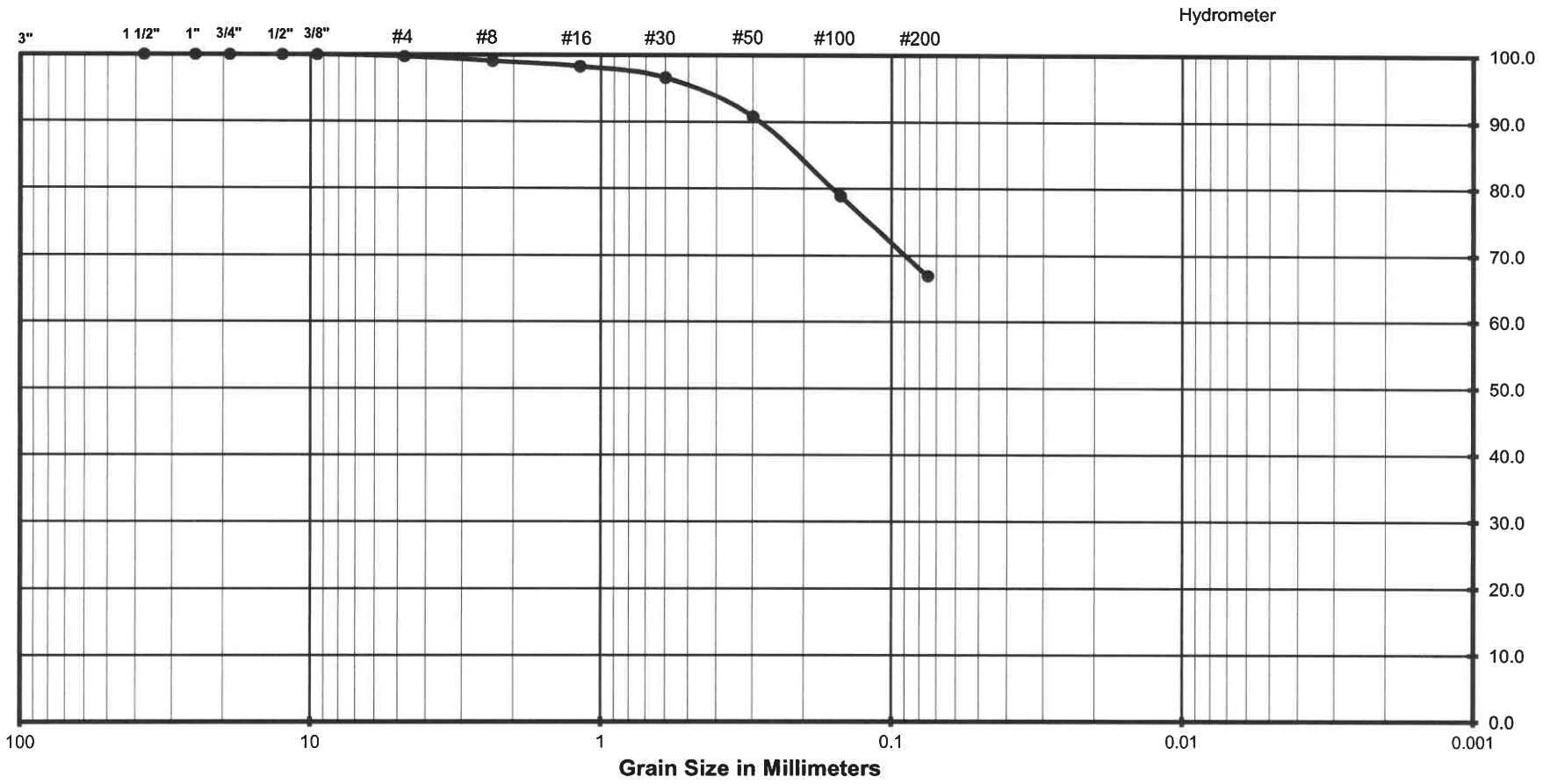


(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CL
Sample Number	B24 @ 2-3'

Krazan Testing Laboratory

Grain Size Analysis

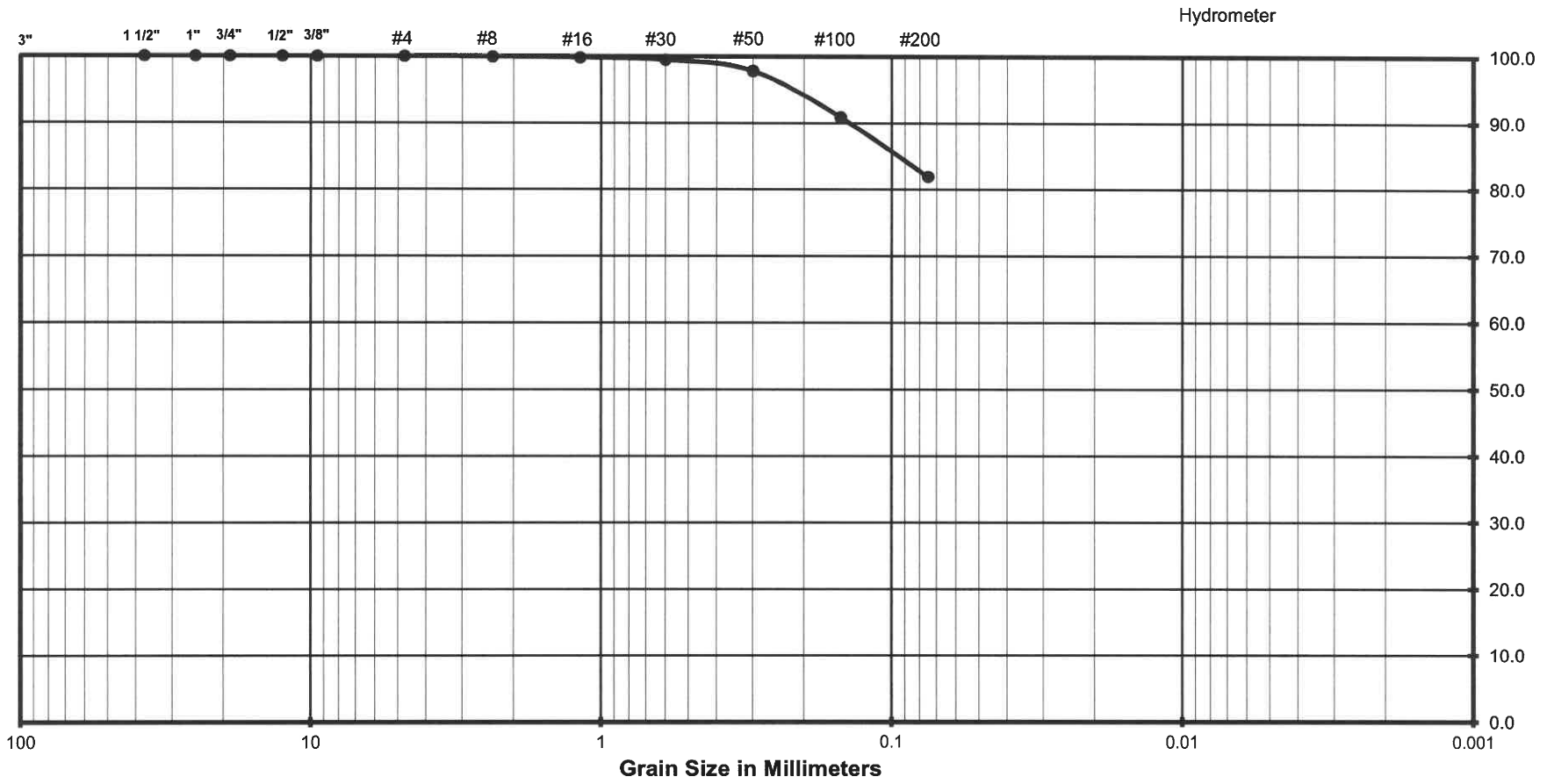


(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CL
Sample Number	B37 @ 5-6'

Krazan Testing Laboratory

Grain Size Analysis



(Unified Soils Classification)

Project Name	Dublin Unified New High School
Project Number	042-19017
Soil Classification	CL
Sample Number	B41 @ 2-3'

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 042-19017
Project Name	: Dublin Unified New High School
Date	: 8/13/2019
Sample location/ Depth	: B10 @ 0-3'
Sample Number	: X1
Soil Classification	: CH

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	733.8		
Weight of Mold, gms	367.8		
Weight of Soil, gms	366.0		
Wet Density, Lbs/cu.ft.	110.4		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	263.0		
Moisture Content, %	14.1		
Dry Density, Lbs/cu.ft.	96.8		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	51.3		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.1372

Expansion Index $_{measured}$ = 137.2

Expansion Index = **137**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 042-19017
Project Name	: Dublin Unified New High School
Date	: 8/13/2019
Sample location/ Depth	: B5 @ 3-6'
Sample Number	: X2
Soil Classification	: CL

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	742.1		
Weight of Mold, gms	368.6		
Weight of Soil, gms	373.5		
Wet Density, Lbs/cu.ft.	112.6		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	265.0		
Moisture Content, %	13.2		
Dry Density, Lbs/cu.ft.	99.5		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	51.4		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.1034

Expansion Index $_{measured}$ = 103.4

Expansion Index = 103

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 042-19017
Project Name	: Dublin Unified New High School
Date	: 8/13/2019
Sample location/ Depth	: B17 @ 1-4'
Sample Number	: X3
Soil Classification	: CH

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	726.0		
Weight of Mold, gms	367.5		
Weight of Soil, gms	358.5		
Wet Density, Lbs/cu.ft.	108.1		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	261.1		
Moisture Content, %	14.9		
Dry Density, Lbs/cu.ft.	94.1		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	50.9		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.1386

Expansion Index $_{measured}$ = 138.6

Expansion Index = **139**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 042-19017
Project Name	: Dublin Unified New High School
Date	: 8/13/2019
Sample location/ Depth	: B29 @ 1.5-4'
Sample Number	: X6
Soil Classification	: CL

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	724.2		
Weight of Mold, gms	367.5		
Weight of Soil, gms	356.7		
Wet Density, Lbs/cu.ft.	107.6		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	259.7		
Moisture Content, %	15.5		
Dry Density, Lbs/cu.ft.	93.1		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	51.8		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.1057

Expansion Index $_{measured}$ = 105.7

Expansion Index = 106

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

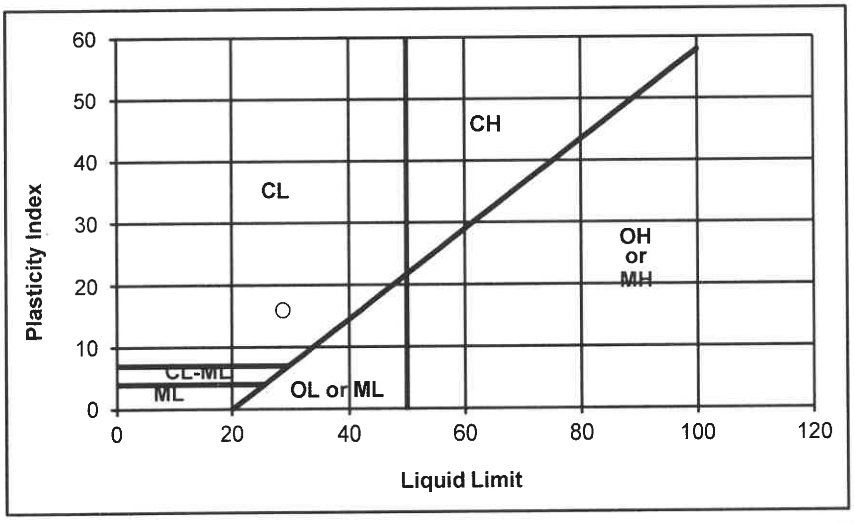
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 5-6'
Sample Description: CL

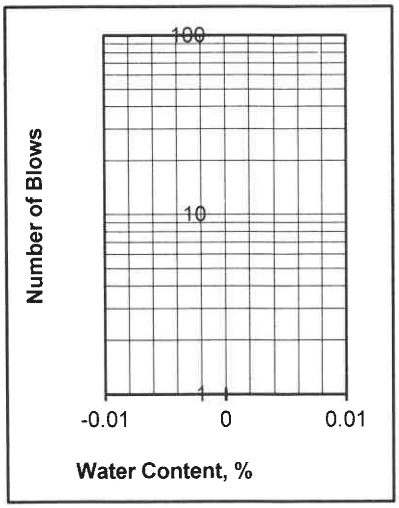
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.07	25.76		37.59		
Weight of Dry Soil & Tare (g)	27.31	24.41		32.98		
Weight of Tare (g)	13.88	13.94		16.97		
Weight of water (g)	1.77	1.35		4.61		
Weight of Dry Soil (g)	13.43	10.47		16.01		
Water Content (% of dry wt.)	13.2%	12.9%		28.8%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 29**

Plasticity Index : 16
Unified Soil Classification : CL
Requirement:
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

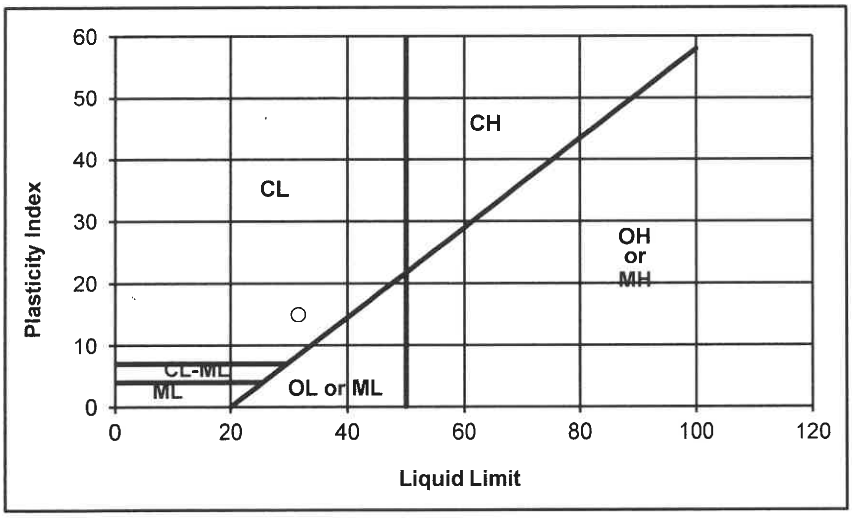
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 10-11'
Sample Description: CL

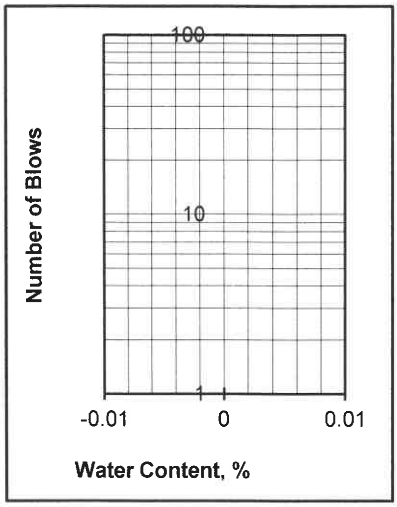
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	34.30	23.88		39.66		
Weight of Dry Soil & Tare (g)	31.78	22.43		33.47		
Weight of Tare (g)	16.98	13.94		13.88		
Weight of water (g)	2.52	1.46		6.19		
Weight of Dry Soil (g)	14.80	8.48		19.59		
Water Content (% of dry wt.)	17.0%	17.2%		31.6%		
Number of Blows				25		

Plastic Limit : 17 **Liquid Limit : 32**

Plasticity Index : 15
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

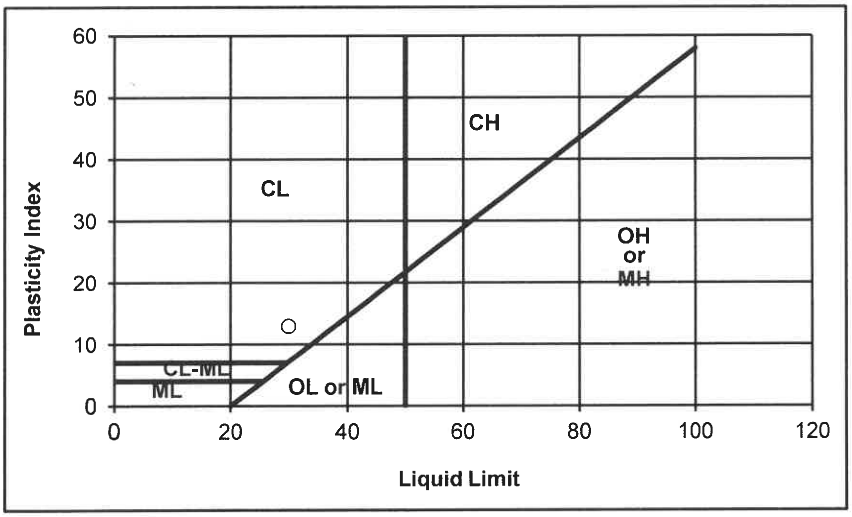
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 15-16'
Sample Description: CL

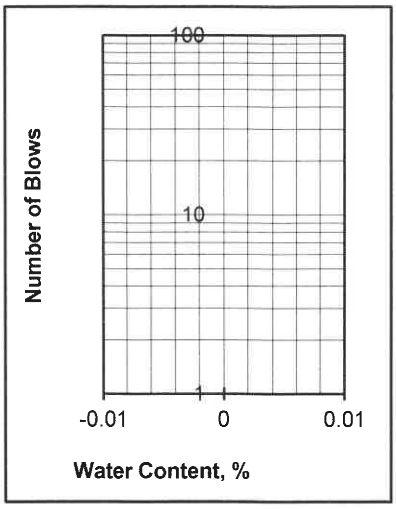
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	30.69	29.63		32.46		
Weight of Dry Soil & Tare (g)	28.27	27.84		28.12		
Weight of Tare (g)	14.60	17.04		13.61		
Weight of water (g)	2.42	1.80		4.35		
Weight of Dry Soil (g)	13.67	10.80		14.50		
Water Content (% of dry wt.)	17.7%	16.6%		30.0%		
Number of Blows				25		

Plastic Limit : 17 **Liquid Limit : 30**

Plasticity Index : 13
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

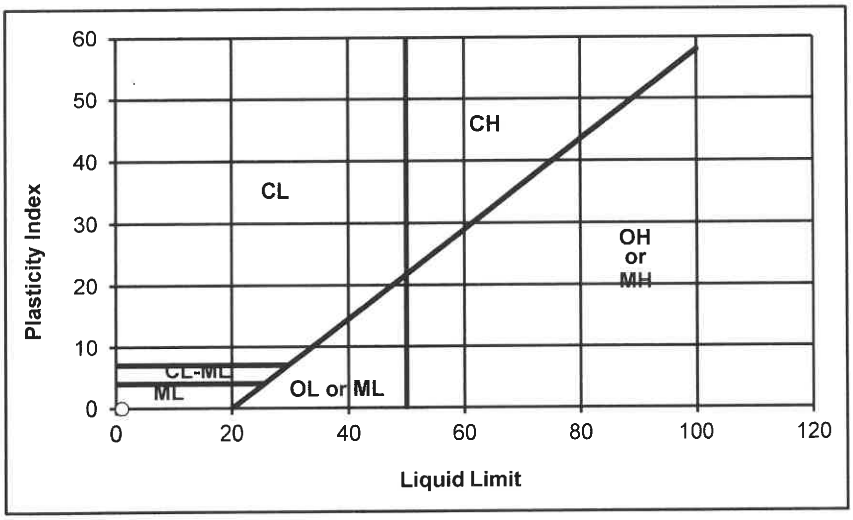
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 20-21'
Sample Description: SM

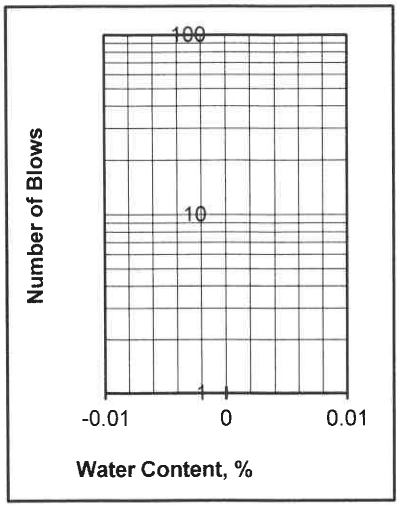
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D **Liquid Limit : N/D**

Plasticity Index : NON-PLASTIC
Unified Soil Classification : NON-PLASTIC **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

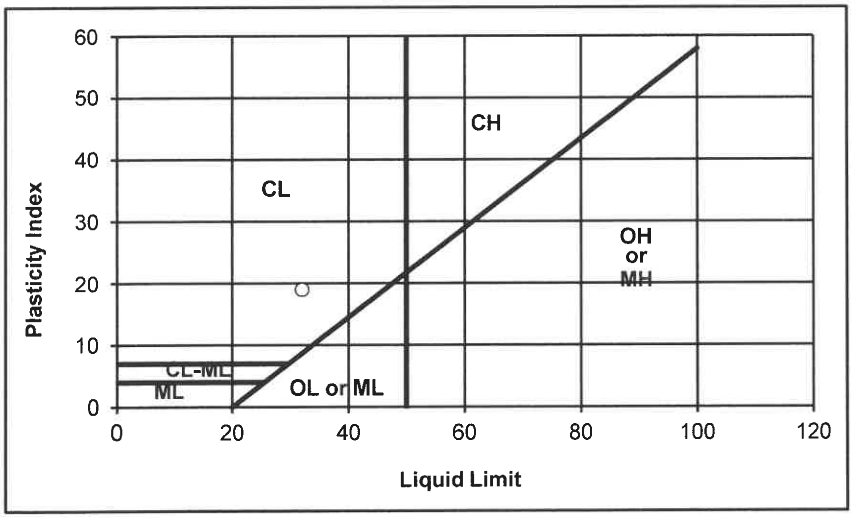
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 25-26'
Sample Description: CL

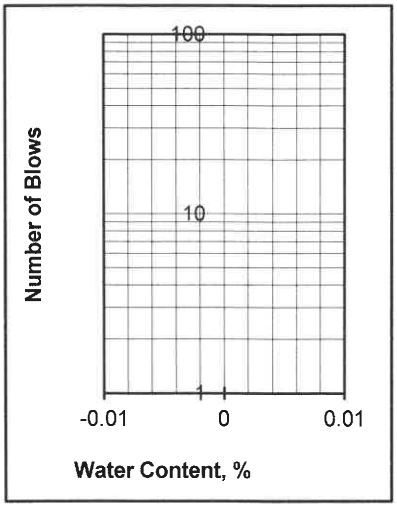
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.20	32.79		41.99		
Weight of Dry Soil & Tare (g)	27.30	31.07		35.35		
Weight of Tare (g)	13.62	17.03		14.57		
Weight of water (g)	1.90	1.72		6.64		
Weight of Dry Soil (g)	13.68	14.04		20.78		
Water Content (% of dry wt.)	13.9%	12.2%		32.0%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 32**

Plasticity Index : 19
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

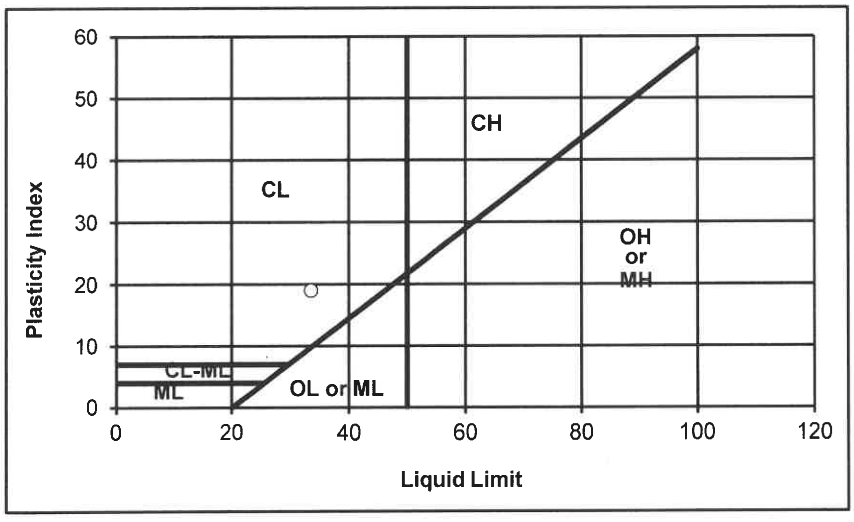
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 30-31'
Sample Description: CL

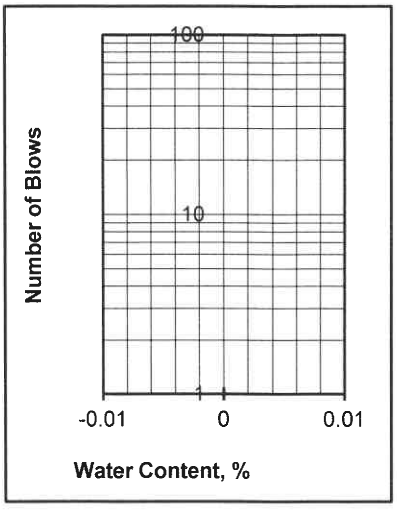
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	25.30	29.64		34.40		
Weight of Dry Soil & Tare (g)	23.79	27.60		30.07		
Weight of Tare (g)	13.54	14.34		17.17		
Weight of water (g)	1.51	2.04		4.33		
Weight of Dry Soil (g)	10.25	13.26		12.90		
Water Content (% of dry wt.)	14.7%	15.4%		33.5%		
Number of Blows				25		

Plastic Limit : 15 **Liquid Limit : 34**

Plasticity Index : 19
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 35-36'
Sample Description: CL

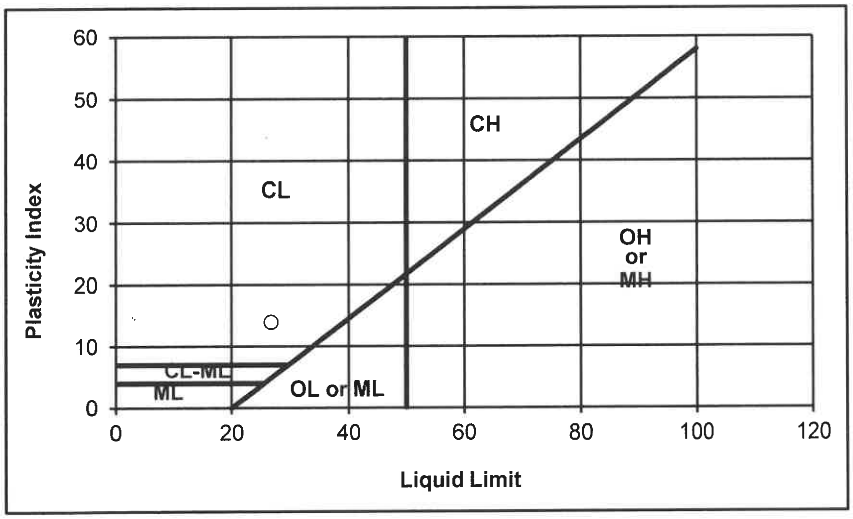
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

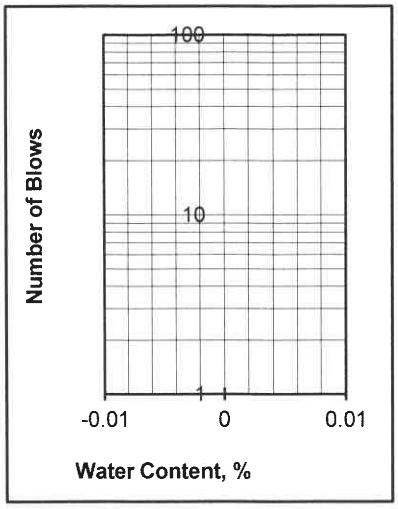
	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.25	33.65		39.07		
Weight of Dry Soil & Tare (g)	27.53	31.77		33.90		
Weight of Tare (g)	13.61	17.04		14.54		
Weight of water (g)	1.72	1.88		5.17		
Weight of Dry Soil (g)	13.92	14.73		19.36		
Water Content (% of dry wt.)	12.4%	12.8%		26.7%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 27**

Plasticity Index : 14
Unified Soil Classification : CL

Requirement:
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

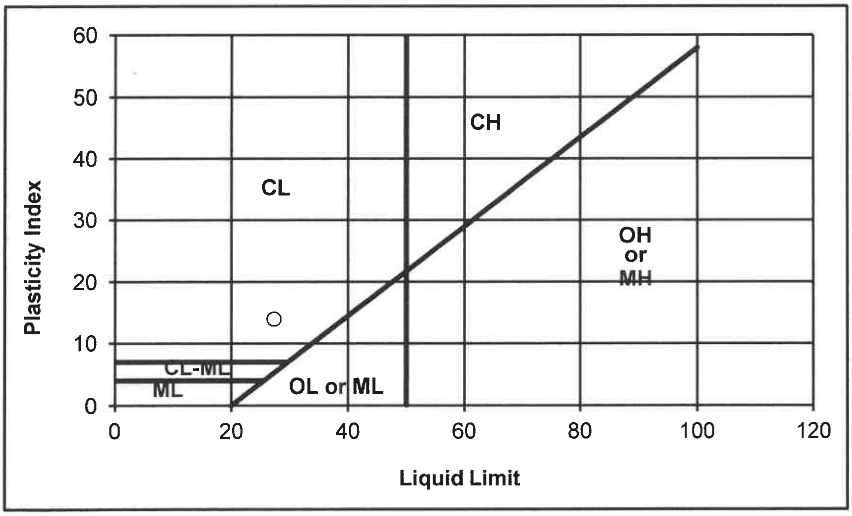
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 40-41'
Sample Description: CL

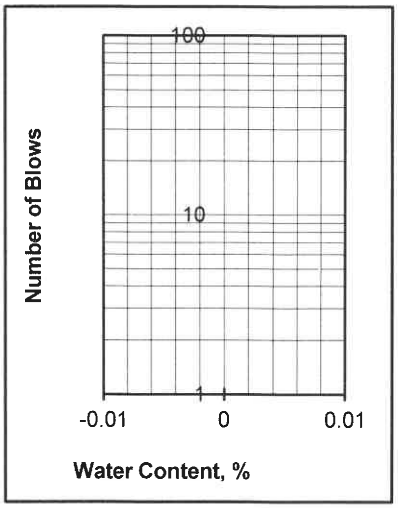
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.80	25.93		32.16		
Weight of Dry Soil & Tare (g)	28.32	24.53		28.25		
Weight of Tare (g)	16.92	13.88		13.88		
Weight of water (g)	1.48	1.41		3.92		
Weight of Dry Soil (g)	11.40	10.65		14.37		
Water Content (% of dry wt.)	13.0%	13.2%		27.3%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 27**

Plasticity Index : 14
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

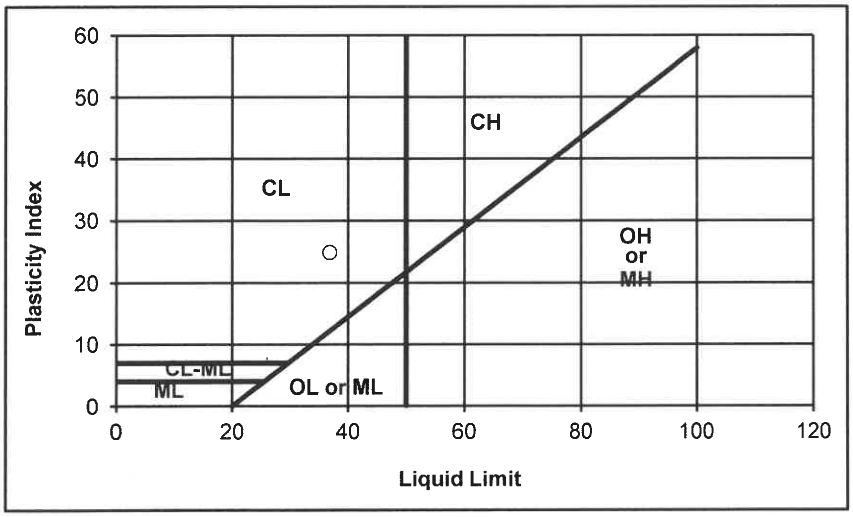
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B1 @ 45-46'
Sample Description: CL

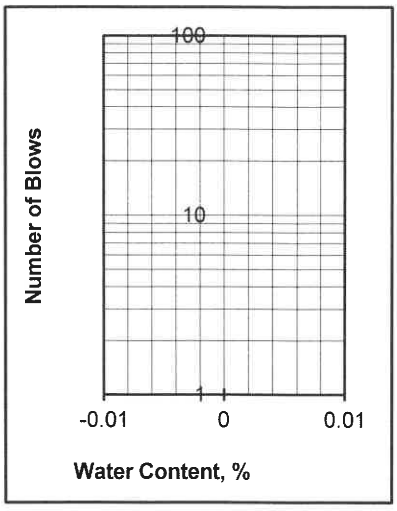
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	25.49	24.44		34.85		
Weight of Dry Soil & Tare (g)	24.35	23.44		29.69		
Weight of Tare (g)	14.76	15.55		15.68		
Weight of water (g)	1.13	1.00		5.15		
Weight of Dry Soil (g)	9.60	7.89		14.02		
Water Content (% of dry wt.)	11.8%	12.7%		36.8%		
Number of Blows				25		

Plastic Limit : 12 **Liquid Limit : 37**

Plasticity Index : 25
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

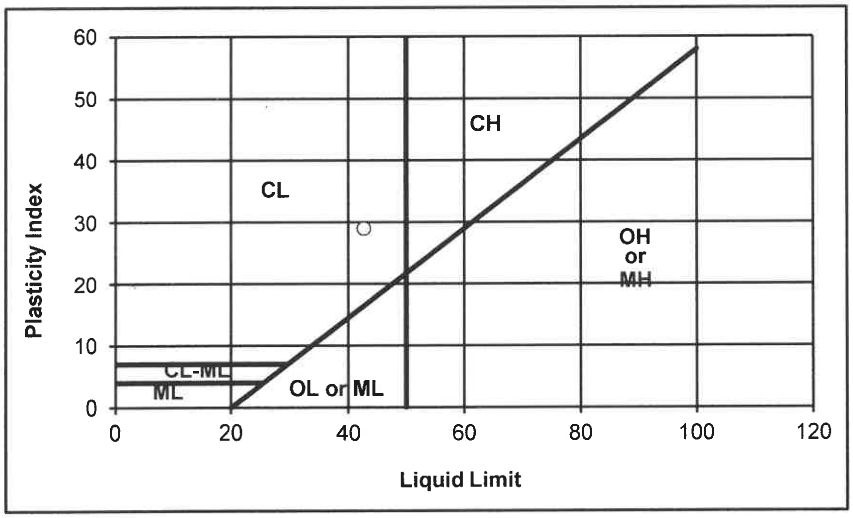
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number: X2
Sample Location: B5 @ 3-6'
Sample Description: CL

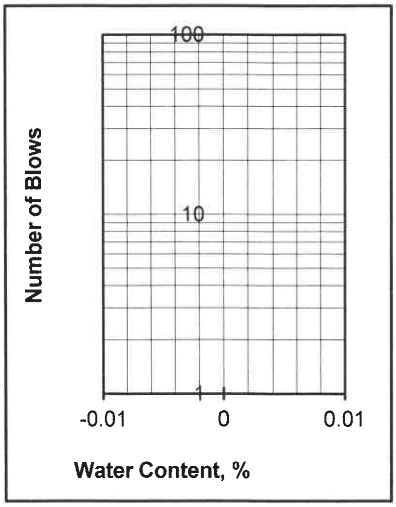
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	27.46	25.98		36.49		
Weight of Dry Soil & Tare (g)	25.88	24.42		29.65		
Weight of Tare (g)	14.25	14.09		13.60		
Weight of water (g)	1.58	1.57		6.84		
Weight of Dry Soil (g)	11.63	10.33		16.05		
Water Content (% of dry wt.)	13.5%	15.2%		42.6%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 43**

Plasticity Index : 29
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

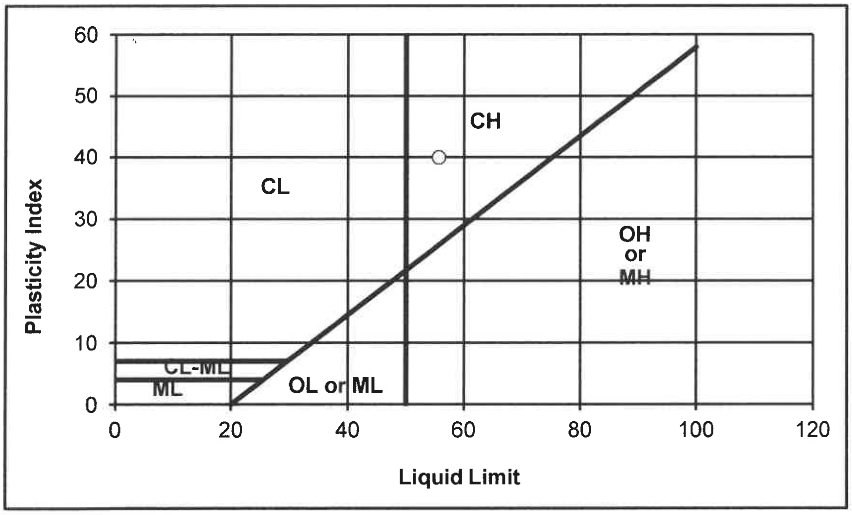
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number: X1
Sample Location: B10 @ 0-3'
Sample Description: CH

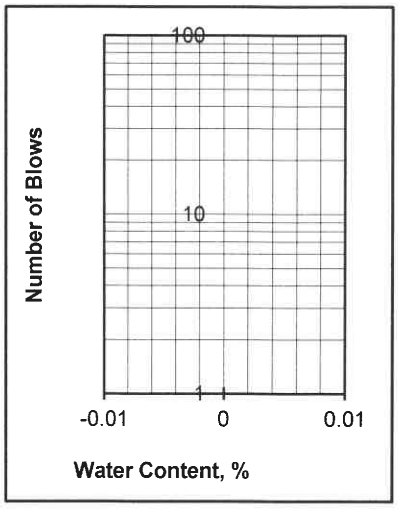
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	30.03	27.92		40.46		
Weight of Dry Soil & Tare (g)	28.29	25.89		30.98		
Weight of Tare (g)	16.92	13.90		13.90		
Weight of water (g)	1.74	2.03		9.49		
Weight of Dry Soil (g)	11.37	11.99		17.08		
Water Content (% of dry wt.)	15.3%	16.9%		55.6%		
Number of Blows				25		

Plastic Limit : 16 **Liquid Limit : 56**

Plasticity Index : 40
Unified Soil Classification : CH **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

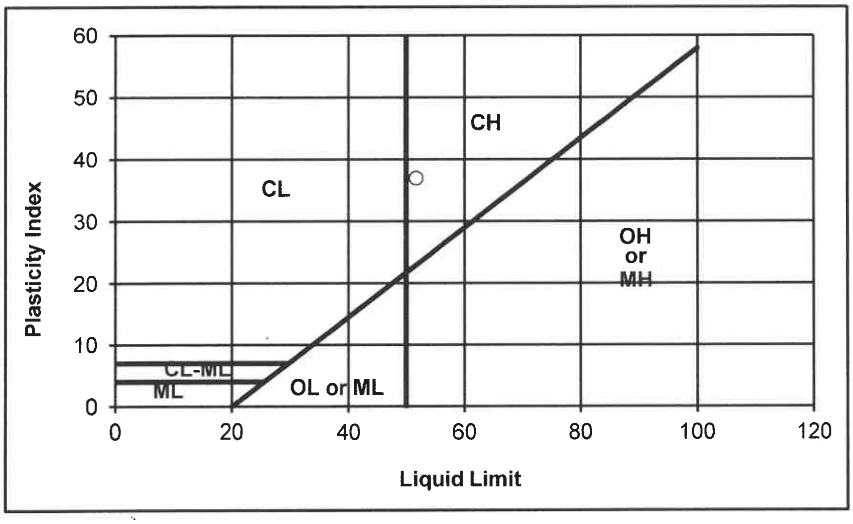
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number: X3
Sample Location: B17 @ 1-4'
Sample Description: CH

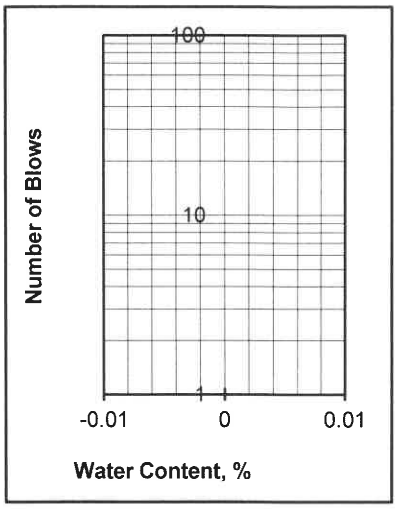
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	24.09	24.84		39.60		
Weight of Dry Soil & Tare (g)	22.73	23.42		31.90		
Weight of Tare (g)	13.92	13.97		16.97		
Weight of water (g)	1.36	1.42		7.70		
Weight of Dry Soil (g)	8.81	9.45		14.93		
Water Content (% of dry wt.)	15.5%	15.0%		51.6%		
Number of Blows				25		

Plastic Limit : 15 **Liquid Limit : 52**

Plasticity Index : 37
Unified Soil Classification : CH **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

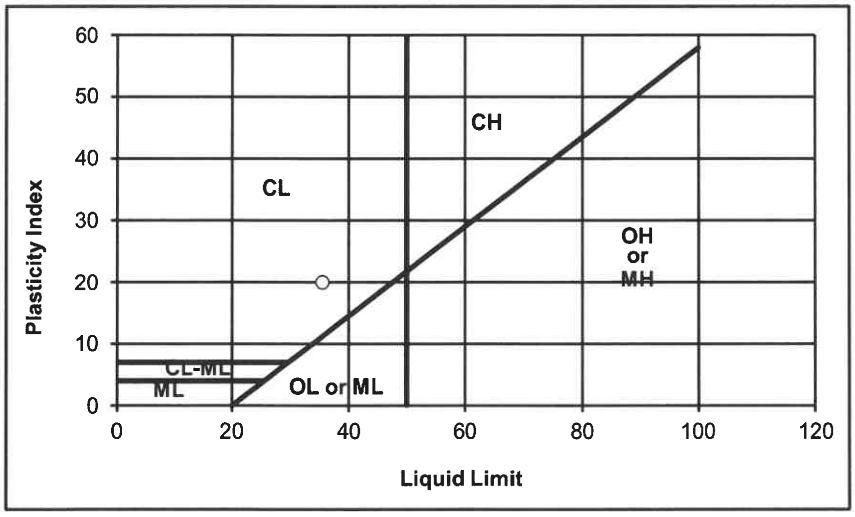
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 5-6'
Sample Description: CL

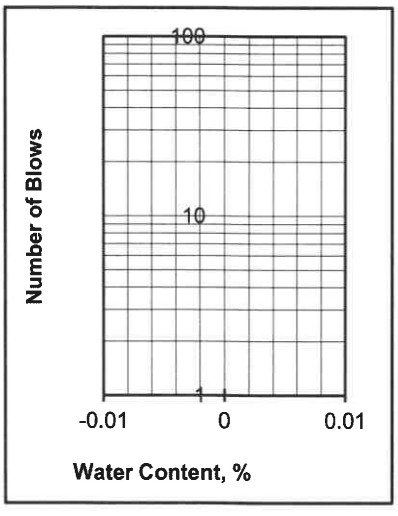
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	25.59	27.58		37.71		
Weight of Dry Soil & Tare (g)	24.27	25.97		31.71		
Weight of Tare (g)	15.67	15.56		14.75		
Weight of water (g)	1.32	1.61		6.01		
Weight of Dry Soil (g)	8.60	10.40		16.96		
Water Content (% of dry wt.)	15.4%	15.5%		35.4%		
Number of Blows				25		

Plastic Limit : 15 **Liquid Limit : 35**

Plasticity Index : 20
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

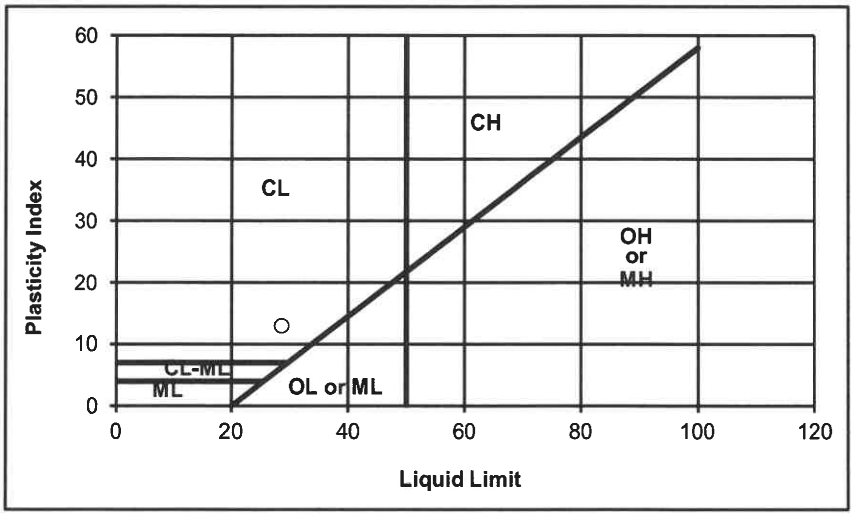
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 10-11'
Sample Description: CL

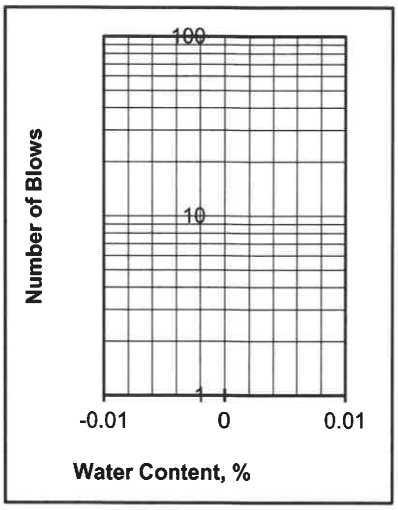
Date Tested: 8/14/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	25.62	27.62		39.09		
Weight of Dry Soil & Tare (g)	24.05	25.74		34.15		
Weight of Tare (g)	13.90	13.88		16.90		
Weight of water (g)	1.57	1.88		4.94		
Weight of Dry Soil (g)	10.15	11.86		17.25		
Water Content (% of dry wt.)	15.5%	15.9%		28.6%		
Number of Blows				25		

Plastic Limit : 16 **Liquid Limit : 29**

Plasticity Index : 13
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

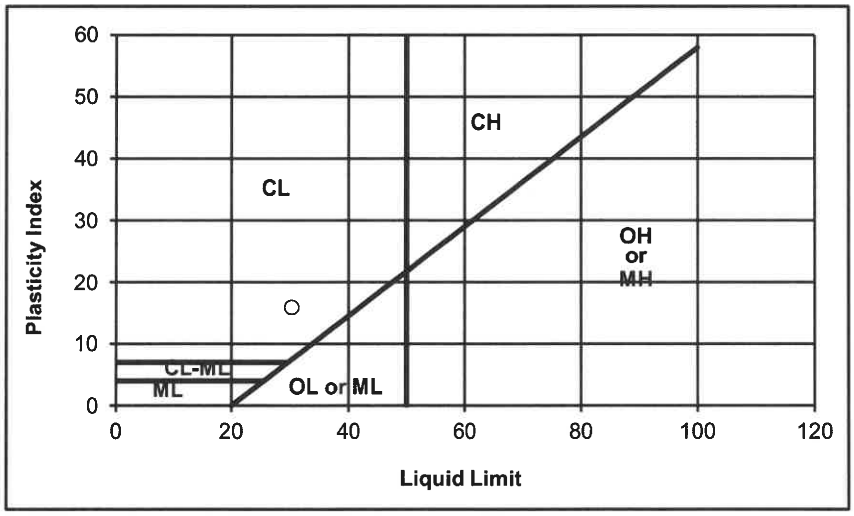
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 15-16'
Sample Description: SC-CL

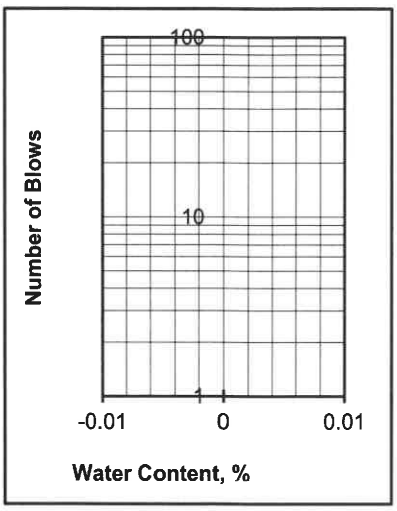
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.00	28.98		37.23		
Weight of Dry Soil & Tare (g)	27.11	27.08		32.57		
Weight of Tare (g)	13.52	14.32		17.16		
Weight of water (g)	1.89	1.90		4.66		
Weight of Dry Soil (g)	13.59	12.77		15.41		
Water Content (% of dry wt.)	13.9%	14.9%		30.2%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 30**

Plasticity Index : 16
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

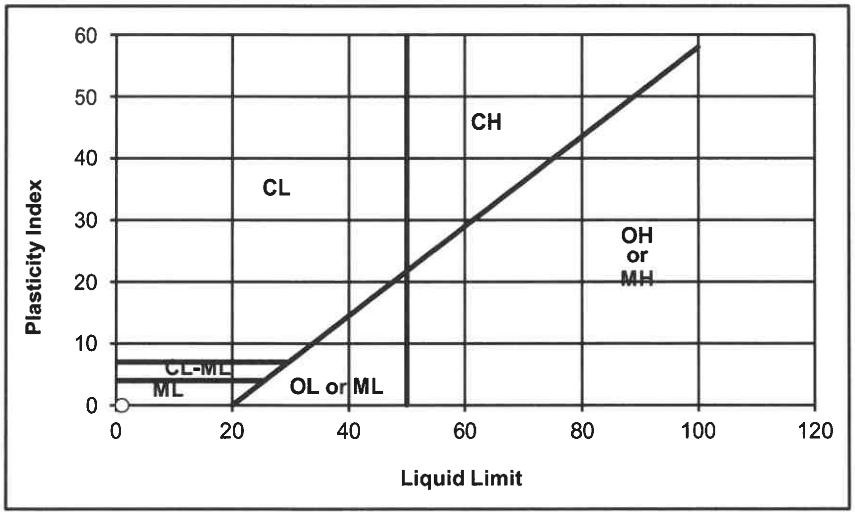
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 20-21'
Sample Description: SM-ML

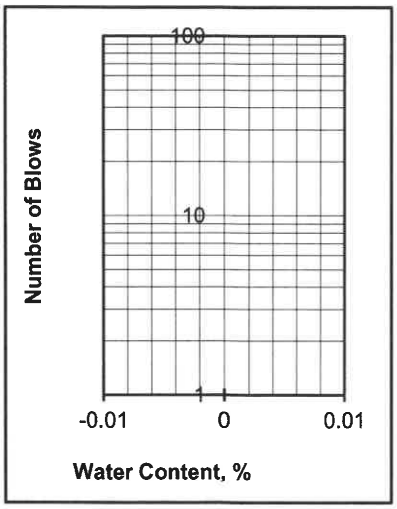
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D **Liquid Limit : N/D**

Plasticity Index : NON-PLASTIC
Unified Soil Classification : NON-PLASTIC **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

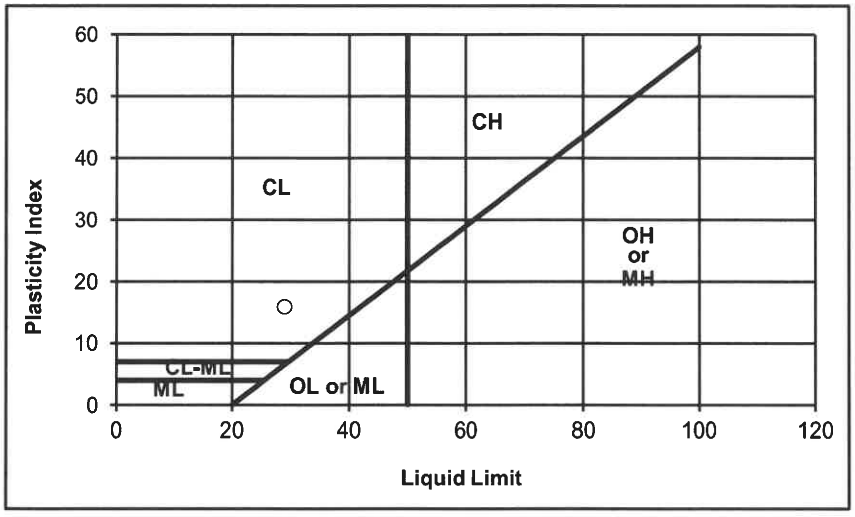
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 25-26'
Sample Description: SC

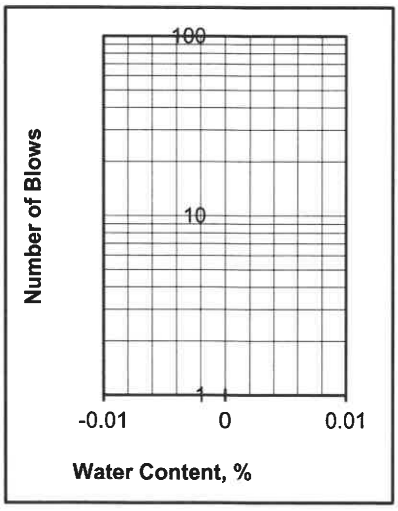
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	26.97	33.62		36.35		
Weight of Dry Soil & Tare (g)	25.49	31.71		31.46		
Weight of Tare (g)	13.61	17.03		14.59		
Weight of water (g)	1.48	1.91		4.89		
Weight of Dry Soil (g)	11.88	14.68		16.88		
Water Content (% of dry wt.)	12.5%	13.0%		28.9%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 29**

Plasticity Index : 16
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

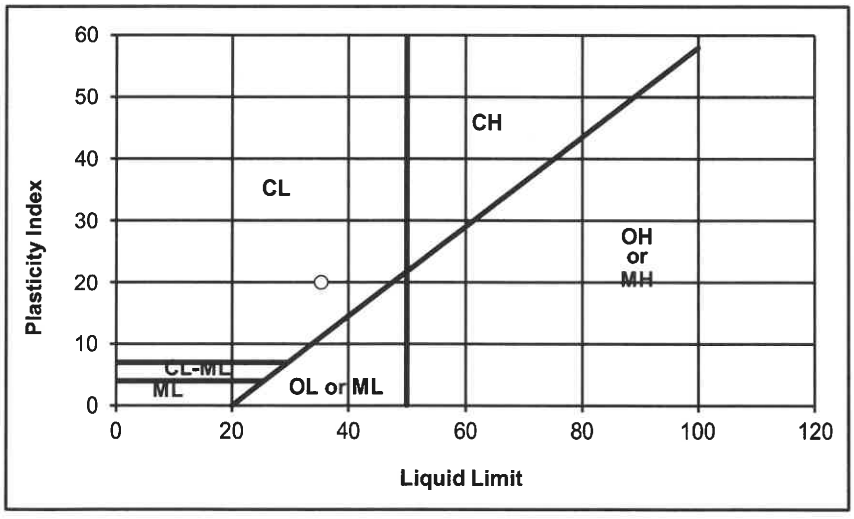
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 30-31'
Sample Description: CL

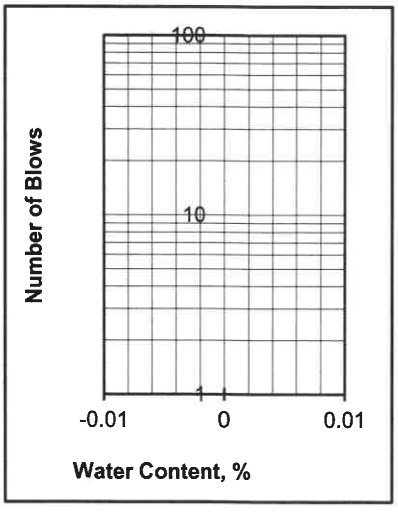
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.99	30.18		38.00		
Weight of Dry Soil & Tare (g)	27.96	28.21		32.18		
Weight of Tare (g)	14.73	15.55		15.66		
Weight of water (g)	2.03	1.98		5.83		
Weight of Dry Soil (g)	13.23	12.66		16.52		
Water Content (% of dry wt.)	15.3%	15.6%		35.3%		
Number of Blows				25		

Plastic Limit : 15 **Liquid Limit : 35**

Plasticity Index : 20
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

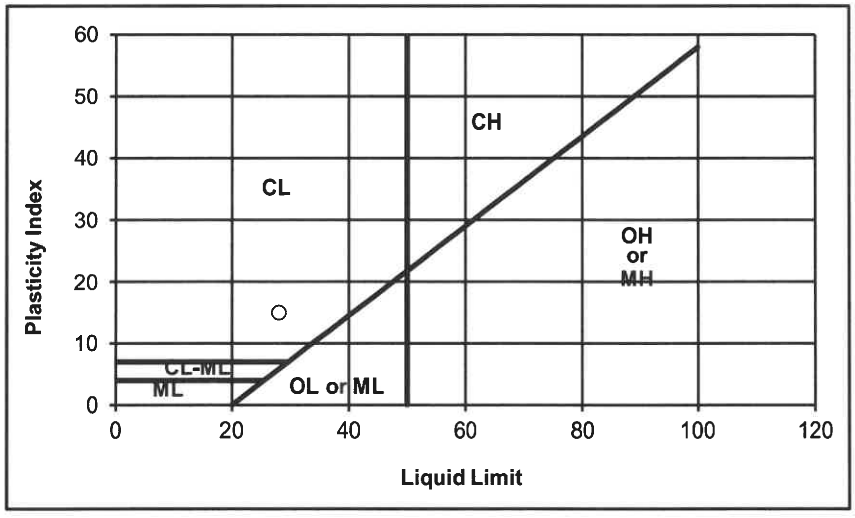
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 35-36'
Sample Description: CL

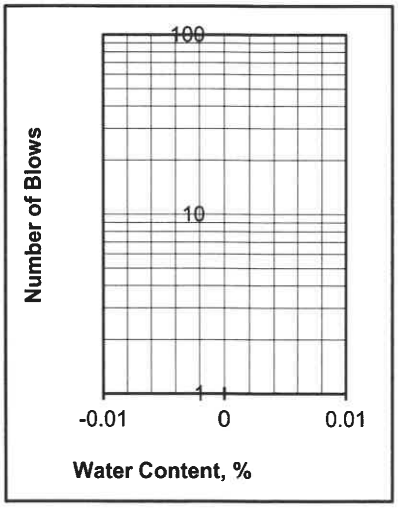
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	25.71	24.60		34.47		
Weight of Dry Soil & Tare (g)	24.32	23.39		30.64		
Weight of Tare (g)	13.92	13.94		16.98		
Weight of water (g)	1.39	1.20		3.83		
Weight of Dry Soil (g)	10.39	9.46		13.66		
Water Content (% of dry wt.)	13.4%	12.7%		28.0%		
Number of Blows				25		

Plastic Limit : 13 **Liquid Limit : 28**

Plasticity Index : 15
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

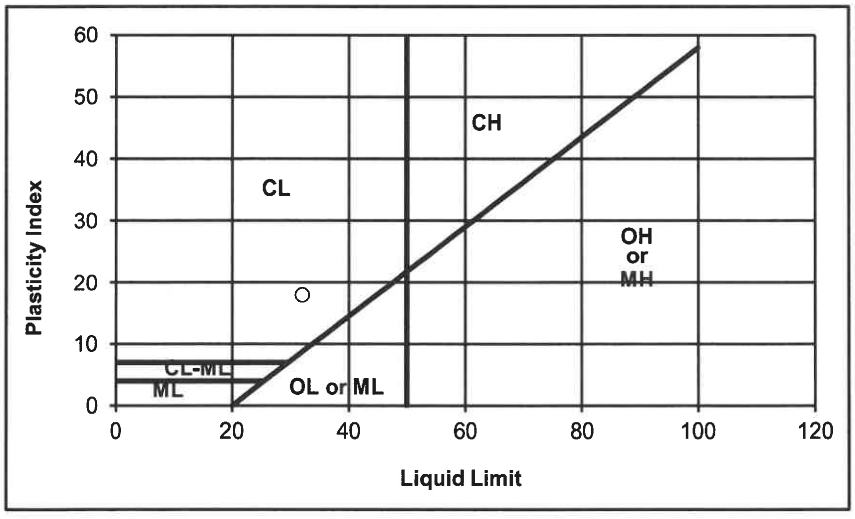
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 40-41'
Sample Description: SC-CL

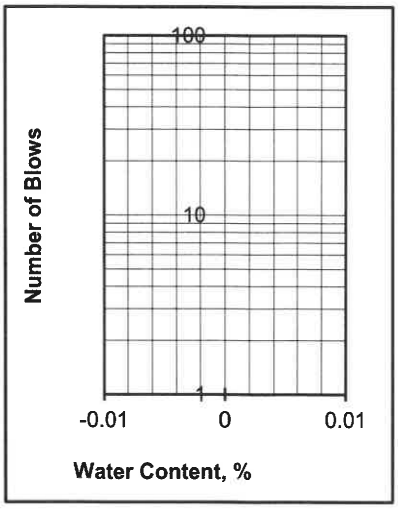
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	26.48	24.70		41.97		
Weight of Dry Soil & Tare (g)	25.00	23.57		35.58		
Weight of Tare (g)	14.76	15.56		15.68		
Weight of water (g)	1.49	1.13		6.39		
Weight of Dry Soil (g)	10.24	8.01		19.91		
Water Content (% of dry wt.)	14.5%	14.1%		32.1%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 32**

Plasticity Index : 18
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

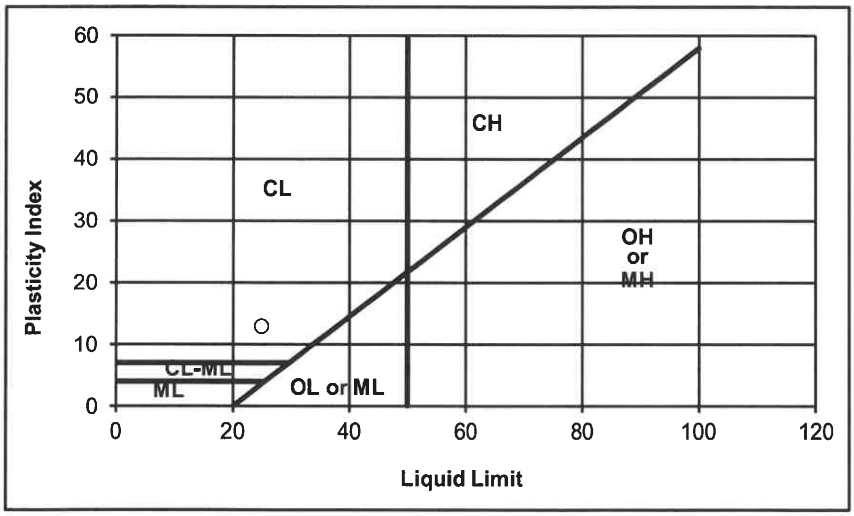
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B19 @ 45-46'
Sample Description: SC

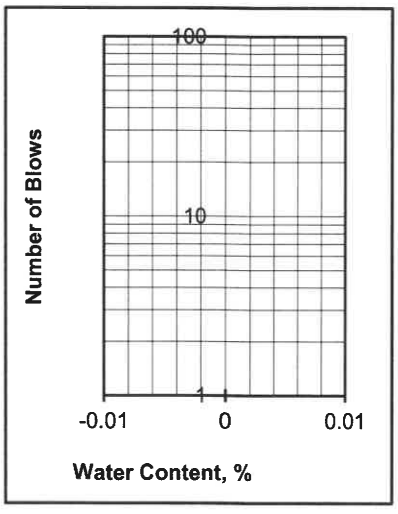
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	27.83	25.01		36.32		
Weight of Dry Soil & Tare (g)	26.30	23.83		32.46		
Weight of Tare (g)	13.91	13.90		16.96		
Weight of water (g)	1.53	1.17		3.86		
Weight of Dry Soil (g)	12.40	9.93		15.50		
Water Content (% of dry wt.)	12.3%	11.8%		24.9%		
Number of Blows				25		

Plastic Limit : 12 **Liquid Limit : 25**

Plasticity Index : 13
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

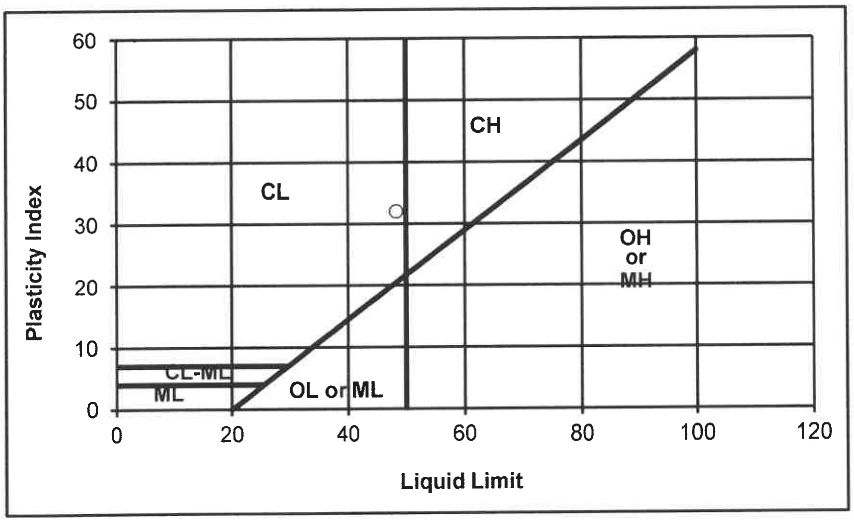
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B29 @ 2-3'
Sample Description: CL

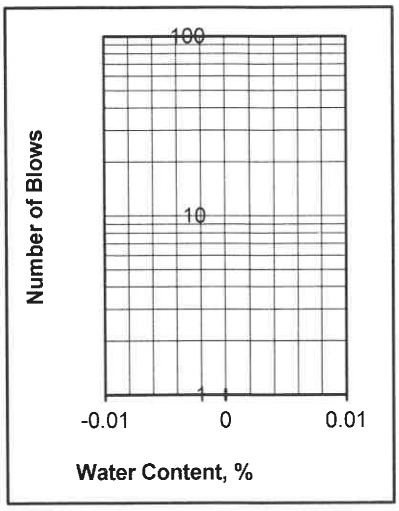
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	32.75	32.15		35.65		
Weight of Dry Soil & Tare (g)	30.73	29.66		28.46		
Weight of Tare (g)	17.14	14.34		13.56		
Weight of water (g)	2.02	2.49		7.19		
Weight of Dry Soil (g)	13.59	15.31		14.91		
Water Content (% of dry wt.)	14.9%	16.3%		48.3%		
Number of Blows				25		

Plastic Limit : 16 **Liquid Limit : 48**

Plasticity Index : 32
Unified Soil Classification : CL
Requirement:
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

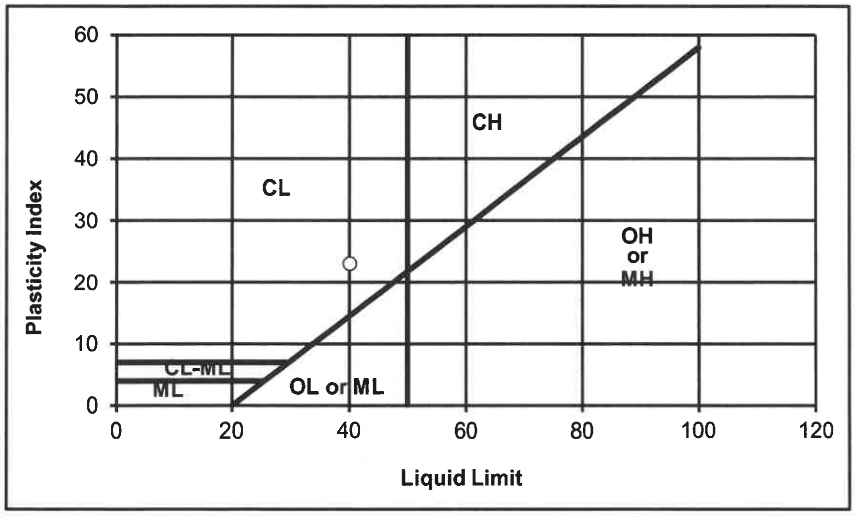
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 5-6'
Sample Description: CL

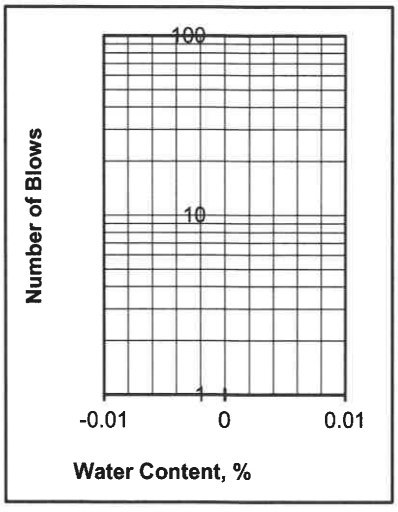
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	27.97	27.27		30.86		
Weight of Dry Soil & Tare (g)	26.37	25.33		26.01		
Weight of Tare (g)	16.92	13.92		13.90		
Weight of water (g)	1.60	1.94		4.85		
Weight of Dry Soil (g)	9.45	11.41		12.11		
Water Content (% of dry wt.)	17.0%	17.0%		40.1%		
Number of Blows				25		

Plastic Limit : 17 **Liquid Limit : 40**

Plasticity Index : 23
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

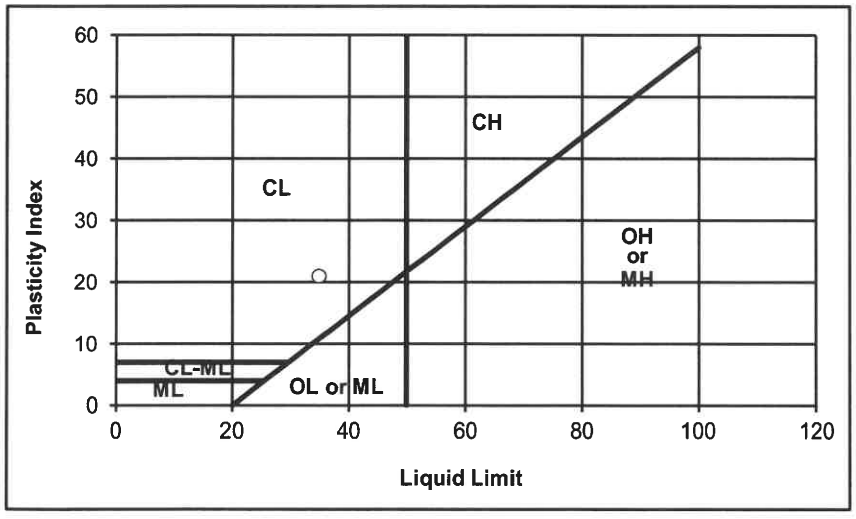
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 10-11'
Sample Description: CL

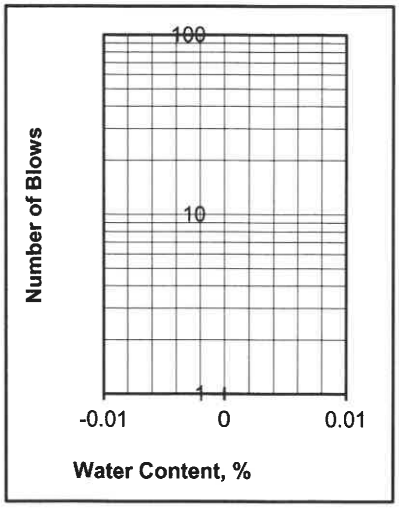
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	28.74	24.82		31.87		
Weight of Dry Soil & Tare (g)	27.02	23.72		27.11		
Weight of Tare (g)	14.64	15.66		13.46		
Weight of water (g)	1.72	1.10		4.76		
Weight of Dry Soil (g)	12.38	8.06		13.65		
Water Content (% of dry wt.)	13.9%	13.6%		34.9%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 35**

Plasticity Index : 21
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

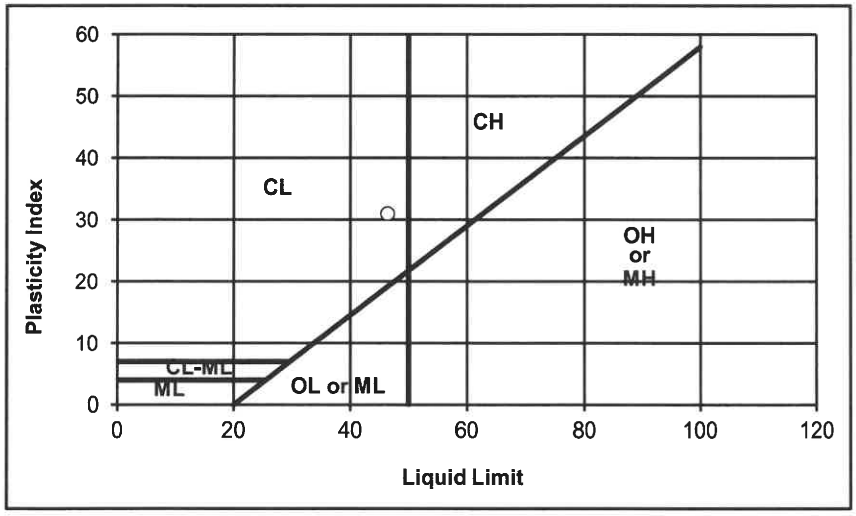
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 15-16'
Sample Description: CL

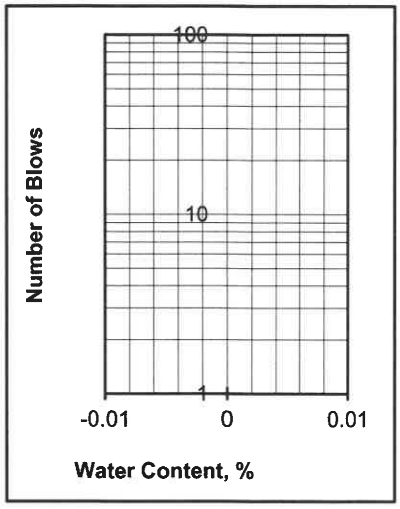
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	26.70	27.57		35.69		
Weight of Dry Soil & Tare (g)	24.98	25.85		28.90		
Weight of Tare (g)	13.01	14.13		14.26		
Weight of water (g)	1.71	1.72		6.79		
Weight of Dry Soil (g)	11.97	11.72		14.64		
Water Content (% of dry wt.)	14.3%	14.7%		46.4%		
Number of Blows				25		

Plastic Limit : 15 **Liquid Limit : 46**

Plasticity Index : 31
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

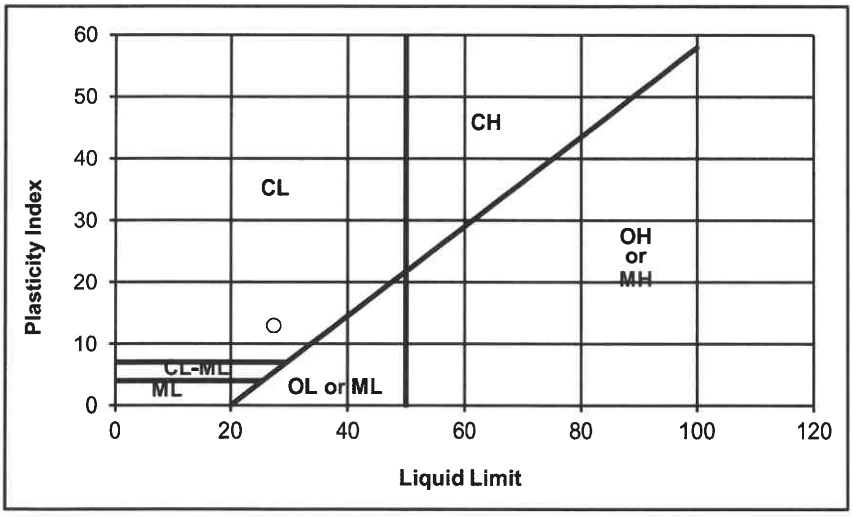
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 20-21'
Sample Description: CL

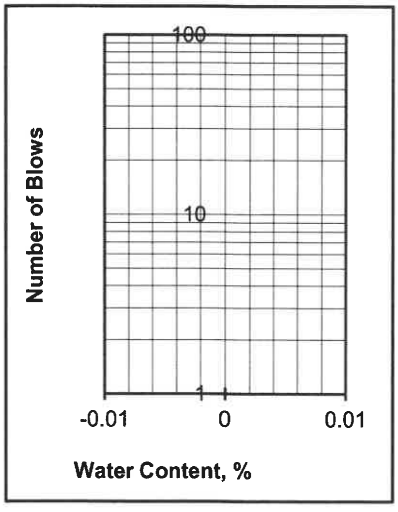
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	24.28	32.20		31.24		
Weight of Dry Soil & Tare (g)	22.99	30.41		27.50		
Weight of Tare (g)	13.62	17.00		13.82		
Weight of water (g)	1.29	1.79		3.75		
Weight of Dry Soil (g)	9.37	13.41		13.67		
Water Content (% of dry wt.)	13.8%	13.4%		27.4%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 27**

Plasticity Index : 13
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

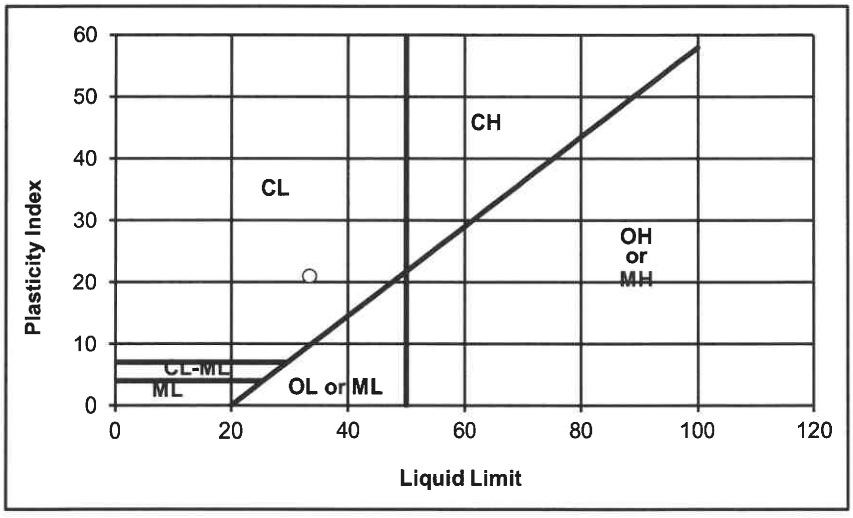
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 25-26'
Sample Description: CL

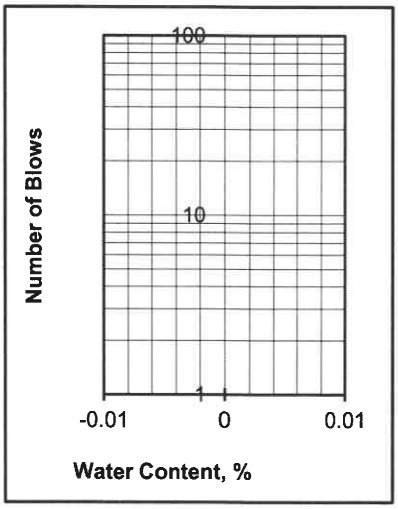
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	29.39	29.71		32.99		
Weight of Dry Soil & Tare (g)	27.75	28.15		28.66		
Weight of Tare (g)	14.75	15.56		15.69		
Weight of water (g)	1.63	1.56		4.33		
Weight of Dry Soil (g)	13.00	12.59		12.97		
Water Content (% of dry wt.)	12.6%	12.4%		33.4%		
Number of Blows				25		

Plastic Limit : 12 **Liquid Limit : 33**

Plasticity Index : 21
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

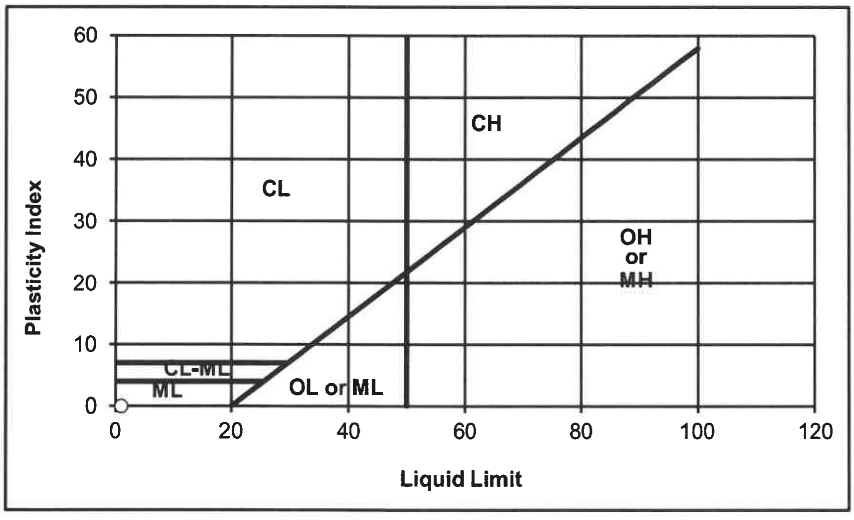
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 30-31'
Sample Description: SM

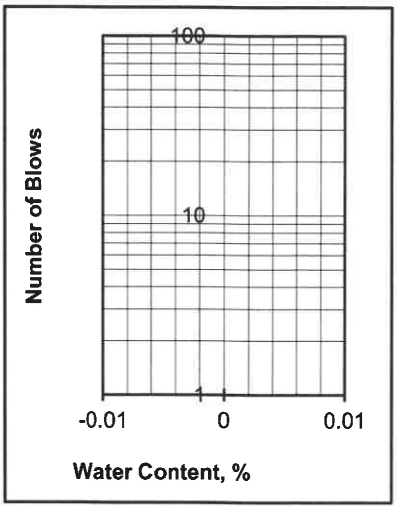
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D **Liquid Limit : N/D**

Plasticity Index : NON-PLASTIC
Unified Soil Classification : NON-PLASTIC **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

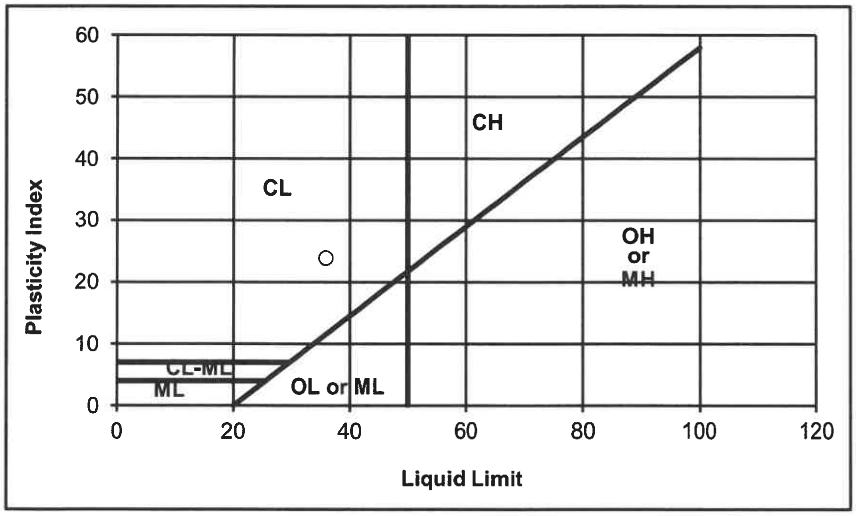
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 35-36'
Sample Description: CL

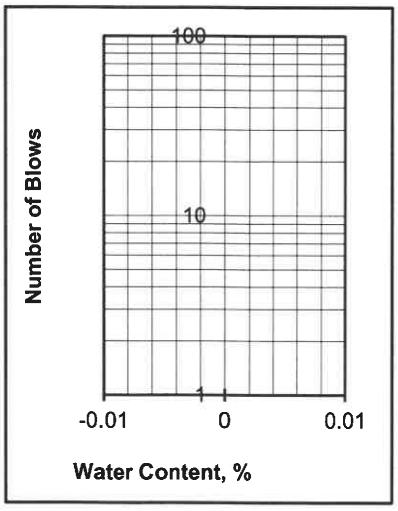
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	30.10	28.47		31.88		
Weight of Dry Soil & Tare (g)	28.47	27.08		27.36		
Weight of Tare (g)	15.72	15.56		14.76		
Weight of water (g)	1.63	1.39		4.52		
Weight of Dry Soil (g)	12.75	11.52		12.60		
Water Content (% of dry wt.)	12.8%	12.1%		35.9%		
Number of Blows				25		

Plastic Limit : 12 **Liquid Limit : 36**

Plasticity Index : 24
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

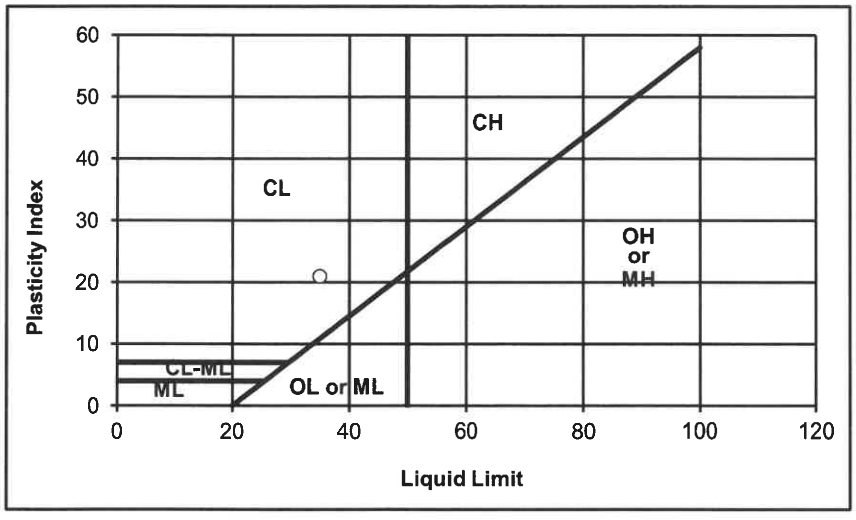
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 40-41'
Sample Description: CL

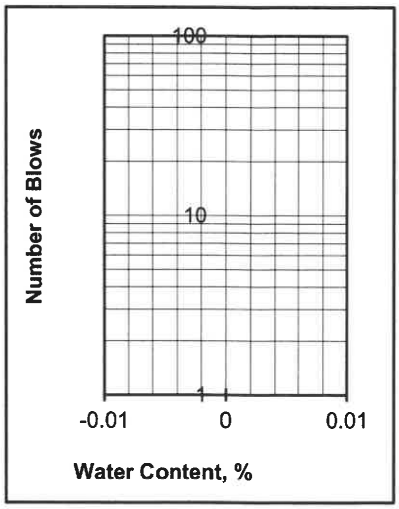
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	30.70	34.20		36.84		
Weight of Dry Soil & Tare (g)	28.56	32.08		31.09		
Weight of Tare (g)	13.48	15.65		14.64		
Weight of water (g)	2.15	2.13		5.75		
Weight of Dry Soil (g)	15.07	16.43		16.45		
Water Content (% of dry wt.)	14.2%	13.0%		34.9%		
Number of Blows				25		

Plastic Limit : 14 **Liquid Limit : 35**

Plasticity Index : 21
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

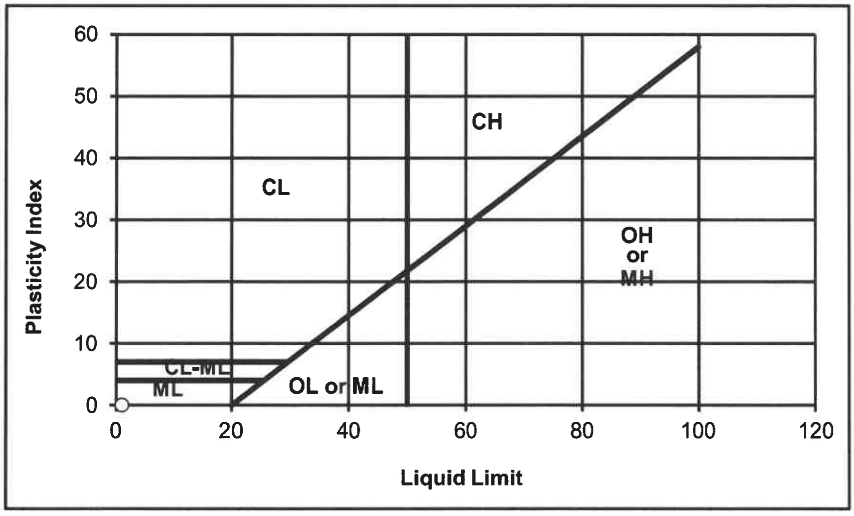
Project: **Dublin Unified New High School**
Project Number: **042-19017**
Date Sampled: 7/30/2019
Sampled By: WA
Sample Number:
Sample Location: B30 @ 45-46'
Sample Description: ML

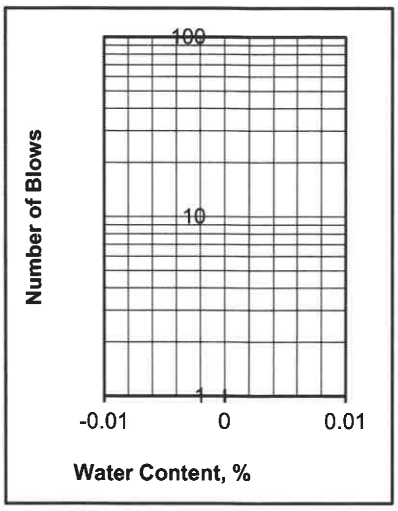
Date Tested: 8/13/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D **Liquid Limit : N/D**

Plasticity Index : NON-PLASTIC
Unified Soil Classification : NON-PLASTIC **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

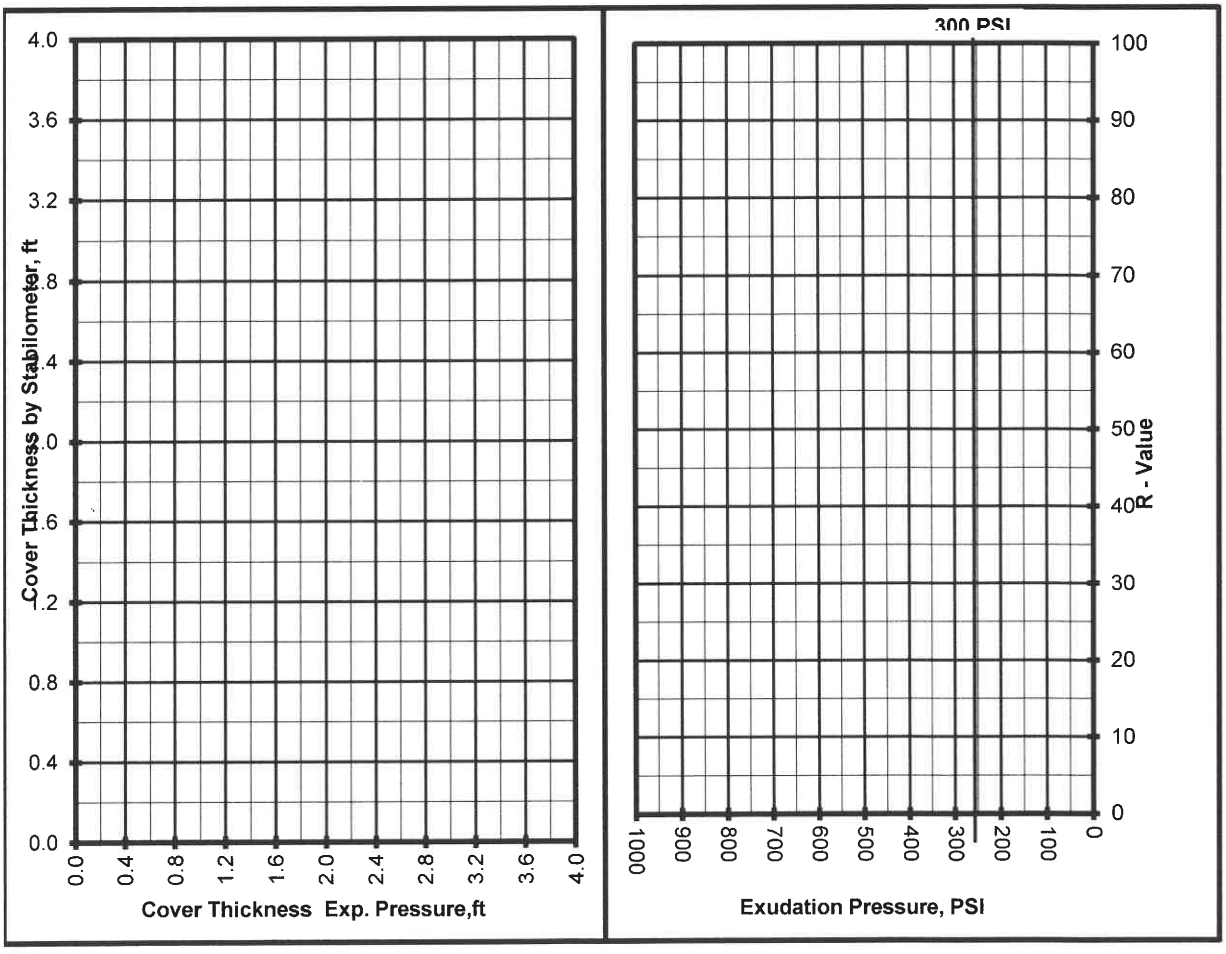
Unusual Conditions, Other Notes:

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	042-19017
Project Name	:	Dublin Unified New High School
Date	:	8/5/2019
Sample Location/Curve Number	:	RV#1
Soil Classification	:	CH/CL

TEST	A	B	C
Percent Moisture @ Compaction, %			
Dry Density, lbm/cu.ft.	R - Value less than 5 Sample Exuded from bottom of Mold During test		
Exudation Pressure, psi			
Expansion Pressure, (Dial Reading)			
Expansion Pressure, psf			
Resistance Value R			

R - Value at 300 PSI Exudation Pressure	**< 5**
R - Value by Expansion Pressure	

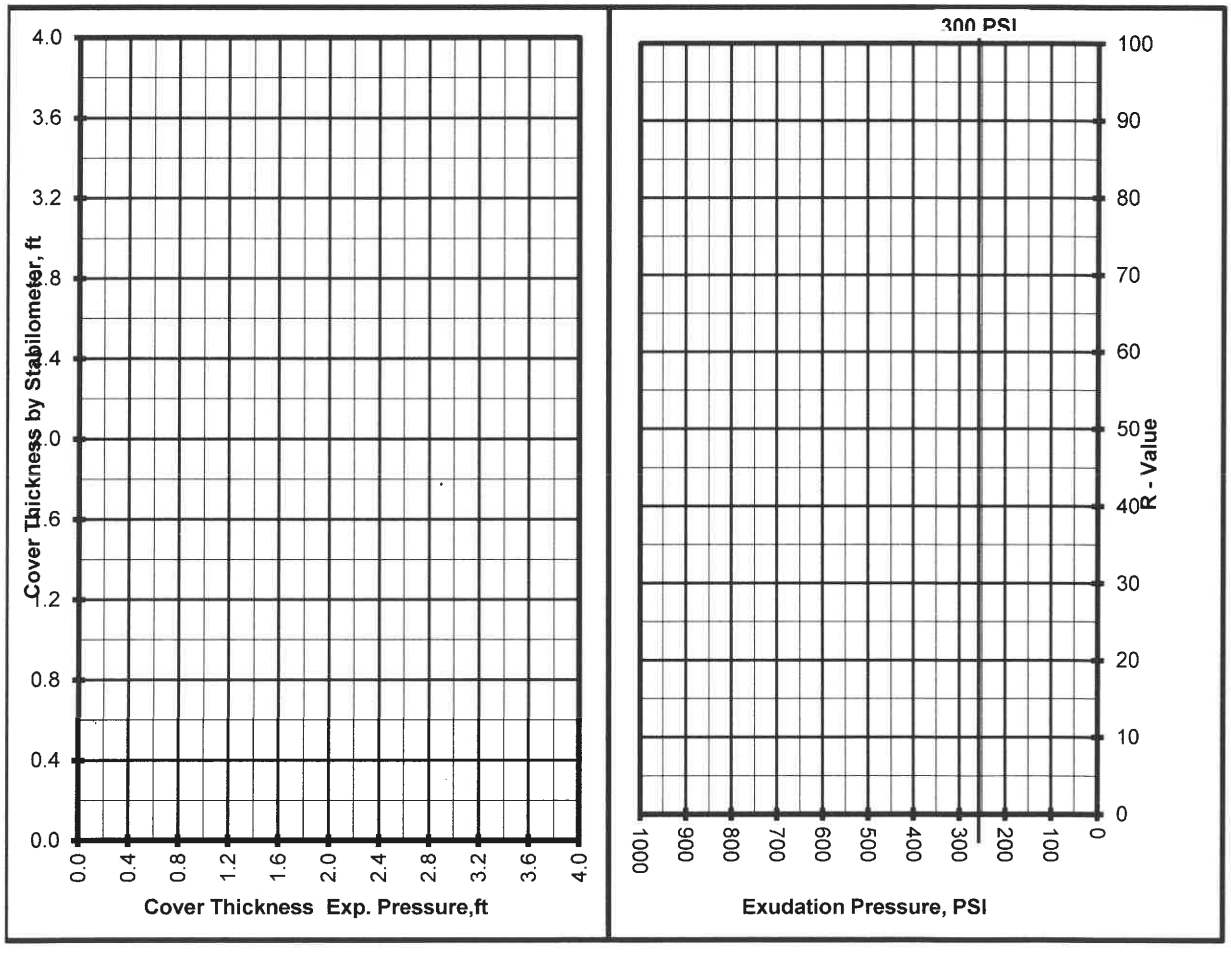


R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	042-19017
Project Name	:	Dublin Unified New High School
Date	:	8/5/2019
Sample Location/Curve Number	:	RV#2
Soil Classification	:	CH/CL

TEST	A	B	C
Percent Moisture @ Compaction, %			
Dry Density, lbm/cu.ft.	R - Value less than 5 Sample Exuded from bottom of Mold During test		
Exudation Pressure, psi			
Expansion Pressure, (Dial Reading)			
Expansion Pressure, psf			
Resistance Value R			

R - Value at 300 PSI Exudation Pressure	**< 5**
R - Value by Expansion Pressure	

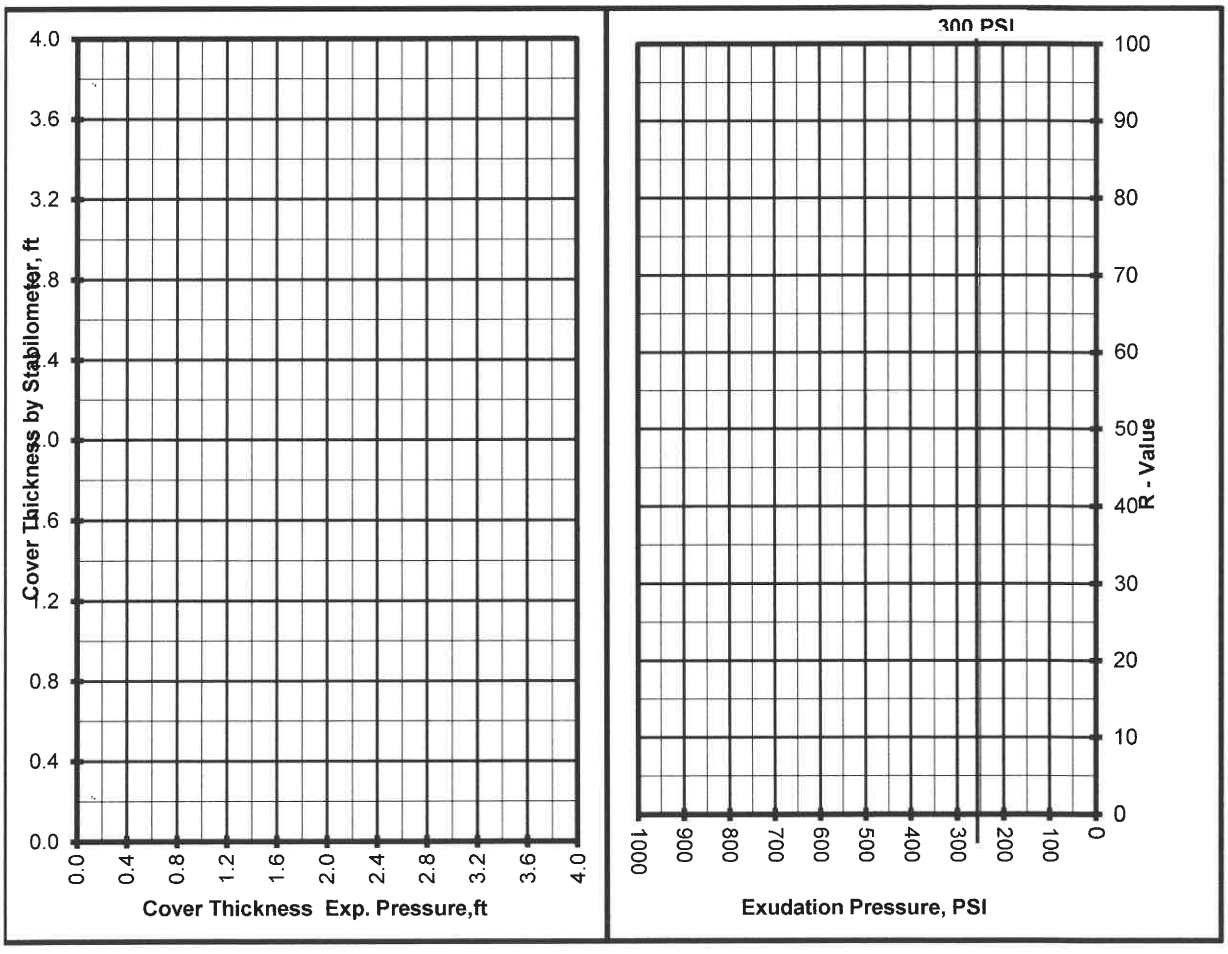


R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	042-19017
Project Name	:	Dublin Unified New High School
Date	:	8/5/2019
Sample Location/Curve Number	:	RV#3
Soil Classification	:	CH/CL

TEST	A	B	C
Percent Moisture @ Compaction, %			
Dry Density, lbm/cu.ft.	R - Value less than 5 Sample Exuded from bottom of Mold During test		
Exudation Pressure, psi			
Expansion Pressure, (Dial Reading)			
Expansion Pressure, psf			
Resistance Value R			

R - Value at 300 PSI Exudation Pressure	< 5
R - Value by Expansion Pressure	

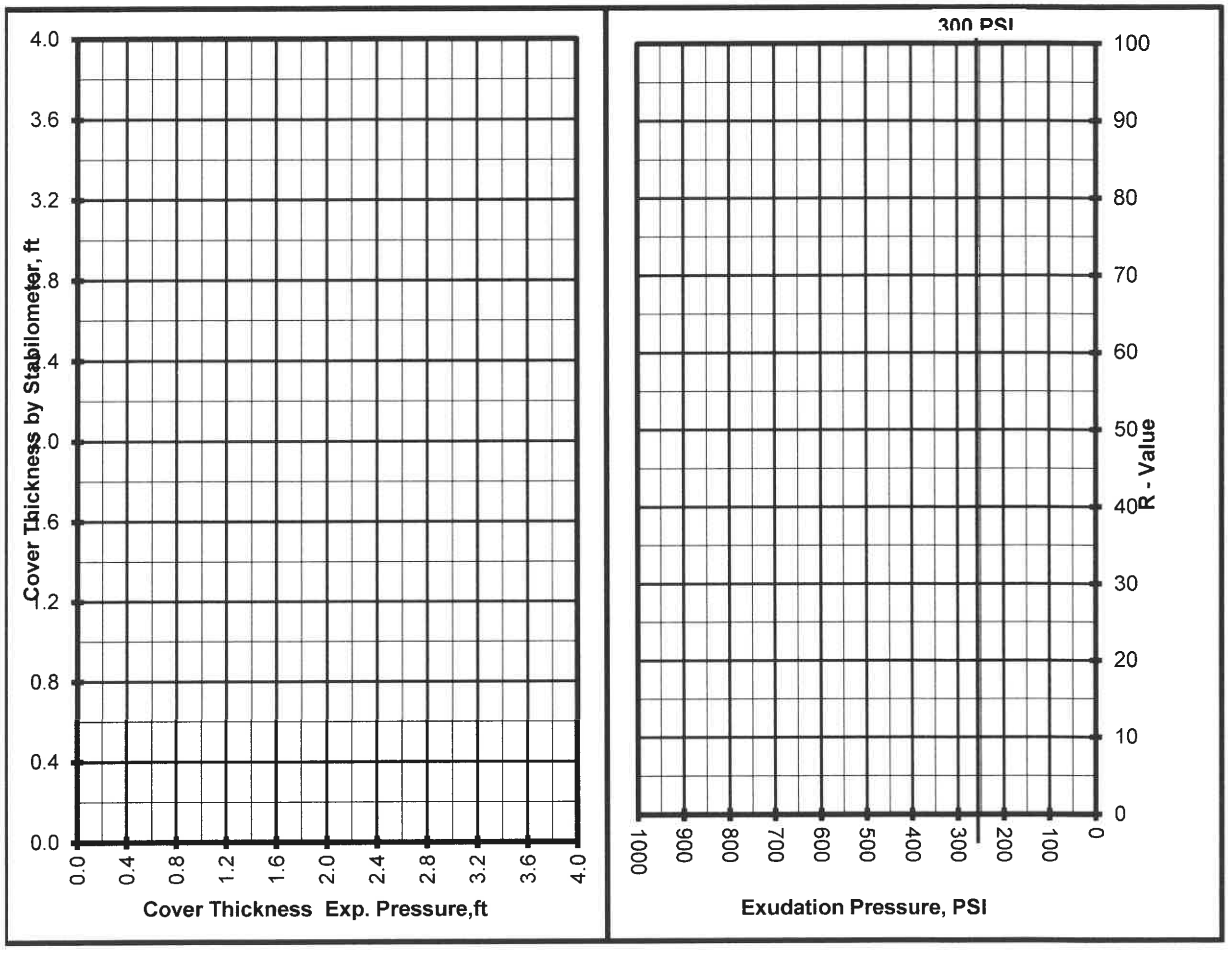


R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	042-19017
Project Name	:	Dublin Unified New High School
Date	:	8/5/2019
Sample Location/Curve Number	:	RV#4
Soil Classification	:	CH/CL

TEST	A	B	C
Percent Moisture @ Compaction, %			
Dry Density, lbm/cu.ft.	R - Value less than 5 Sample Exuded from bottom of Mold During test		
Exudation Pressure, psi			
Expansion Pressure, (Dial Reading)			
Expansion Pressure, psf			
Resistance Value R			

R - Value at 300 PSI Exudation Pressure	**< 5**
R - Value by Expansion Pressure	



APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 90 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 90 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

APPENDIX D

LIQUEFACTION ANALYSIS

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*                        *
*    E Q S E A R C H     *
*                        *
*     Version 3.00       *
*                        *
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ESTIMATION OF
PEAK ACCELERATION FROM
CALIFORNIA EARTHQUAKE CATALOGS

JOB NUMBER: 04219017

DATE: 08-23-2019

JOB NAME: 04219017

EARTHQUAKE-CATALOG-FILE NAME: ALLQUAKE.DAT

MAGNITUDE RANGE:
   MINIMUM MAGNITUDE: 4.00
   MAXIMUM MAGNITUDE: 9.00

SITE COORDINATES:
   SITE LATITUDE: 37.7073
   SITE LONGITUDE: 121.8649

SEARCH DATES:
           START DATE: 1800
           END DATE: 2018

SEARCH RADIUS:
           50.0 mi
           80.5 km

ATTENUATION RELATION: 3) Boore et al. (1997) Horiz. - NEHRP D (250)
   UNCERTAINTY (M=Median, S=Sigma): M   Number of Sigmas: 0.0
   ASSUMED SOURCE TYPE: DS [SS=Strike-slip, DS=Reverse-slip, BT=Blind-thrust]
   SCOND: 0 Depth Source: A
   Basement Depth: 5.00 km   Campbell SSR: Campbell SHR:
   COMPUTE PEAK HORIZONTAL ACCELERATION

MINIMUM DEPTH VALUE (km): 0.0

EARTHQUAKE SEARCH RESULTS

Page 1

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSB	37.7420	121.9420	02/02/2003	182258.3	16.0	4.10	0.107	VII	4.8(7.8)
GSB	37.7480	121.9460	02/02/2003	184738.8	16.0	4.10	0.102	VII	5.2(8.4)
DMG	37.6300	121.8700	03/29/1943	114555.0	0.0	4.20	0.107	VII	5.3(8.6)
DMG	37.6800	121.7700	04/15/1943	1523 4.0	0.0	4.00	0.094	VII	5.5(8.9)
DMG	37.6800	121.7700	04/15/1943	1531 2.0	0.0	4.10	0.099	VII	5.5(8.9)
GSB	37.7230	121.7480	03/10/1991	174601.1	16.0	4.00	0.086	VII	6.5(10.4)
DMG	37.7830	121.9440	06/12/1970	33018.1	5.0	4.26	0.096	VII	6.8(10.9)
DMG	37.7860	121.9410	06/12/1970	330 3.3	5.0	4.27	0.096	VII	6.8(11.0)
DMG	37.7000	122.0000	03/05/1864	1649 0.0	0.0	5.70	0.194	VIII	7.4(11.9)
MGI	37.6500	121.7500	05/01/1943	252 0.0	0.0	4.30	0.093	VII	7.4(11.9)
DMG	37.6000	121.8800	09/24/1936	3 9 0.0	0.0	4.30	0.092	VII	7.4(12.0)
DMG	37.6200	121.7800	04/26/1943	1154 0.0	0.0	4.10	0.082	VII	7.6(12.2)
DMG	37.8170	121.8830	03/17/1963	213844.5	0.0	4.10	0.082	VII	7.6(12.3)
GSB	37.7580	121.7400	03/18/1984	052730.3	12.0	4.30	0.091	VII	7.7(12.3)
DMG	37.7990	121.9480	06/12/1970	33049.9	7.5	4.12	0.082	VII	7.8(12.5)
DMG	37.8200	121.8800	03/17/1962	213844.5	2.0	4.10	0.080	VII	7.8(12.6)
DMG	37.8000	121.9480	06/12/1970	16 336.3	5.0	4.01	0.077	VII	7.8(12.6)
DMG	37.6800	121.7200	04/21/1943	233944.0	0.0	4.20	0.083	VII	8.1(13.1)
BRK	37.8100	121.7900	01/24/1980	19 1 2.0	0.0	5.10	0.132	VIII	8.2(13.2)
DMG	37.6000	121.8000	06/11/1903	1312 0.0	0.0	5.50	0.163	VIII	8.2(13.2)
BRK	37.7600	121.7300	01/27/1980	23336.0	0.0	5.40	0.155	VIII	8.2(13.2)
BRK	37.7900	121.9800	08/20/1976	22 553.0	0.0	4.00	0.072	VII	8.5(13.7)
BRK	37.8200	121.7900	01/24/1980	19 145.0	0.0	4.00	0.071	VI	8.8(14.1)
BRK	37.8300	121.8100	01/24/1980	19 0 9.0	0.0	5.80	0.180	VIII	9.0(14.5)
GSB	37.8050	121.7430	10/22/1987	034800.3	7.0	4.40	0.083	VII	9.5(15.2)
BRK	37.8400	121.8100	01/27/1980	1058 1.0	0.0	4.10	0.070	VI	9.6(15.5)
DMG	37.8000	122.0000	07/04/1861	011 0.0	0.0	5.60	0.153	VIII	9.8(15.7)
BRK	37.8400	121.7900	01/25/1980	51242.0	0.0	4.40	0.080	VII	10.0(16.1)
BRK	37.8400	121.7900	01/24/1980	19 319.0	0.0	4.80	0.098	VII	10.0(16.1)
GSB	37.8420	121.9400	10/11/1986	051736.2	7.0	4.70	0.092	VII	10.2(16.3)
DMG	37.6000	122.0000	07/22/1864	641 0.0	0.0	4.70	0.091	VII	10.5(16.8)
DMG	37.6000	122.0000	06/05/1907	827 0.0	0.0	4.00	0.063	VI	10.5(16.8)
DMG	37.6000	122.0000	05/16/1933	114526.0	0.0	4.50	0.082	VII	10.5(16.8)
BRK	37.8600	121.8100	01/25/1980	52436.0	0.0	4.60	0.083	VII	11.0(17.6)
BRK	37.5600	121.9400	03/03/1981	104512.0	0.0	4.40	0.075	VII	11.0(17.6)
BRK	37.6600	121.6700	06/21/1977	243 6.0	0.0	4.40	0.074	VII	11.1(17.9)
T-A	37.6700	122.0700	12/04/1887	1230 0.0	0.0	4.30	0.069	VI	11.5(18.5)
DMG	37.7000	122.1000	10/21/1868	1553 0.0	0.0	6.80	0.237	IX	12.8(20.7)
GSB	37.8660	121.9960	09/06/2008	040015.3	16.0	4.10	0.056	VI	13.1(21.1)
GSB	37.8720	121.9850	04/07/1990	023918.2	1.0	4.20	0.059	VI	13.1(21.1)
MGI	37.9000	121.8500	11/11/1936	225 0.0	0.0	4.30	0.062	VI	13.3(21.4)
GSB	37.8850	121.9830	04/28/1990	044148.0	6.0	4.60	0.070	VI	13.9(22.3)
DMG	37.7200	122.1200	12/29/1942	181814.0	0.0	4.30	0.060	VI	14.0(22.5)
DMG	37.5000	121.9000	11/26/1858	835 0.0	0.0	6.10	0.150	VIII	14.4(23.2)
DMG	37.7200	122.1300	12/17/1954	7 858.0	0.0	4.50	0.064	VI	14.5(23.3)
GSB	37.7270	122.1300	03/27/1984	033635.6	7.0	4.40	0.061	VI	14.5(23.4)
GSB	37.5680	121.6650	12/11/1986	141805.3	4.0	4.10	0.052	VI	14.6(23.4)
DMG	37.6800	121.6000	05/02/1946	12612.0	0.0	4.60	0.068	VI	14.6(23.5)
DMG	37.5000	121.8000	12/01/1938	1617 0.0	0.0	4.50	0.064	VI	14.7(23.7)
DMG	37.6000	122.1000	05/21/1864	2 1 0.0	0.0	5.30	0.097	VII	14.8(23.9)
GSB	37.6880	121.5900	02/15/1992	143620.2	16.0	4.00	0.048	VI	15.1(24.3)
BRK	37.5600	121.6600	08/24/1980	124117.0	0.0	4.00	0.048	VI	15.1(24.3)
GSB	37.4810	121.7980	01/07/2010	180935.0	11.0	4.10	0.048	VI	16.0(25.8)

EARTHQUAKE SEARCH RESULTS

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	37.9000	121.7000	09/19/1940	82018.0	0.0	4.00	0.046	VI	16.1(25.8)
DMG	37.9000	121.7000	09/20/1940	1859 0.0	0.0	4.00	0.046	VI	16.1(25.8)
DMG	37.4800	121.7800	10/31/1958	02614.0	0.0	4.20	0.050	VI	16.4(26.3)
DMG	37.8000	122.1500	10/22/1952	04551.0	0.0	4.00	0.044	VI	16.8(27.1)
T-A	37.7500	122.1700	05/18/1893	18 3 0.0	0.0	4.30	0.052	VI	16.9(27.2)
T-A	37.7500	122.1700	10/05/1888	124130.0	0.0	4.30	0.052	VI	16.9(27.2)
DMG	37.7500	122.1800	10/13/1952	034 9.0	0.0	4.20	0.048	VI	17.5(28.1)
GSB	37.4580	121.8000	12/29/1986	152804.9	6.0	4.50	0.056	VI	17.6(28.3)
GSB	37.8030	122.1750	05/11/1987	064547.5	4.0	4.30	0.049	VI	18.2(29.2)
GSB	37.4830	121.6900	03/31/1986	115540.0	8.0	5.70	0.102	VII	18.2(29.3)
MGI	37.8300	122.1700	08/02/1929	10 2 0.0	0.0	4.00	0.041	V	18.7(30.1)
GSB	37.8970	122.1110	03/02/2007	044000.8	16.0	4.20	0.045	VI	18.8(30.2)
GSB	37.8040	122.1930	07/20/2007	114222.4	5.0	4.20	0.045	VI	19.1(30.8)
GSG	37.4350	121.7790	10/31/2007	225424.5	8.0	4.00	0.040	V	19.4(31.2)
DMG	37.8000	122.2000	06/10/1836	1530 0.0	0.0	6.80	0.175	VIII	19.4(31.2)
MGI	37.8000	122.2000	05/29/1946	558 0.0	0.0	4.30	0.047	VI	19.4(31.2)
DMG	37.8000	122.2000	03/08/1937	1031 0.0	0.0	4.50	0.052	VI	19.4(31.2)
MGI	37.8000	122.2000	04/19/1902	16 9 0.0	0.0	4.60	0.055	VI	19.4(31.2)
DMG	37.8000	122.2000	07/31/1889	1247 0.0	0.0	5.20	0.075	VII	19.4(31.2)
GSB	37.4340	121.7740	10/31/2007	030454.8	10.0	5.50	0.088	VII	19.5(31.4)
DMG	37.9700	122.0000	05/31/1958	22 711.0	0.0	4.10	0.042	VI	19.6(31.5)
GSB	37.4550	121.7000	02/28/1987	162428.3	6.0	4.00	0.040	V	19.6(31.6)
GSB	37.4220	121.7950	04/03/1989	174634.4	9.0	4.70	0.056	VI	20.1(32.3)
DMG	38.0000	121.9000	05/19/1889	1110 0.0	0.0	6.00	0.111	VII	20.3(32.7)
GSB	37.4230	121.7630	07/01/1990	003641.6	7.0	4.20	0.043	VI	20.4(32.8)
DMG	37.9700	122.0500	10/24/1955	41044.0	0.0	5.40	0.079	VII	20.8(33.4)
DMG	38.0100	121.8200	09/10/1965	212834.3	16.0	4.90	0.060	VI	21.0(33.9)
DMG	37.4200	122.0000	02/11/1930	2121 0.0	0.0	4.00	0.037	V	21.2(34.1)
GSB	37.4270	121.7000	04/20/1991	194153.4	5.0	4.20	0.041	V	21.3(34.4)
GSB	37.4030	121.7880	07/09/1989	133844.5	5.0	4.00	0.037	V	21.4(34.5)
DMG	37.4300	121.6800	10/26/1943	45033.0	12.0	4.90	0.059	VI	21.7(34.8)
GSB	37.8420	122.2240	09/05/2003	013953.7	11.0	4.00	0.037	V	21.7(34.9)
BRK	37.9000	122.1800	01/08/1977	85813.0	0.0	4.00	0.037	V	21.7(35.0)
BRK	37.9000	122.1800	01/08/1977	938 7.0	0.0	4.30	0.043	VI	21.7(35.0)
GSB	37.8770	122.2030	03/29/1986	162404.2	9.0	4.00	0.036	V	21.8(35.2)
GSB	37.8367	122.2322	08/17/2015	134917.3	4.7	4.01	0.037	V	21.9(35.3)
MGI	38.0200	121.9700	10/27/1955	193332.0	0.0	4.30	0.042	VI	22.3(35.9)
DMG	37.8300	122.2500	10/08/1915	526 0.0	0.0	4.50	0.046	VI	22.7(36.5)
GSB	38.0370	121.8620	06/22/1989	011325.2	16.0	4.30	0.041	V	22.8(36.6)
GSB	37.3850	121.7720	06/13/1988	014536.8	7.0	5.40	0.074	VII	22.8(36.7)
MGI	37.8500	122.2500	09/10/1935	2355 0.0	0.0	5.00	0.059	VI	23.2(37.3)
DMG	37.5000	122.2000	12/19/1863	2238 0.0	0.0	4.80	0.053	VI	23.3(37.4)
GSB	37.8552	122.2568	01/04/2018	103937.7	12.3	4.38	0.042	VI	23.7(38.1)
DMG	37.3700	121.7800	09/05/1955	2 118.0	0.0	5.50	0.075	VII	23.7(38.2)
GSB	37.3730	121.7570	11/10/1988	050803.0	7.0	4.80	0.052	VI	23.8(38.3)
BRK	37.3800	121.7200	01/15/1981	124751.0	0.0	4.80	0.052	VI	23.9(38.5)
DMG	37.3800	121.6800	09/18/1941	733 0.0	0.0	4.00	0.033	V	24.8(39.8)
GSG	37.3590	121.7240	05/21/1996	205020.2	7.0	4.70	0.047	VI	25.3(40.6)
BRK	37.3600	121.7200	08/29/1978	01446.0	0.0	4.10	0.034	V	25.3(40.6)
T-A	37.5000	122.2500	09/14/1850	0 0 0.0	0.0	4.30	0.038	V	25.5(41.0)
T-A	37.4200	122.1700	02/00/1888	12 0 0.0	0.0	4.30	0.037	V	25.9(41.7)
MGI	37.3300	121.8200	09/02/1927	0 0 0.0	0.0	4.60	0.044	VI	26.2(42.1)
T-A	38.0000	122.1700	09/24/1860	5 0 0.0	0.0	4.30	0.037	V	26.2(42.1)

EARTHQUAKE SEARCH RESULTS

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FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
T-A	37.3300	121.9200	04/04/1859	21 0 0.0	0.0	4.30	0.037	V	26.2(42.2)
T-A	37.3300	121.9200	08/11/1859	530 0.0	0.0	4.30	0.037	V	26.2(42.2)
DMG	37.3300	121.9200	06/10/1931	1220 0.0	0.0	4.00	0.032	V	26.2(42.2)
MGI	37.3300	121.9200	09/09/1920	1647 0.0	0.0	4.00	0.032	V	26.2(42.2)
T-A	37.3300	121.9200	08/30/1873	0 0 0.0	0.0	4.30	0.037	V	26.2(42.2)
T-A	37.3300	121.9200	07/23/1885	2025 0.0	0.0	4.30	0.037	V	26.2(42.2)
GSB	37.3400	121.7320	09/26/1984	204606.2	6.0	4.40	0.039	V	26.4(42.5)
DMG	37.3300	121.7500	10/26/1917	920 0.0	0.0	4.00	0.031	V	26.8(43.1)
USG	37.3380	121.6970	09/26/1984	2046 6.0	9.5	4.50	0.040	V	27.1(43.6)
MGI	37.9000	122.3000	12/14/1901	161358.0	0.0	4.00	0.031	V	27.2(43.8)
MGI	37.9000	122.3000	09/20/1900	755 0.0	0.0	4.00	0.031	V	27.2(43.8)
DMG	37.9000	122.3000	04/02/1870	1948 0.0	0.0	5.30	0.061	VI	27.2(43.8)
DMG	37.9000	122.3000	12/14/1904	1510 0.0	0.0	4.00	0.031	V	27.2(43.8)
DMG	37.9000	122.3000	11/18/1888	2228 0.0	0.0	4.30	0.036	V	27.2(43.8)
GSB	37.9170	122.2890	06/26/1994	084250.2	7.0	4.20	0.034	V	27.3(43.9)
GSB	37.3330	121.6990	02/25/2001	231822.5	7.0	4.50	0.040	V	27.4(44.1)
GSB	37.3230	121.7250	02/08/1988	140915.3	6.0	4.00	0.030	V	27.6(44.4)
DMG	37.5000	122.3000	02/15/1856	1325 0.0	0.0	5.50	0.067	VI	27.8(44.7)
DMG	37.3300	121.6800	06/22/1949	18 846.0	7.0	4.10	0.032	V	27.9(45.0)
T-A	37.3300	121.6700	06/28/1891	11 3 0.0	0.0	4.30	0.035	V	28.1(45.3)
T-A	37.3300	121.6700	02/05/1892	1428 0.0	0.0	4.30	0.035	V	28.1(45.3)
DMG	37.3300	121.6700	04/03/1924	2354 0.0	0.0	4.50	0.039	V	28.1(45.3)
T-A	37.3300	121.6700	10/12/1887	855 0.0	0.0	4.30	0.035	V	28.1(45.3)
T-A	37.3300	121.6700	03/08/1912	948 0.0	0.0	4.30	0.035	V	28.1(45.3)
T-A	37.3300	121.6700	01/15/1890	13 5 0.0	0.0	4.30	0.035	V	28.1(45.3)
T-A	37.3300	121.6700	11/04/1888	1136 0.0	0.0	4.30	0.035	V	28.1(45.3)
MGI	37.3000	121.9000	05/28/1927	1739 0.0	0.0	5.00	0.051	VI	28.2(45.4)
DMG	37.3000	121.9000	10/08/1865	2046 0.0	0.0	6.30	0.101	VII	28.2(45.4)
MGI	37.3000	121.9000	04/04/1905	1023 0.0	0.0	4.00	0.030	V	28.2(45.4)
DMG	37.3000	121.9000	04/21/1904	1150 0.0	0.0	4.00	0.030	V	28.2(45.4)
GSB	37.3200	121.6980	04/24/1984	211519.0	8.0	6.20	0.095	VII	28.3(45.5)
DMG	37.3000	121.8000	01/02/1891	20 0 0.0	0.0	5.50	0.066	VI	28.3(45.6)
DMG	37.3000	121.8000	08/03/1903	649 0.0	0.0	5.50	0.066	VI	28.3(45.6)
DMG	38.1000	121.7000	02/14/1909	1555 0.0	0.0	4.50	0.039	V	28.6(46.0)
GSB	37.9270	122.3100	03/05/2012	133320.5	8.0	4.00	0.030	V	28.6(46.1)
MGI	37.5000	122.3200	02/10/1925	9 5 0.0	0.0	4.00	0.030	V	28.7(46.2)
MGI	37.3000	121.7500	03/11/1936	1356 0.0	0.0	4.30	0.035	V	28.8(46.4)
GSG	37.3130	121.6750	08/11/1993	223304.0	9.0	4.80	0.045	VI	29.1(46.9)
GSB	37.3135	121.6720	10/10/2017	005318.3	9.7	4.09	0.031	V	29.2(46.9)
DMG	37.5000	122.3300	10/01/1915	1526 0.0	0.0	4.00	0.029	V	29.2(47.0)
GSB	37.3950	121.4870	02/05/2005	184330.4	7.0	4.10	0.030	V	29.9(48.1)
BRK	37.3000	121.6800	05/08/1979	511 7.0	0.0	4.80	0.044	VI	29.9(48.1)
MGI	37.8000	122.4000	10/05/1859	2016 0.0	0.0	5.00	0.049	VI	29.9(48.1)
MGI	37.8000	122.4000	08/11/1902	1410 0.0	0.0	4.00	0.029	V	29.9(48.1)
MGI	37.8000	122.4000	05/15/1851	1610 0.0	0.0	5.00	0.049	VI	29.9(48.1)
DMG	37.3000	121.6700	06/10/1949	3 640.0	0.0	4.60	0.039	V	30.1(48.4)
DMG	37.6000	122.4000	06/01/1838	0 0 0.0	0.0	7.00	0.138	VIII	30.2(48.6)
GSB	37.2880	121.6970	08/17/1990	022617.2	5.0	4.00	0.028	V	30.4(48.9)
DMG	37.2700	121.8000	08/27/1945	913 4.0	0.0	4.50	0.037	V	30.4(48.9)
DMG	37.6700	122.4200	10/25/1913	945 0.0	0.0	4.00	0.028	V	30.4(49.0)
GSB	37.2950	121.6670	09/03/1986	043114.8	10.0	4.20	0.031	V	30.5(49.0)
GSB	37.2870	121.6900	12/30/1988	235424.4	7.0	4.30	0.033	V	30.6(49.2)
DMG	37.3300	122.1700	09/12/1912	1727 0.0	0.0	4.50	0.036	V	30.9(49.8)

EARTHQUAKE SEARCH RESULTS

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FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSB	37.2870	121.6680	05/03/1984	130711.8	10.0	4.40	0.034	V	31.0(49.8)
GSB	37.2870	121.6580	01/08/2011	001016.7	10.0	4.10	0.029	V	31.1(50.1)
DMG	37.2700	121.7200	03/24/1959	22113.0	0.0	4.10	0.029	V	31.2(50.2)
DMG	37.3500	122.2200	10/31/1957	1947 6.0	0.0	4.10	0.029	V	31.4(50.5)
GSB	37.2770	121.6700	04/27/1984	164834.1	10.0	4.00	0.028	V	31.6(50.8)
DMG	37.5800	122.4200	01/24/1914	333 0.0	0.0	4.00	0.027	V	31.6(50.8)
DMG	37.5800	122.4200	01/05/1931	943 0.0	0.0	4.00	0.027	V	31.6(50.8)
MGI	37.3000	121.6000	12/11/1901	2158 0.0	0.0	4.00	0.027	V	31.6(50.9)
MGI	37.3000	121.6000	08/27/1904	205847.0	0.0	4.60	0.038	V	31.6(50.9)
T-A	38.0000	122.3200	03/22/1864	21 0 0.0	0.0	4.30	0.032	V	32.0(51.5)
MGI	38.0000	122.3200	09/04/1919	2016 0.0	0.0	4.60	0.037	V	32.0(51.5)
DMG	37.2500	121.7500	07/01/1911	22 0 0.0	0.0	6.60	0.107	VII	32.2(51.8)
GSB	37.2850	121.6150	03/30/2009	174029.3	7.0	4.30	0.032	V	32.2(51.8)
DMG	37.6500	122.4500	03/22/1957	231435.0	0.0	4.40	0.033	V	32.2(51.8)
DMG	37.2500	122.0000	07/19/1925	1924 0.0	24.0	4.00	0.027	V	32.4(52.2)
BRK	37.6500	122.4600	04/28/1979	04444.0	0.0	4.40	0.033	V	32.8(52.7)
GSB	37.2580	121.6620	11/11/1991	095643.4	4.0	4.10	0.028	V	32.9(53.0)
DMG	37.4000	121.4000	04/10/1881	10 0 0.0	0.0	5.90	0.072	VI	33.1(53.3)
DMG	37.2500	121.6700	07/09/1958	52340.0	0.0	4.10	0.028	V	33.3(53.6)
GSB	37.2680	121.6100	06/05/1984	165620.8	6.0	4.20	0.029	V	33.4(53.7)
DMG	37.2500	122.0800	06/14/1932	94417.0	0.0	4.50	0.034	V	33.7(54.2)
DMG	37.6700	122.4800	03/22/1957	194421.0	8.5	5.30	0.052	VI	33.7(54.2)
DMG	37.2260	121.9750	11/12/1973	181713.3	12.9	4.01	0.026	V	33.8(54.3)
DMG	37.6500	122.4800	03/23/1957	02655.0	0.0	4.00	0.026	V	33.8(54.5)
DMG	37.5000	121.3000	07/15/1866	630 0.0	0.0	5.80	0.067	VI	34.1(54.8)
GSB	37.2270	122.0370	11/07/1989	234237.7	11.0	4.30	0.030	V	34.5(55.5)
DMG	37.7000	122.5000	04/18/1906	131221.0	0.0	8.25	0.240	IX	34.7(55.8)
MGI	37.7000	122.5000	05/17/1906	818 0.0	0.0	4.60	0.035	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	2235 0.0	0.0	4.60	0.035	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	19 0 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	23 0 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	1614 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	2230 0.0	0.0	4.60	0.035	V	34.7(55.8)
DMG	37.7000	122.5000	01/01/1905	2338 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	06/05/1906	751 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/25/1906	2315 0.0	0.0	5.30	0.051	VI	34.7(55.8)
MGI	37.7000	122.5000	05/15/1906	120 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/25/1906	20 0 0.0	0.0	4.00	0.026	V	34.7(55.8)
DMG	37.7000	122.5000	06/02/1899	719 0.0	0.0	5.40	0.053	VI	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	1615 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	04/18/1906	1619 0.0	0.0	4.00	0.026	V	34.7(55.8)
MGI	37.7000	122.5000	05/18/1906	421 0.0	0.0	4.60	0.035	V	34.7(55.8)
T-A	37.6700	122.5000	11/23/1852	7 0 0.0	0.0	5.70	0.063	VI	34.8(56.0)
DMG	38.2000	122.0000	05/21/1902	620 0.0	0.0	4.00	0.026	V	34.8(56.0)
T-A	37.7500	122.5000	12/11/1855	12 0 0.0	0.0	5.00	0.043	VI	34.8(56.0)
T-A	37.7500	122.5000	09/29/1862	23 5 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	04/02/1869	147 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	09/13/1858	340 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	06/26/1864	453 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/22/1855	345 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	11/13/1851	3 0 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/22/1854	330 0.0	0.0	5.00	0.043	VI	34.8(56.0)
T-A	37.7500	122.5000	06/27/1882	1322 0.0	0.0	4.30	0.030	V	34.8(56.0)

EARTHQUAKE SEARCH RESULTS

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
T-A	37.7500	122.5000	03/18/1863	10 0 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	12/01/1859	850 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/20/1857	230 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	04/26/1865	2355 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	03/28/1888	941 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	02/06/1857	255 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/10/1883	9 5 0.0	0.0	4.30	0.030	V	34.8(56.0)
MGI	37.7500	122.5000	05/23/1929	2317 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/20/1857	915 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	10/26/1854	0 0 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	03/26/1884	117 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	02/26/1864	840 0.0	0.0	5.00	0.043	VI	34.8(56.0)
T-A	37.7500	122.5000	07/05/1857	15 0 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	07/01/1890	833 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	04/17/1860	330 0.0	0.0	4.30	0.030	V	34.8(56.0)
T-A	37.7500	122.5000	09/22/1859	0 0 0.0	0.0	4.30	0.030	V	34.8(56.0)
MGI	37.8000	122.5000	06/21/1808	0 0 0.0	0.0	6.30	0.085	VII	35.3(56.7)
MGI	37.8000	122.5000	12/03/1905	1930 0.0	0.0	4.00	0.025	V	35.3(56.7)
DMG	37.4200	121.3300	07/29/1954	85136.0	0.0	4.20	0.028	V	35.4(56.9)
DMG	38.0000	122.4000	06/30/1893	1330 0.0	0.0	4.60	0.034	V	35.5(57.1)
GSB	37.5140	121.2620	09/07/1994	190959.9	3.0	4.10	0.026	V	35.6(57.2)
DMG	37.7000	122.5200	03/23/1957	81348.0	0.0	4.20	0.028	V	35.8(57.6)
DMG	37.2300	121.6100	09/28/1967	153836.1	0.0	4.90	0.040	V	35.8(57.6)
MGI	37.2000	122.0000	01/03/1935	1736 0.0	0.0	4.30	0.029	V	35.8(57.6)
MGI	37.2000	122.0000	12/30/1934	1355 0.0	0.0	4.30	0.029	V	35.8(57.6)
GSB	37.2080	122.0450	12/02/1989	200200.8	11.0	4.00	0.025	V	35.9(57.7)
GSB	37.1930	122.0170	10/18/1989	045027.7	14.0	4.30	0.029	V	36.5(58.7)
DMG	37.1800	121.8000	04/10/1954	221653.0	0.0	4.10	0.026	V	36.6(58.9)
DMG	37.2000	122.1000	02/17/1870	2012 0.0	0.0	5.80	0.062	VI	37.3(60.1)
GSB	37.1980	122.1050	10/18/1989	004124.7	19.0	5.10	0.043	VI	37.5(60.4)
DMG	37.5000	122.5000	01/02/1856	1815 0.0	0.0	5.30	0.048	VI	37.6(60.5)
DMG	37.1700	122.0000	11/09/1914	231 0.0	0.0	5.50	0.053	VI	37.8(60.9)
GSB	37.1830	122.0800	10/20/1989	081254.2	16.0	4.00	0.024	IV	38.1(61.3)
GSB	37.1630	121.9950	10/18/1989	032357.0	22.0	4.00	0.024	IV	38.2(61.6)
DMG	37.7000	122.5700	12/11/1958	95227.0	0.0	4.70	0.034	V	38.5(62.0)
DMG	37.6100	122.5600	08/04/1963	1735 3.6	0.0	4.00	0.024	IV	38.6(62.1)
DMG	37.2700	122.3100	05/22/1963	2241 4.8	0.0	4.60	0.032	V	38.8(62.4)
GSB	37.1500	121.9730	08/08/1989	155328.4	15.0	4.80	0.036	V	38.9(62.6)
GSB	37.1350	121.9450	08/08/1989	084410.0	13.0	4.50	0.030	V	39.8(64.0)
GSB	37.1500	122.0530	10/18/1989	003828.8	20.0	4.30	0.027	V	39.8(64.1)
GSB	37.1300	121.8780	06/27/1988	184322.3	13.0	5.70	0.056	VI	39.9(64.1)
GSB	37.1300	121.9520	08/08/1989	081327.5	15.0	5.30	0.045	VI	40.1(64.6)
DMG	37.2000	121.5000	07/06/1899	2010 0.0	0.0	5.80	0.059	VI	40.3(64.9)
DMG	37.1700	122.1700	12/28/1914	1042 0.0	0.0	4.50	0.029	V	40.7(65.5)
GSB	37.1230	121.9630	10/18/1989	003041.4	5.0	4.20	0.025	V	40.7(65.5)
DMG	38.3000	121.9000	05/19/1902	1831 0.0	0.0	5.50	0.050	VI	41.0(65.9)
MGI	37.9200	122.5700	01/07/1926	553 0.0	0.0	4.00	0.022	IV	41.2(66.2)
GSB	37.1500	121.5820	01/19/1987	080904.4	7.0	4.30	0.026	V	41.5(66.8)
DMG	37.1700	121.5200	11/08/1945	20 917.0	0.0	4.20	0.025	V	41.6(67.0)
BRK	37.1000	121.8700	04/25/1981	194137.0	0.0	4.10	0.023	IV	41.9(67.5)
DMG	37.1000	121.9000	08/08/1916	1650 0.0	0.0	4.00	0.022	IV	42.0(67.5)
DMG	37.1000	121.9000	04/15/1889	328 0.0	0.0	4.80	0.034	V	42.0(67.5)
DMG	37.1000	121.8000	05/24/1865	1121 0.0	0.0	5.50	0.049	VI	42.1(67.7)

EARTHQUAKE SEARCH RESULTS

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FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	37.1000	121.8000	09/17/1888	1151 0.0	0.0	4.50	0.029	V	42.1(67.7)
MGI	37.9000	122.6000	09/18/1902	1151 0.0	0.0	4.60	0.030	V	42.2(68.0)
GSB	37.1380	121.5700	04/26/1984	062951.9	5.0	4.00	0.022	IV	42.5(68.4)
GSB	37.0930	121.9420	10/20/1989	001820.8	12.0	4.30	0.026	V	42.6(68.6)
GSB	38.2152	122.3123	08/24/2014	102044.1	11.1	6.02	0.063	VI	42.7(68.7)
DMG	37.1000	121.7000	02/26/1864	1347 0.0	0.0	5.90	0.059	VI	42.9(69.0)
DMG	37.1300	121.5700	01/29/1959	164123.0	0.0	4.30	0.025	V	43.0(69.2)
DMG	37.0800	121.8300	11/25/1919	11 3 0.0	0.0	4.50	0.028	V	43.4(69.8)
GSB	37.0780	121.8320	10/25/1989	012726.6	14.0	5.00	0.036	V	43.5(70.0)
GSB	37.0920	122.0420	12/29/1998	123812.4	10.0	4.00	0.021	IV	43.6(70.1)
GSB	37.0770	121.9250	11/05/1989	013042.4	15.0	4.20	0.024	IV	43.6(70.2)
DMG	37.0800	121.7500	05/28/1941	62318.0	0.0	4.50	0.028	V	43.8(70.4)
DMG	38.1000	122.5000	08/27/1855	11 0 0.0	0.0	4.90	0.034	V	44.0(70.7)
DMG	37.1000	121.6000	03/26/1866	2012 0.0	0.0	5.40	0.044	VI	44.4(71.4)
GSB	37.0620	121.9080	10/18/1989	041633.0	16.0	4.10	0.022	IV	44.6(71.8)
GSB	37.0600	121.8130	10/30/1989	111713.7	13.0	4.10	0.022	IV	44.8(72.1)
DMG	38.2000	122.4000	03/31/1898	743 0.0	0.0	6.20	0.067	VI	44.8(72.1)
GSB	37.1220	121.5120	06/20/1988	152638.2	7.0	4.20	0.023	IV	44.8(72.1)
GSB	37.0580	121.9150	11/05/1989	133734.3	15.0	4.50	0.027	V	44.9(72.3)
MGI	38.2500	122.3200	01/20/1919	925 0.0	0.0	4.00	0.021	IV	44.9(72.3)
T-A	38.2500	122.3200	10/14/1891	1230 0.0	0.0	4.30	0.025	V	44.9(72.3)
T-A	38.2500	122.3200	05/21/1864	257 0.0	0.0	4.30	0.025	V	44.9(72.3)
T-A	38.2500	122.3200	03/08/1865	730 0.0	0.0	4.30	0.025	V	44.9(72.3)
GSB	37.0570	121.9050	10/21/1989	221457.0	13.0	4.90	0.034	V	44.9(72.3)
GSB	37.0570	121.7970	11/02/1989	055011.0	12.0	4.90	0.034	V	45.1(72.5)
GSB	37.0500	121.8950	10/26/1989	090129.3	14.0	4.00	0.021	IV	45.4(73.1)
GSB	37.0470	121.8770	10/21/1989	004943.7	14.0	4.60	0.028	V	45.6(73.4)
DMG	37.0600	121.6900	11/16/1964	24641.7	0.0	5.00	0.035	V	45.7(73.6)
DMG	37.1000	122.2000	03/26/1884	040 0.0	0.0	5.90	0.056	VI	45.8(73.7)
GSB	37.0430	121.8070	10/18/1989	002504.9	5.0	4.80	0.031	V	46.0(74.0)
DMG	37.0400	121.7800	09/07/1967	123917.2	0.0	4.70	0.030	V	46.3(74.5)
GSG	37.0970	121.5140	09/13/1995	203646.6	8.0	4.20	0.023	IV	46.3(74.5)
GSB	37.0360	121.8830	10/18/1989	000415.2	18.5	7.00	0.099	VII	46.4(74.6)
BRK	37.1000	121.5000	08/06/1979	17 522.0	0.0	5.80	0.053	VI	46.5(74.8)
GSB	37.1020	121.4920	06/15/2006	122451.1	3.0	4.30	0.024	IV	46.5(74.9)
GSB	37.9070	122.6860	08/18/1999	010619.0	7.0	4.50	0.026	V	46.9(75.4)
DMG	37.0300	121.9700	04/14/1941	161654.0	0.0	4.00	0.020	IV	47.1(75.8)
GSB	37.0280	121.7800	10/18/1989	022606.7	12.0	4.20	0.022	IV	47.1(75.8)
T-A	38.2500	121.3200	08/04/1850	0 0 0.0	0.0	4.30	0.023	IV	47.8(76.9)
DMG	37.0200	121.7500	03/21/1968	2155 0.3	0.0	4.30	0.023	IV	47.9(77.0)
GSB	37.0150	121.8030	10/18/1989	102204.8	7.0	4.40	0.025	V	47.9(77.1)
DMG	38.4000	121.8000	04/30/1892	0 9 0.0	0.0	5.50	0.044	VI	48.0(77.2)
BRK	37.0200	121.7300	08/18/1982	84349.0	0.0	4.50	0.026	V	48.0(77.3)
DMG	38.4000	122.0000	04/19/1892	1050 0.0	0.0	6.40	0.070	VI	48.4(77.9)
DMG	37.0000	121.8300	09/19/1923	2254 0.0	0.0	4.00	0.020	IV	48.9(78.6)
MGI	37.0000	121.8000	01/09/1937	047 0.0	0.0	4.30	0.023	IV	49.0(78.8)
DMG	37.0000	121.7800	12/18/1967	172432.0	0.0	5.30	0.039	V	49.1(78.9)
DMG	37.0000	121.7700	06/22/1947	2330 0.0	0.0	4.70	0.028	V	49.1(79.0)
GSB	38.3780	122.1660	05/08/2005	084355.3	9.0	4.10	0.021	IV	49.1(79.0)
MGI	37.0000	122.0000	07/17/1933	032 0.0	0.0	4.30	0.023	IV	49.4(79.5)
T-A	37.0000	122.0000	11/17/1868	2130 0.0	0.0	4.30	0.023	IV	49.4(79.5)
T-A	37.0000	122.0000	09/02/1893	716 0.0	0.0	4.30	0.023	IV	49.4(79.5)
MGI	37.0000	122.0000	11/03/1916	9 3 0.0	0.0	4.00	0.019	IV	49.4(79.5)

EARTHQUAKE SEARCH RESULTS

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FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
T-A	37.0000	122.0000	09/03/1858	840 0.0	0.0	4.30	0.023	IV	49.4(79.5)
DMG	37.0000	122.0000	04/23/1934	16 8 0.0	0.0	4.00	0.019	IV	49.4(79.5)
DMG	37.0000	122.0000	11/12/1937	250 0.0	0.0	4.00	0.019	IV	49.4(79.5)
T-A	37.0000	122.0000	06/30/1890	2030 0.0	0.0	5.00	0.033	V	49.4(79.5)
MGI	37.0000	122.0000	12/11/1919	2327 0.0	0.0	4.00	0.019	IV	49.4(79.5)
T-A	37.0000	122.0000	12/28/1885	1130 0.0	0.0	4.30	0.023	IV	49.4(79.5)
DMG	37.0000	122.0000	02/12/1938	20 014.0	0.0	4.50	0.025	V	49.4(79.5)
T-A	37.0000	122.0000	04/03/1860	4 0 0.0	0.0	4.30	0.023	IV	49.4(79.5)
T-A	37.0000	122.0000	08/31/1868	0 0 0.0	0.0	4.30	0.023	IV	49.4(79.5)
GSB	36.9950	121.7630	10/18/1989	021549.9	4.0	4.50	0.025	V	49.5(79.6)
GSB	36.9900	121.8080	10/19/1989	035500.7	19.0	4.00	0.019	IV	49.6(79.9)
GSB	36.9920	121.7320	01/11/1994	105351.4	12.0	4.30	0.023	IV	49.9(80.3)

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-END OF SEARCH- 330 EARTHQUAKES FOUND WITHIN THE SPECIFIED SEARCH AREA.

TIME PERIOD OF SEARCH: 1800 TO 2018

LENGTH OF SEARCH TIME: 219 years

THE EARTHQUAKE CLOSEST TO THE SITE IS ABOUT 4.8 MILES (7.8 km) AWAY.

LARGEST EARTHQUAKE MAGNITUDE FOUND IN THE SEARCH RADIUS: 8.3

LARGEST EARTHQUAKE SITE ACCELERATION FROM THIS SEARCH: 0.240 g

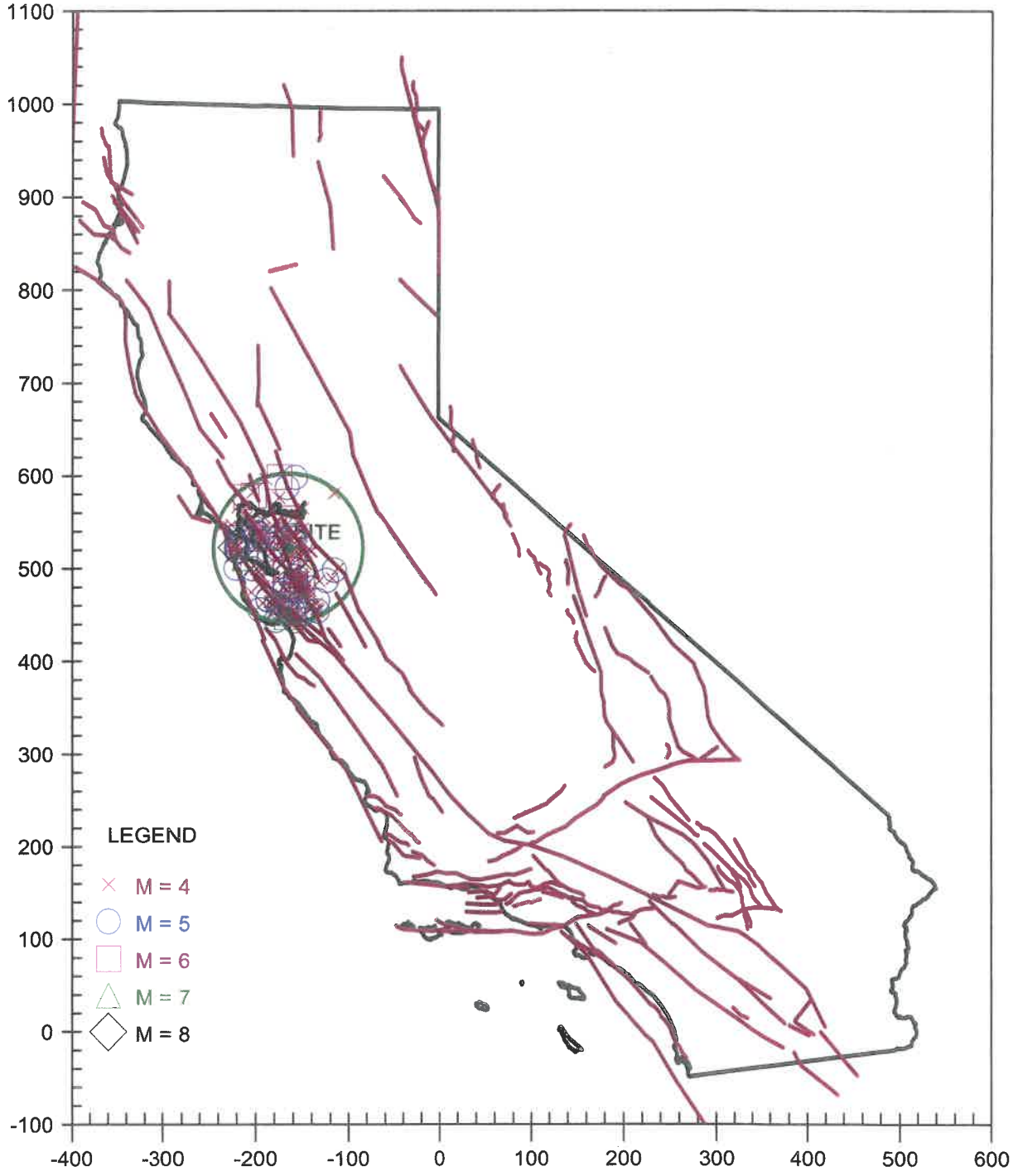
COEFFICIENTS FOR GUTENBERG & RICHTER RECURRENCE RELATION:
a-value= 2.749
b-value= 0.653
beta-value= 1.504

TABLE OF MAGNITUDES AND EXCEEDANCES:

Earthquake Magnitude	Number of Times Exceeded	Cumulative No. / Year
4.0	330	1.51376
4.5	123	0.56422
5.0	62	0.28440
5.5	37	0.16972
6.0	14	0.06422
6.5	6	0.02752
7.0	3	0.01376
7.5	1	0.00459
8.0	1	0.00459

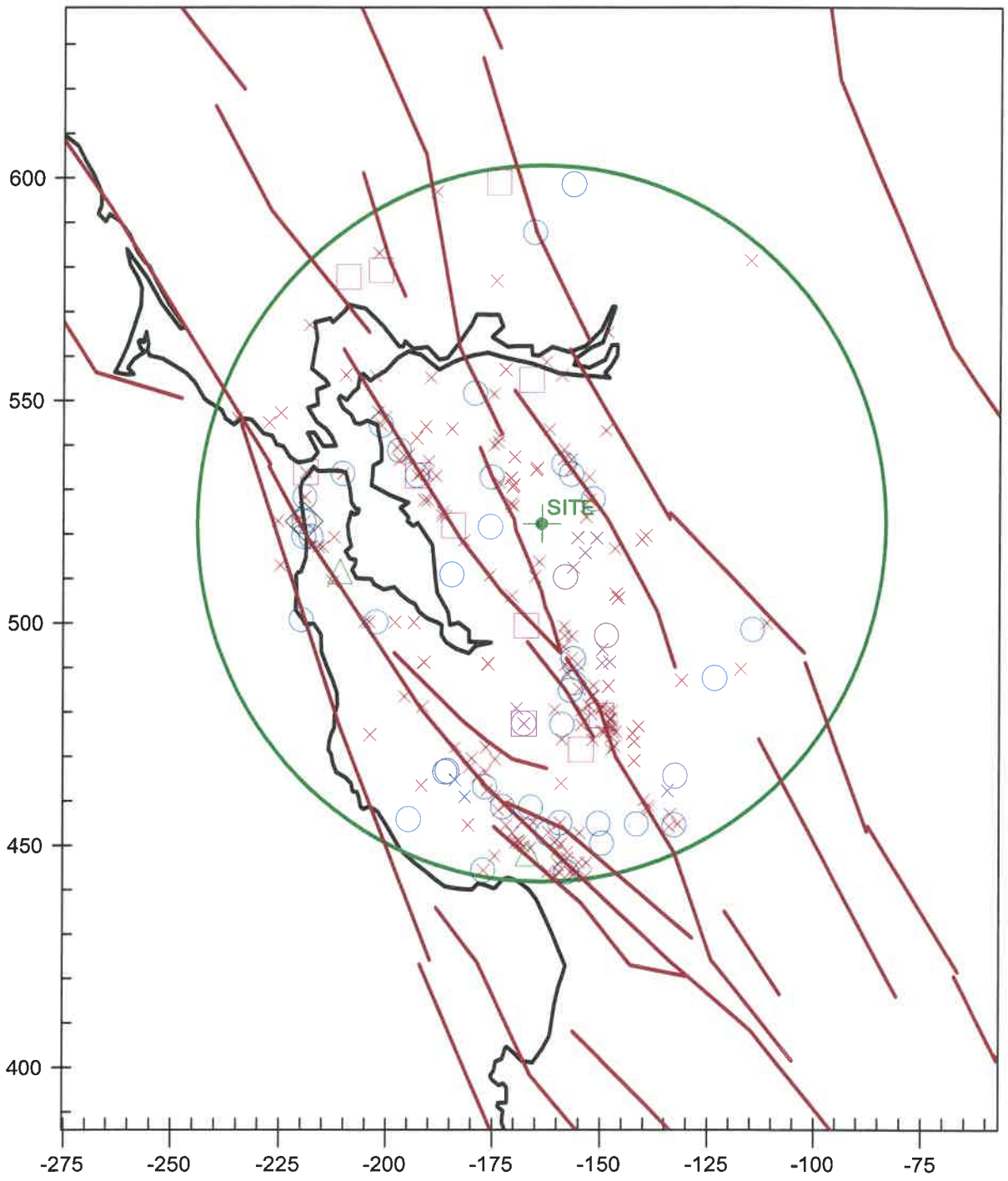
EARTHQUAKE EPICENTER MAP

04219017



EARTHQUAKE EPICENTER MAP

04219017



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*                        *
*    E Q S E A R C H     *
*                        *
*     Version 3.00       *
*                        *
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ESTIMATION OF
PEAK ACCELERATION FROM
CALIFORNIA EARTHQUAKE CATALOGS

JOB NUMBER: 04219017

DATE: 08-23-2019

JOB NAME: 04219017

EARTHQUAKE-CATALOG-FILE NAME: ALLQUAKE.DAT

MAGNITUDE RANGE:
   MINIMUM MAGNITUDE: 5.00
   MAXIMUM MAGNITUDE: 9.00

SITE COORDINATES:
   SITE LATITUDE: 37.7073
   SITE LONGITUDE: 121.8649

SEARCH DATES:
           START DATE: 1800
           END DATE: 2018

SEARCH RADIUS:
           100.0 mi
           160.9 km

ATTENUATION RELATION: 3) Boore et al. (1997) Horiz. - NEHRP D (250)
   UNCERTAINTY (M=Median, S=Sigma): M   Number of Sigmas: 0.0
   ASSUMED SOURCE TYPE: DS [SS=Strike-slip, DS=Reverse-slip, BT=Blind-thrust]
   SCOND: 0 Depth Source: A
   Basement Depth: 5.00 km   Campbell SSR: Campbell SHR:
   COMPUTE PEAK HORIZONTAL ACCELERATION

MINIMUM DEPTH VALUE (km): 0.0

EARTHQUAKE SEARCH RESULTS

Page 1

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	37.7000	122.0000	03/05/1864	1649 0.0	0.0	5.70	0.194	VIII	7.4(11.9)
BRK	37.8100	121.7900	01/24/1980	19 1 2.0	0.0	5.10	0.132	VIII	8.2(13.2)
DMG	37.6000	121.8000	06/11/1903	1312 0.0	0.0	5.50	0.163	VIII	8.2(13.2)
BRK	37.7600	121.7300	01/27/1980	23336.0	0.0	5.40	0.155	VIII	8.2(13.2)
BRK	37.8300	121.8100	01/24/1980	19 0 9.0	0.0	5.80	0.180	VIII	9.0(14.5)
DMG	37.8000	122.0000	07/04/1861	011 0.0	0.0	5.60	0.153	VIII	9.8(15.7)
DMG	37.7000	122.1000	10/21/1868	1553 0.0	0.0	6.80	0.237	IX	12.8(20.7)
DMG	37.5000	121.9000	11/26/1858	835 0.0	0.0	6.10	0.150	VIII	14.4(23.2)
DMG	37.6000	122.1000	05/21/1864	2 1 0.0	0.0	5.30	0.097	VII	14.8(23.9)
GSB	37.4830	121.6900	03/31/1986	115540.0	8.0	5.70	0.102	VII	18.2(29.3)
DMG	37.8000	122.2000	07/31/1889	1247 0.0	0.0	5.20	0.075	VII	19.4(31.2)
DMG	37.8000	122.2000	06/10/1836	1530 0.0	0.0	6.80	0.175	VIII	19.4(31.2)
GSB	37.4340	121.7740	10/31/2007	030454.8	10.0	5.50	0.088	VII	19.5(31.4)
DMG	38.0000	121.9000	05/19/1889	1110 0.0	0.0	6.00	0.111	VII	20.3(32.7)
DMG	37.9700	122.0500	10/24/1955	41044.0	0.0	5.40	0.079	VII	20.8(33.4)
GSB	37.3850	121.7720	06/13/1988	014536.8	7.0	5.40	0.074	VII	22.8(36.7)
MGI	37.8500	122.2500	09/10/1935	2355 0.0	0.0	5.00	0.059	VI	23.2(37.3)
DMG	37.3700	121.7800	09/05/1955	2 118.0	0.0	5.50	0.075	VII	23.7(38.2)
DMG	37.9000	122.3000	04/02/1870	1948 0.0	0.0	5.30	0.061	VI	27.2(43.8)
DMG	37.5000	122.3000	02/15/1856	1325 0.0	0.0	5.50	0.067	VI	27.8(44.7)
DMG	37.3000	121.9000	10/08/1865	2046 0.0	0.0	6.30	0.101	VII	28.2(45.4)
MGI	37.3000	121.9000	05/28/1927	1739 0.0	0.0	5.00	0.051	VI	28.2(45.4)
GSB	37.3200	121.6980	04/24/1984	211519.0	8.0	6.20	0.095	VII	28.3(45.5)
DMG	37.3000	121.8000	01/02/1891	20 0 0.0	0.0	5.50	0.066	VI	28.3(45.6)
DMG	37.3000	121.8000	08/03/1903	649 0.0	0.0	5.50	0.066	VI	28.3(45.6)
MGI	37.8000	122.4000	10/05/1859	2016 0.0	0.0	5.00	0.049	VI	29.9(48.1)
MGI	37.8000	122.4000	05/15/1851	1610 0.0	0.0	5.00	0.049	VI	29.9(48.1)
DMG	37.6000	122.4000	06/01/1838	0 0 0.0	0.0	7.00	0.138	VIII	30.2(48.6)
DMG	37.2500	121.7500	07/01/1911	22 0 0.0	0.0	6.60	0.107	VII	32.2(51.8)
DMG	37.4000	121.4000	04/10/1881	10 0 0.0	0.0	5.90	0.072	VI	33.1(53.3)
DMG	37.6700	122.4800	03/22/1957	194421.0	8.5	5.30	0.052	VI	33.7(54.2)
DMG	37.5000	121.3000	07/15/1866	630 0.0	0.0	5.80	0.067	VI	34.1(54.8)
MGI	37.7000	122.5000	04/25/1906	2315 0.0	0.0	5.30	0.051	VI	34.7(55.8)
DMG	37.7000	122.5000	06/02/1899	719 0.0	0.0	5.40	0.053	VI	34.7(55.8)
DMG	37.7000	122.5000	04/18/1906	131221.0	0.0	8.25	0.240	IX	34.7(55.8)
T-A	37.6700	122.5000	11/23/1852	7 0 0.0	0.0	5.70	0.063	VI	34.8(56.0)
T-A	37.7500	122.5000	02/26/1864	840 0.0	0.0	5.00	0.043	VI	34.8(56.0)
T-A	37.7500	122.5000	10/22/1854	330 0.0	0.0	5.00	0.043	VI	34.8(56.0)
T-A	37.7500	122.5000	12/11/1855	12 0 0.0	0.0	5.00	0.043	VI	34.8(56.0)
MGI	37.8000	122.5000	06/21/1808	0 0 0.0	0.0	6.30	0.085	VII	35.3(56.7)
DMG	37.2000	122.1000	02/17/1870	2012 0.0	0.0	5.80	0.062	VI	37.3(60.1)
GSB	37.1980	122.1050	10/18/1989	004124.7	19.0	5.10	0.043	VI	37.5(60.4)
DMG	37.5000	122.5000	01/02/1856	1815 0.0	0.0	5.30	0.048	VI	37.6(60.5)
DMG	37.1700	122.0000	11/09/1914	231 0.0	0.0	5.50	0.053	VI	37.8(60.9)
GSB	37.1300	121.8780	06/27/1988	184322.3	13.0	5.70	0.056	VI	39.9(64.1)
GSB	37.1300	121.9520	08/08/1989	081327.5	15.0	5.30	0.045	VI	40.1(64.6)
DMG	37.2000	121.5000	07/06/1899	2010 0.0	0.0	5.80	0.059	VI	40.3(64.9)
DMG	38.3000	121.9000	05/19/1902	1831 0.0	0.0	5.50	0.050	VI	41.0(65.9)
DMG	37.1000	121.8000	05/24/1865	1121 0.0	0.0	5.50	0.049	VI	42.1(67.7)
GSB	38.2152	122.3123	08/24/2014	102044.1	11.1	6.02	0.063	VI	42.7(68.7)
DMG	37.1000	121.7000	02/26/1864	1347 0.0	0.0	5.90	0.059	VI	42.9(69.0)
GSB	37.0780	121.8320	10/25/1989	012726.6	14.0	5.00	0.036	V	43.5(70.0)
DMG	37.1000	121.6000	03/26/1866	2012 0.0	0.0	5.40	0.044	VI	44.4(71.4)

EARTHQUAKE SEARCH RESULTS

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	38.2000	122.4000	03/31/1898	743 0.0	0.0	6.20	0.067	VI	44.8(72.1)
DMG	37.0600	121.6900	11/16/1964	24641.7	0.0	5.00	0.035	V	45.7(73.6)
DMG	37.1000	122.2000	03/26/1884	040 0.0	0.0	5.90	0.056	VI	45.8(73.7)
GSB	37.0360	121.8830	10/18/1989	000415.2	18.5	7.00	0.099	VII	46.4(74.6)
BRK	37.1000	121.5000	08/06/1979	17 522.0	0.0	5.80	0.053	VI	46.5(74.8)
DMG	38.4000	121.8000	04/30/1892	0 9 0.0	0.0	5.50	0.044	VI	48.0(77.2)
DMG	38.4000	122.0000	04/19/1892	1050 0.0	0.0	6.40	0.070	VI	48.4(77.9)
DMG	37.0000	121.7800	12/18/1967	172432.0	0.0	5.30	0.039	V	49.1(78.9)
T-A	37.0000	122.0000	06/30/1890	2030 0.0	0.0	5.00	0.033	V	49.4(79.5)
DMG	38.3000	122.4000	10/12/1891	628 0.0	0.0	5.50	0.042	VI	50.2(80.8)
DMG	37.0200	122.2000	10/24/1926	225149.5	0.0	5.50	0.042	VI	50.9(81.9)
MGI	37.0000	121.5700	01/09/1928	250 0.0	0.0	5.30	0.037	V	51.4(82.8)
T-A	37.0000	121.5700	03/25/1859	0 0 0.0	0.0	5.00	0.032	V	51.4(82.8)
DMG	37.0200	121.4800	03/09/1949	122839.0	0.0	5.20	0.035	V	51.9(83.6)
GSB	37.0250	121.4580	01/16/1993	062934.9	5.0	5.30	0.037	V	52.1(83.9)
DMG	36.9800	121.6000	03/02/1959	232717.0	30.0	5.30	0.037	V	52.3(84.1)
DMG	37.0000	121.5000	06/20/1897	2014 0.0	0.0	6.20	0.059	VI	52.8(84.9)
GSB	36.9320	121.6950	04/18/1990	154603.7	9.0	5.20	0.034	V	54.3(87.4)
DMG	36.9300	121.6800	04/25/1954	203328.0	0.0	5.30	0.036	V	54.6(87.9)
DMG	38.5000	121.9000	04/21/1892	1743 0.0	0.0	6.20	0.057	VI	54.8(88.1)
GSB	38.3790	122.4130	09/03/2000	083630.1	10.0	5.00	0.030	V	55.1(88.7)
GSB	36.9180	121.6700	04/18/1990	134138.8	6.0	5.00	0.030	V	55.5(89.4)
GSB	36.9170	121.6750	04/18/1990	135351.4	5.0	5.40	0.037	V	55.5(89.4)
DMG	36.9000	121.8000	03/11/1910	652 0.0	0.0	5.50	0.039	V	55.9(89.9)
DMG	36.9000	121.7000	04/30/1899	2241 0.0	0.0	5.60	0.041	V	56.5(90.9)
DMG	36.9500	122.2600	02/15/1927	2354 3.5	0.0	5.00	0.030	V	56.6(91.1)
DMG	36.9000	121.6000	03/30/1883	1545 0.0	0.0	5.60	0.040	V	57.6(92.7)
MGI	36.9000	121.6000	10/11/1800	0 0 0.0	0.0	5.70	0.042	VI	57.6(92.7)
DMG	36.9000	121.6000	04/24/1890	1136 0.0	0.0	6.00	0.050	VI	57.6(92.7)
T-A	38.2500	122.6700	08/19/1858	648 0.0	0.0	5.00	0.029	V	57.6(92.8)
DMG	36.9100	121.4800	11/28/1974	23 124.7	0.0	5.20	0.032	V	59.0(94.9)
DMG	36.8700	121.6300	09/14/1963	194617.0	0.0	5.40	0.035	V	59.2(95.3)
DMG	38.4000	122.6000	08/09/1893	915 0.0	0.0	5.10	0.029	V	62.3(100.3)
T-A	36.8300	121.5700	10/18/1800	0 0 0.0	0.0	7.00	0.079	VII	62.7(100.9)
DMG	36.8300	121.4200	12/31/1910	1211 0.0	0.0	5.00	0.027	V	65.3(105.1)
DMG	36.8000	121.5000	11/13/1892	1245 0.0	0.0	5.60	0.036	V	65.8(105.8)
DMG	36.9000	121.2000	03/06/1882	2145 0.0	0.0	5.70	0.038	V	66.6(107.2)
DMG	36.8000	121.4500	06/24/1939	13 2 0.0	0.0	5.50	0.034	V	66.7(107.3)
DMG	36.8000	121.4000	04/02/1885	1525 0.0	0.0	5.40	0.032	V	67.7(108.9)
DMG	36.7800	121.4300	01/20/1960	32553.0	0.0	5.00	0.026	V	68.3(110.0)
DMG	38.4600	122.6900	10/02/1969	61957.1	0.0	5.70	0.037	V	68.6(110.5)
T-A	38.4200	122.7500	10/13/1899	5 0 0.0	0.0	5.70	0.037	V	68.8(110.7)
DMG	38.4700	122.6900	10/02/1969	45646.5	0.0	5.60	0.035	V	69.2(111.3)
GSB	36.7550	121.4640	08/12/1998	141025.1	8.0	5.40	0.031	V	69.3(111.6)
GSB	36.8030	121.3020	02/20/1988	083957.5	9.0	5.30	0.030	V	69.7(112.1)
GSB	36.8100	121.2750	01/26/1986	192051.2	7.0	5.50	0.033	V	69.9(112.5)
T-A	38.5000	122.8200	01/03/1876	1855 0.0	0.0	5.00	0.024	IV	75.4(121.4)
DMG	36.7000	121.3000	04/09/1961	72541.0	0.0	5.50	0.031	V	76.2(122.6)
DMG	36.7000	121.3000	03/31/1885	756 0.0	0.0	5.50	0.031	V	76.2(122.6)
MGI	36.6000	122.0000	07/03/1841	22 7 0.0	0.0	5.00	0.023	IV	76.8(123.6)
DMG	36.6800	121.3000	04/09/1961	72316.0	0.0	5.60	0.032	V	77.4(124.6)
DMG	36.6700	121.2500	08/06/1916	1938 0.0	0.0	5.50	0.030	V	79.2(127.5)
T-A	36.6700	121.2500	04/01/1857	1135 0.0	0.0	5.00	0.023	IV	79.2(127.5)

EARTHQUAKE SEARCH RESULTS

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FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	36.5700	122.1700	10/22/1926	133522.0	0.0	6.10	0.040	V	80.3(129.2)
DMG	36.6100	122.3500	10/22/1926	1235 7.0	0.0	6.10	0.040	V	80.3(129.3)
MGI	38.5000	123.0000	05/02/1906	530 0.0	0.0	5.00	0.022	IV	82.5(132.7)
GSB	36.6030	121.2010	04/23/1995	084136.6	7.0	5.00	0.022	IV	84.5(136.1)
DMG	36.5780	121.2090	02/24/1972	155651.0	7.5	5.10	0.023	IV	85.9(138.3)
DMG	36.5800	121.1800	07/29/1951	105345.0	0.0	5.00	0.021	IV	86.5(139.2)
T-A	38.0000	120.2500	04/11/1872	12 0 0.0	0.0	5.00	0.021	IV	90.3(145.4)
GSB	36.3730	121.9070	01/23/1984	054019.7	7.0	5.40	0.025	V	92.2(148.3)
GSB	36.3630	121.9100	01/23/1984	065950.4	5.0	5.00	0.020	IV	92.8(149.4)
DMG	36.4500	121.2500	09/27/1938	1223 0.0	0.0	5.00	0.020	IV	93.2(150.0)
GSB	38.8222	122.8413	12/14/2016	164105.5	1.5	5.01	0.020	IV	93.4(150.3)
DMG	36.6000	120.8000	07/25/1926	175749.0	15.0	5.00	0.020	IV	96.3(155.0)
T-A	38.8300	123.0000	08/01/1885	010 0.0	0.0	5.00	0.019	IV	99.0(159.3)

****

-END OF SEARCH- 119 EARTHQUAKES FOUND WITHIN THE SPECIFIED SEARCH AREA.

TIME PERIOD OF SEARCH: 1800 TO 2018

LENGTH OF SEARCH TIME: 219 years

THE EARTHQUAKE CLOSEST TO THE SITE IS ABOUT 7.4 MILES (11.9 km) AWAY.

LARGEST EARTHQUAKE MAGNITUDE FOUND IN THE SEARCH RADIUS: 8.3

LARGEST EARTHQUAKE SITE ACCELERATION FROM THIS SEARCH: 0.240 g

COEFFICIENTS FOR GUTENBERG & RICHTER RECURRENCE RELATION:
a-value= 1.367
b-value= 0.369
beta-value= 0.850

TABLE OF MAGNITUDES AND EXCEEDANCES:

Earthquake Magnitude	Number of Times Exceeded	Cumulative No. / Year
4.0	119	0.54587
4.5	119	0.54587
5.0	119	0.54587
5.5	60	0.27523
6.0	20	0.09174
6.5	7	0.03211
7.0	4	0.01835
7.5	1	0.00459
8.0	1	0.00459

Boring: B1 Project No.: 042-19017

Liquefaction Assessment of Fine-Grained Soils								
Sample Depth	Soil Description	Soil Class. (USCS)	Passing #200 (%)	Wc/LL	Moisture Content (%)	Liquid Limit	Plasticity Index	Liquefiable
2	Sandy Clay	CL	85	0.728	21.1	29	16	N Y
5	Sandy Clay	CL	61	0.452	13.1	29	16	N Y
10	Sandy Clay	CL	87	0.547	17.5	32	15	N Y
15	Sandy Clay	CL	84	0.98	29.4	30	13	Y Y
20	Silty Sand	SM	16	--	17.1	--	--	Y
25	Sandy Clay	CL	56	0.519	16.6	32	19	N Y
30	Sandy Clay	CL	60	0.703	23.9	34	19	N Y
35	Sandy Clay	CL	62	0.904	24.4	27	14	Y Y
40	Sandy Clay	CL	77	0.815	22.0	27	14	Y Y
45	Sandy Clay	CL	79	0.500	18.5	37	25	N N

Boring: B19 Project No.: 042-19017

Liquefaction Assessment of Fine-Grained Soils								
Sample Depth	Soil Description	Soil Class. (USCS)	Passing #200 (%)	Wc/LL	Moisture Content (%)	Liquid Limit	Plasticity Index	Liquefiable
2	Silty Sandy Clay	CL	90	0.340	11.9	35	20	N N
5	Sandy Clay	CL	82	0.443	15.5	35	20	N N
10	Sandy Clay	CL	85	0.789	22.9	29	13	N Y
15	Clayey Sand/Sandy Clay	SC-CL	47	0.503	15.1	30	16	N Y
20	Silty Sand/Sandy Silt	SM/ML	45	--	19.5	--	--	Y
25	Clayey Sand	SC	32	0.403	11.7	29	16	N Y
30	Silty Sandy Clay	CL	71	0.460	16.1	35	20	N N
35	Silty Sandy Clay	CL	61	0.746	20.9	28	15	N Y
40	Silty Sandy Clay	SC-CL	59	0.625	20.0	32	18	N Y
45	Clayey Sand	SC	25	0.400	10.0	25	13	N Y

Boring: B30 Project No.: 042-19017

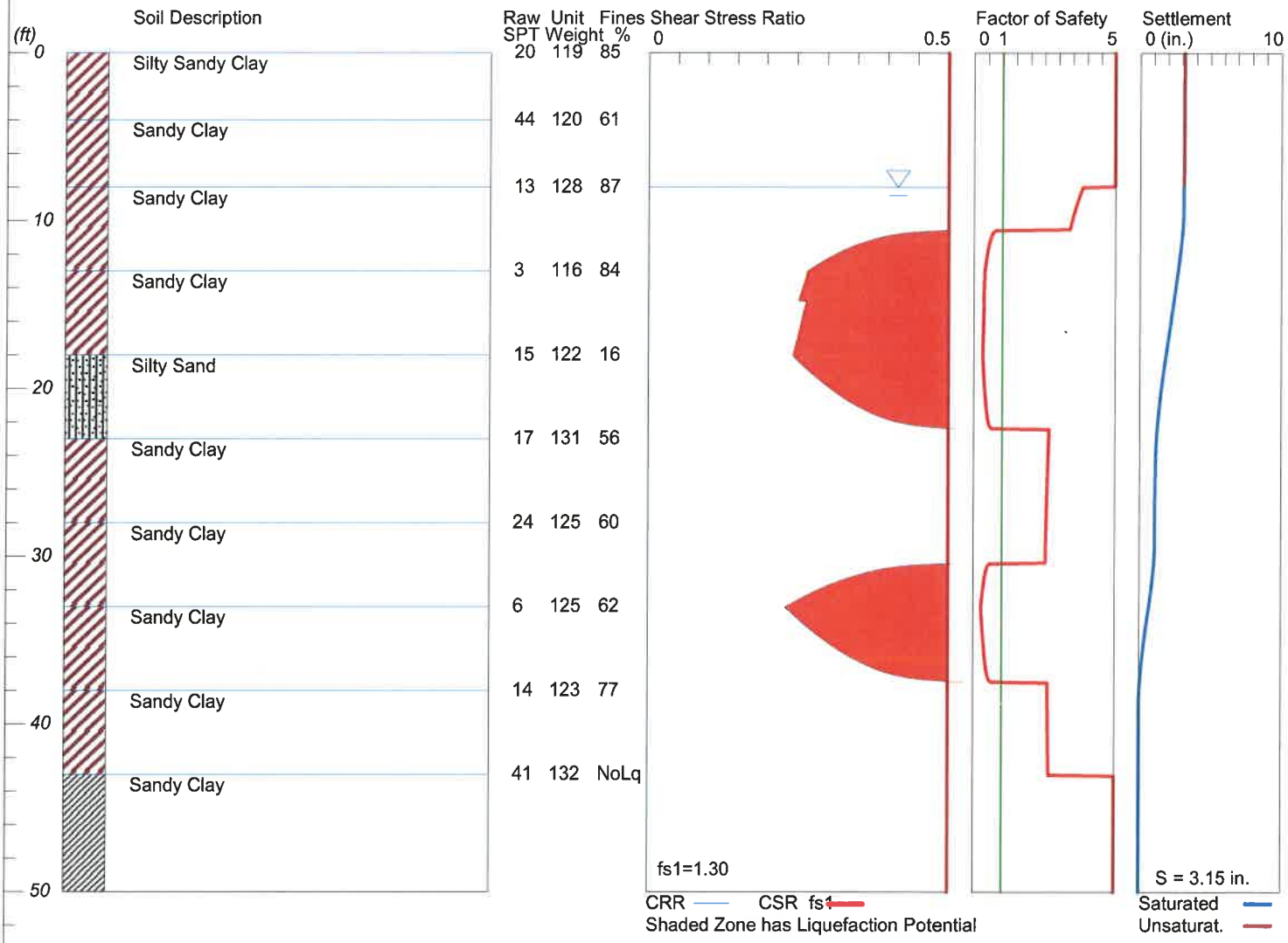
Liquefaction Assessment of Fine-Grained Soils								
Sample Depth	Soil Description	Soil Class. (USCS)	Passing #200 (%)	Wc/LL	Moisture Content (%)	Liquid Limit	Plasticity Index	Liquefiable
2	Sandy Clay	CL	85	0.378	15.1	40	23	N N
5	Sandy Clay	CL	57	0.483	19.3	40	23	N N
10	Sandy Clay	CL	84	0.594	20.8	35	21	N N
15	Sandy Clay	CL	80	0.513	23.6	46	31	N N
20	Sandy Clay	CL	75	0.859	23.2	27	13	Y Y
25	Sandy Clay	CL	70	0.488	16.7	33	21	N N
30	Silty Sand	SM	33	--	21.8	--	--	Y
35	Sandy Clay	CL	70	0.506	18.2	36	24	N N
40	Sandy Clay	CL	70	0.502	17.6	35	21	N N
45	Sandy Silt	ML	62	--	19.5	--	--	Y

LIQUEFACTION ANALYSIS

New High School - Dublin

Hole No.=B1 Water Depth=8 ft

Magnitude=7.29
Acceleration=0.674g



LiquefyPro CivilTech Software USA www.civiltech.com

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LIQUEFACTION ANALYSIS SUMMARY
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Input File Name: C:\Liquefy5\04219017B1.liq
Title: New High School - Dublin
Subtitle: Boring B1

Surface Elev.=
Hole No.=B1
Depth of Hole= 50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 15.50 ft
Max. Acceleration= 0.67 g
Earthquake Magnitude= 7.29

Input Data:

Surface Elev.=
Hole No.=B1
Depth of Hole=50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 15.50 ft
Max. Acceleration=0.67 g
Earthquake Magnitude=7.29
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu/Seed
3. Fines Correction for Liquefaction: Modify Stark/Olson
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1.25
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*

* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	20.00	119.00	85.00
4.00	44.00	120.00	61.00
8.00	13.00	128.00	87.00
13.00	3.00	116.00	84.00
18.00	15.00	122.00	16.00
23.00	17.00	131.00	56.00
28.00	24.00	125.00	60.00
33.00	6.00	125.00	62.00
38.00	14.00	123.00	77.00
43.00	41.00	132.00	NoLiq
50.00	41.00	132.00	49.00

Output Results:

Settlement of Saturated Sands=3.11 in.
Settlement of Unsaturated Sands=0.04 in.
Total Settlement of Saturated and Unsaturated Sands=3.15 in.
Differential Settlement=1.574 to 2.078 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	in.	S_dry S_all in.
0.00	2.15	0.57	5.00	3.11	0.04	3.15
0.05	2.15	0.57	5.00	3.11	0.04	3.15
0.10	2.15	0.57	5.00	3.11	0.04	3.15
0.15	2.15	0.57	5.00	3.11	0.04	3.15
0.20	2.15	0.57	5.00	3.11	0.04	3.15
0.25	2.15	0.57	5.00	3.11	0.04	3.15
0.30	2.15	0.57	5.00	3.11	0.04	3.15
0.35	2.15	0.57	5.00	3.11	0.04	3.15
0.40	2.15	0.57	5.00	3.11	0.04	3.15
0.45	2.15	0.57	5.00	3.11	0.04	3.15
0.50	2.15	0.57	5.00	3.11	0.04	3.15
0.55	2.15	0.57	5.00	3.11	0.04	3.15
0.60	2.15	0.57	5.00	3.11	0.04	3.15
0.65	2.15	0.57	5.00	3.11	0.04	3.15
0.70	2.15	0.57	5.00	3.11	0.04	3.15
0.75	2.15	0.57	5.00	3.11	0.04	3.15
0.80	2.15	0.57	5.00	3.11	0.04	3.15
0.85	2.15	0.57	5.00	3.11	0.04	3.15
0.90	2.15	0.57	5.00	3.11	0.04	3.15
0.95	2.15	0.57	5.00	3.11	0.04	3.15
1.00	2.15	0.57	5.00	3.11	0.04	3.15
1.05	2.15	0.57	5.00	3.11	0.04	3.15
1.10	2.15	0.57	5.00	3.11	0.04	3.15
1.15	2.15	0.57	5.00	3.11	0.04	3.15
1.20	2.15	0.57	5.00	3.11	0.04	3.15
1.25	2.15	0.57	5.00	3.11	0.04	3.15
1.30	2.15	0.57	5.00	3.11	0.04	3.15
1.35	2.15	0.57	5.00	3.11	0.04	3.15
1.40	2.15	0.57	5.00	3.11	0.04	3.15
1.45	2.15	0.57	5.00	3.11	0.04	3.15
1.50	2.15	0.57	5.00	3.11	0.04	3.15
1.55	2.15	0.57	5.00	3.11	0.04	3.15
1.60	2.15	0.57	5.00	3.11	0.04	3.15
1.65	2.15	0.57	5.00	3.11	0.04	3.15
1.70	2.15	0.57	5.00	3.11	0.04	3.15
1.75	2.15	0.57	5.00	3.11	0.04	3.15
1.80	2.15	0.57	5.00	3.11	0.04	3.15
1.85	2.15	0.57	5.00	3.11	0.04	3.15
1.90	2.15	0.57	5.00	3.11	0.04	3.15
1.95	2.15	0.57	5.00	3.11	0.04	3.15
2.00	2.15	0.57	5.00	3.11	0.04	3.15
2.05	2.15	0.57	5.00	3.11	0.04	3.15
2.10	2.15	0.57	5.00	3.11	0.04	3.15
2.15	2.15	0.57	5.00	3.11	0.04	3.15
2.20	2.15	0.57	5.00	3.11	0.04	3.15
2.25	2.15	0.57	5.00	3.11	0.04	3.15
2.30	2.15	0.57	5.00	3.11	0.04	3.15
2.35	2.15	0.57	5.00	3.11	0.04	3.15
2.40	2.15	0.57	5.00	3.11	0.04	3.15
2.45	2.15	0.57	5.00	3.11	0.04	3.15
2.50	2.15	0.57	5.00	3.11	0.04	3.15
2.55	2.15	0.57	5.00	3.11	0.04	3.15
2.60	2.15	0.57	5.00	3.11	0.04	3.14
2.65	2.15	0.57	5.00	3.11	0.04	3.14
2.70	2.15	0.57	5.00	3.11	0.04	3.14
2.75	2.15	0.57	5.00	3.11	0.04	3.14
2.80	2.15	0.57	5.00	3.11	0.04	3.14
2.85	2.15	0.57	5.00	3.11	0.04	3.14
2.90	2.15	0.57	5.00	3.11	0.04	3.14

2.95	2.15	0.57	5.00	3.11	0.04	3.14
3.00	2.15	0.57	5.00	3.11	0.04	3.14
3.05	2.15	0.57	5.00	3.11	0.04	3.14
3.10	2.15	0.57	5.00	3.11	0.04	3.14
3.15	2.15	0.57	5.00	3.11	0.04	3.14
3.20	2.15	0.57	5.00	3.11	0.04	3.14
3.25	2.15	0.57	5.00	3.11	0.04	3.14
3.30	2.15	0.57	5.00	3.11	0.04	3.14
3.35	2.15	0.57	5.00	3.11	0.04	3.14
3.40	2.15	0.57	5.00	3.11	0.04	3.14
3.45	2.15	0.56	5.00	3.11	0.04	3.14
3.50	2.15	0.56	5.00	3.11	0.04	3.14
3.55	2.15	0.56	5.00	3.11	0.03	3.14
3.60	2.15	0.56	5.00	3.11	0.03	3.14
3.65	2.15	0.56	5.00	3.11	0.03	3.14
3.70	2.15	0.56	5.00	3.11	0.03	3.14
3.75	2.15	0.56	5.00	3.11	0.03	3.14
3.80	2.15	0.56	5.00	3.11	0.03	3.14
3.85	2.15	0.56	5.00	3.11	0.03	3.14
3.90	2.15	0.56	5.00	3.11	0.03	3.14
3.95	2.15	0.56	5.00	3.11	0.03	3.14
4.00	2.15	0.56	5.00	3.11	0.03	3.14
4.05	2.15	0.56	5.00	3.11	0.03	3.14
4.10	2.15	0.56	5.00	3.11	0.03	3.14
4.15	2.15	0.56	5.00	3.11	0.03	3.14
4.20	2.15	0.56	5.00	3.11	0.03	3.14
4.25	2.15	0.56	5.00	3.11	0.03	3.14
4.30	2.15	0.56	5.00	3.11	0.03	3.14
4.35	2.15	0.56	5.00	3.11	0.03	3.14
4.40	2.15	0.56	5.00	3.11	0.03	3.14
4.45	2.15	0.56	5.00	3.11	0.03	3.14
4.50	2.15	0.56	5.00	3.11	0.03	3.14
4.55	2.15	0.56	5.00	3.11	0.03	3.14
4.60	2.15	0.56	5.00	3.11	0.03	3.14
4.65	2.15	0.56	5.00	3.11	0.03	3.14
4.70	2.15	0.56	5.00	3.11	0.03	3.14
4.75	2.15	0.56	5.00	3.11	0.03	3.14
4.80	2.15	0.56	5.00	3.11	0.03	3.14
4.85	2.15	0.56	5.00	3.11	0.03	3.14
4.90	2.15	0.56	5.00	3.11	0.03	3.14
4.95	2.15	0.56	5.00	3.11	0.03	3.14
5.00	2.15	0.56	5.00	3.11	0.03	3.14
5.05	2.15	0.56	5.00	3.11	0.03	3.14
5.10	2.15	0.56	5.00	3.11	0.03	3.14
5.15	2.15	0.56	5.00	3.11	0.03	3.14
5.20	2.15	0.56	5.00	3.11	0.03	3.14
5.25	2.15	0.56	5.00	3.11	0.03	3.14
5.30	2.15	0.56	5.00	3.11	0.03	3.14
5.35	2.15	0.56	5.00	3.11	0.03	3.14
5.40	2.15	0.56	5.00	3.11	0.03	3.14
5.45	2.15	0.56	5.00	3.11	0.03	3.14
5.50	2.15	0.56	5.00	3.11	0.03	3.14
5.55	2.15	0.56	5.00	3.11	0.03	3.14
5.60	2.15	0.56	5.00	3.11	0.03	3.14
5.65	2.15	0.56	5.00	3.11	0.03	3.14
5.70	2.15	0.56	5.00	3.11	0.03	3.14
5.75	2.15	0.56	5.00	3.11	0.03	3.14
5.80	2.15	0.56	5.00	3.11	0.03	3.14
5.85	2.15	0.56	5.00	3.11	0.03	3.14
5.90	2.15	0.56	5.00	3.11	0.03	3.14
5.95	2.15	0.56	5.00	3.11	0.03	3.14
6.00	2.15	0.56	5.00	3.11	0.03	3.14
6.05	2.15	0.56	5.00	3.11	0.03	3.14

6.10	2.15	0.56	5.00	3.11	0.03	3.14
6.15	2.15	0.56	5.00	3.11	0.03	3.13
6.20	2.15	0.56	5.00	3.11	0.03	3.13
6.25	2.15	0.56	5.00	3.11	0.03	3.13
6.30	2.15	0.56	5.00	3.11	0.03	3.13
6.35	2.15	0.56	5.00	3.11	0.03	3.13
6.40	2.15	0.56	5.00	3.11	0.03	3.13
6.45	2.15	0.56	5.00	3.11	0.03	3.13
6.50	2.15	0.56	5.00	3.11	0.03	3.13
6.55	2.15	0.56	5.00	3.11	0.03	3.13
6.60	2.15	0.56	5.00	3.11	0.02	3.13
6.65	2.15	0.56	5.00	3.11	0.02	3.13
6.70	2.15	0.56	5.00	3.11	0.02	3.13
6.75	2.15	0.56	5.00	3.11	0.02	3.13
6.80	2.15	0.56	5.00	3.11	0.02	3.13
6.85	2.15	0.56	5.00	3.11	0.02	3.13
6.90	2.15	0.56	5.00	3.11	0.02	3.13
6.95	2.15	0.56	5.00	3.11	0.02	3.13
7.00	2.15	0.56	5.00	3.11	0.02	3.13
7.05	2.15	0.56	5.00	3.11	0.02	3.13
7.10	2.15	0.56	5.00	3.11	0.02	3.13
7.15	2.15	0.56	5.00	3.11	0.02	3.13
7.20	2.15	0.56	5.00	3.11	0.02	3.13
7.25	2.15	0.56	5.00	3.11	0.02	3.13
7.30	2.15	0.56	5.00	3.11	0.02	3.13
7.35	2.15	0.56	5.00	3.11	0.02	3.13
7.40	2.15	0.56	5.00	3.11	0.02	3.12
7.45	2.15	0.56	5.00	3.11	0.02	3.12
7.50	2.15	0.56	5.00	3.11	0.02	3.12
7.55	2.15	0.56	5.00	3.11	0.01	3.12
7.60	2.15	0.56	5.00	3.11	0.01	3.12
7.65	2.15	0.56	5.00	3.11	0.01	3.12
7.70	2.15	0.56	5.00	3.11	0.01	3.12
7.75	2.15	0.56	5.00	3.11	0.01	3.12
7.80	2.15	0.56	5.00	3.11	0.01	3.12
7.85	2.15	0.56	5.00	3.11	0.01	3.11
7.90	2.15	0.56	5.00	3.11	0.00	3.11
7.95	2.15	0.56	5.00	3.11	0.00	3.11
8.00	2.15	0.56	3.85	3.11	0.00	3.11
8.05	2.15	0.56	3.84	3.11	0.00	3.11
8.10	2.15	0.56	3.82	3.11	0.00	3.11
8.15	2.15	0.56	3.81	3.11	0.00	3.11
8.20	2.15	0.57	3.80	3.11	0.00	3.11
8.25	2.15	0.57	3.79	3.11	0.00	3.11
8.30	2.15	0.57	3.78	3.11	0.00	3.11
8.35	2.15	0.57	3.77	3.11	0.00	3.11
8.40	2.15	0.57	3.76	3.11	0.00	3.11
8.45	2.15	0.57	3.75	3.11	0.00	3.11
8.50	2.15	0.58	3.74	3.11	0.00	3.11
8.55	2.15	0.58	3.73	3.11	0.00	3.11
8.60	2.15	0.58	3.72	3.11	0.00	3.11
8.65	2.15	0.58	3.70	3.11	0.00	3.11
8.70	2.15	0.58	3.69	3.11	0.00	3.11
8.75	2.15	0.58	3.69	3.11	0.00	3.11
8.80	2.15	0.58	3.68	3.11	0.00	3.11
8.85	2.15	0.59	3.67	3.11	0.00	3.11
8.90	2.15	0.59	3.66	3.11	0.00	3.11
8.95	2.15	0.59	3.65	3.11	0.00	3.11
9.00	2.15	0.59	3.64	3.11	0.00	3.11
9.05	2.15	0.59	3.63	3.10	0.00	3.10
9.10	2.15	0.59	3.62	3.10	0.00	3.10
9.15	2.15	0.60	3.61	3.10	0.00	3.10
9.20	2.15	0.60	3.60	3.10	0.00	3.10

9.25	2.15	0.60	3.59	3.10	0.00	3.10
9.30	2.15	0.60	3.58	3.10	0.00	3.10
9.35	2.15	0.60	3.58	3.10	0.00	3.10
9.40	2.15	0.60	3.57	3.10	0.00	3.10
9.45	2.15	0.60	3.56	3.10	0.00	3.10
9.50	2.15	0.61	3.55	3.10	0.00	3.10
9.55	2.15	0.61	3.54	3.09	0.00	3.09
9.60	2.15	0.61	3.53	3.09	0.00	3.09
9.65	2.15	0.61	3.53	3.09	0.00	3.09
9.70	2.15	0.61	3.52	3.09	0.00	3.09
9.75	2.15	0.61	3.51	3.09	0.00	3.09
9.80	2.15	0.61	3.50	3.09	0.00	3.09
9.85	2.15	0.62	3.49	3.08	0.00	3.08
9.90	2.15	0.62	3.49	3.08	0.00	3.08
9.95	2.15	0.62	3.48	3.08	0.00	3.08
10.00	2.15	0.62	3.47	3.08	0.00	3.08
10.05	2.15	0.62	3.46	3.07	0.00	3.07
10.10	2.15	0.62	3.46	3.07	0.00	3.07
10.15	2.15	0.62	3.45	3.07	0.00	3.07
10.20	2.15	0.62	3.44	3.06	0.00	3.06
10.25	2.15	0.63	3.44	3.06	0.00	3.06
10.30	2.15	0.63	3.43	3.06	0.00	3.06
10.35	2.15	0.63	3.42	3.05	0.00	3.05
10.40	2.15	0.63	3.41	3.05	0.00	3.05
10.45	2.15	0.63	3.41	3.05	0.00	3.05
10.50	2.15	0.63	3.40	3.04	0.00	3.04
10.55	0.51	0.63	0.80*	3.04	0.00	3.04
10.60	0.47	0.63	0.74*	3.03	0.00	3.03
10.65	0.45	0.64	0.71*	3.03	0.00	3.03
10.70	0.43	0.64	0.68*	3.02	0.00	3.02
10.75	0.42	0.64	0.66*	3.02	0.00	3.02
10.80	0.41	0.64	0.65*	3.01	0.00	3.01
10.85	0.41	0.64	0.63*	3.01	0.00	3.01
10.90	0.40	0.64	0.62*	3.00	0.00	3.00
10.95	0.39	0.64	0.61*	3.00	0.00	3.00
11.00	0.39	0.64	0.60*	2.99	0.00	2.99
11.05	0.38	0.65	0.59*	2.99	0.00	2.99
11.10	0.38	0.65	0.58*	2.98	0.00	2.98
11.15	0.37	0.65	0.57*	2.97	0.00	2.97
11.20	0.37	0.65	0.56*	2.97	0.00	2.97
11.25	0.36	0.65	0.56*	2.96	0.00	2.96
11.30	0.36	0.65	0.55*	2.96	0.00	2.96
11.35	0.35	0.65	0.54*	2.95	0.00	2.95
11.40	0.35	0.65	0.54*	2.94	0.00	2.94
11.45	0.35	0.65	0.53*	2.94	0.00	2.94
11.50	0.34	0.66	0.52*	2.93	0.00	2.93
11.55	0.34	0.66	0.52*	2.93	0.00	2.93
11.60	0.34	0.66	0.51*	2.92	0.00	2.92
11.65	0.33	0.66	0.51*	2.91	0.00	2.91
11.70	0.33	0.66	0.50*	2.91	0.00	2.91
11.75	0.33	0.66	0.49*	2.90	0.00	2.90
11.80	0.32	0.66	0.49*	2.89	0.00	2.89
11.85	0.32	0.66	0.48*	2.89	0.00	2.89
11.90	0.32	0.66	0.48*	2.88	0.00	2.88
11.95	0.32	0.67	0.47*	2.87	0.00	2.87
12.00	0.31	0.67	0.47*	2.87	0.00	2.87
12.05	0.31	0.67	0.46*	2.86	0.00	2.86
12.10	0.31	0.67	0.46*	2.85	0.00	2.85
12.15	0.30	0.67	0.45*	2.84	0.00	2.84
12.20	0.30	0.67	0.45*	2.84	0.00	2.84
12.25	0.30	0.67	0.45*	2.83	0.00	2.83
12.30	0.30	0.67	0.44*	2.82	0.00	2.82
12.35	0.29	0.67	0.44*	2.82	0.00	2.82

12.40	0.29	0.68	0.43*	2.81	0.00	2.81
12.45	0.29	0.68	0.43*	2.80	0.00	2.80
12.50	0.29	0.68	0.42*	2.79	0.00	2.79
12.55	0.29	0.68	0.42*	2.79	0.00	2.79
12.60	0.28	0.68	0.42*	2.78	0.00	2.78
12.65	0.28	0.68	0.41*	2.77	0.00	2.77
12.70	0.28	0.68	0.41*	2.76	0.00	2.76
12.75	0.28	0.68	0.41*	2.76	0.00	2.76
12.80	0.27	0.68	0.40*	2.75	0.00	2.75
12.85	0.27	0.68	0.40*	2.74	0.00	2.74
12.90	0.27	0.69	0.40*	2.73	0.00	2.73
12.95	0.27	0.69	0.39*	2.72	0.00	2.72
13.00	0.27	0.69	0.39*	2.72	0.00	2.72
13.05	0.27	0.69	0.39*	2.71	0.00	2.71
13.10	0.27	0.69	0.39*	2.70	0.00	2.70
13.15	0.27	0.69	0.39*	2.69	0.00	2.69
13.20	0.27	0.69	0.38*	2.68	0.00	2.68
13.25	0.27	0.69	0.38*	2.68	0.00	2.68
13.30	0.26	0.69	0.38*	2.67	0.00	2.67
13.35	0.26	0.69	0.38*	2.66	0.00	2.66
13.40	0.26	0.70	0.38*	2.65	0.00	2.65
13.45	0.26	0.70	0.38*	2.64	0.00	2.64
13.50	0.26	0.70	0.38*	2.64	0.00	2.64
13.55	0.26	0.70	0.38*	2.63	0.00	2.63
13.60	0.26	0.70	0.38*	2.62	0.00	2.62
13.65	0.26	0.70	0.37*	2.61	0.00	2.61
13.70	0.26	0.70	0.37*	2.60	0.00	2.60
13.75	0.26	0.70	0.37*	2.59	0.00	2.59
13.80	0.26	0.70	0.37*	2.59	0.00	2.59
13.85	0.26	0.70	0.37*	2.58	0.00	2.58
13.90	0.26	0.70	0.37*	2.57	0.00	2.57
13.95	0.26	0.71	0.37*	2.56	0.00	2.56
14.00	0.26	0.71	0.37*	2.55	0.00	2.55
14.05	0.26	0.71	0.37*	2.55	0.00	2.55
14.10	0.26	0.71	0.37*	2.54	0.00	2.54
14.15	0.26	0.71	0.36*	2.53	0.00	2.53
14.20	0.26	0.71	0.36*	2.52	0.00	2.52
14.25	0.26	0.71	0.36*	2.51	0.00	2.51
14.30	0.26	0.71	0.36*	2.50	0.00	2.50
14.35	0.26	0.71	0.36*	2.50	0.00	2.50
14.40	0.26	0.71	0.36*	2.49	0.00	2.49
14.45	0.26	0.71	0.36*	2.48	0.00	2.48
14.50	0.25	0.72	0.36*	2.47	0.00	2.47
14.55	0.25	0.72	0.36*	2.46	0.00	2.46
14.60	0.25	0.72	0.35*	2.45	0.00	2.45
14.65	0.25	0.72	0.35*	2.45	0.00	2.45
14.70	0.25	0.72	0.35*	2.44	0.00	2.44
14.75	0.25	0.72	0.35*	2.43	0.00	2.43
14.80	0.27	0.72	0.37*	2.42	0.00	2.42
14.85	0.26	0.72	0.37*	2.41	0.00	2.41
14.90	0.26	0.72	0.37*	2.40	0.00	2.40
14.95	0.26	0.72	0.37*	2.40	0.00	2.40
15.00	0.26	0.72	0.36*	2.39	0.00	2.39
15.05	0.26	0.72	0.36*	2.38	0.00	2.38
15.10	0.26	0.72	0.36*	2.37	0.00	2.37
15.15	0.26	0.73	0.36*	2.36	0.00	2.36
15.20	0.26	0.73	0.36*	2.36	0.00	2.36
15.25	0.26	0.73	0.36*	2.35	0.00	2.35
15.30	0.26	0.73	0.36*	2.34	0.00	2.34
15.35	0.26	0.73	0.36*	2.33	0.00	2.33
15.40	0.26	0.73	0.36*	2.32	0.00	2.32
15.45	0.26	0.73	0.36*	2.31	0.00	2.31
15.50	0.26	0.73	0.36*	2.31	0.00	2.31

15.55	0.26	0.73	0.35*	2.30	0.00	2.30
15.60	0.26	0.73	0.35*	2.29	0.00	2.29
15.65	0.26	0.73	0.35*	2.28	0.00	2.28
15.70	0.26	0.73	0.35*	2.27	0.00	2.27
15.75	0.26	0.73	0.35*	2.27	0.00	2.27
15.80	0.26	0.74	0.35*	2.26	0.00	2.26
15.85	0.26	0.74	0.35*	2.25	0.00	2.25
15.90	0.26	0.74	0.35*	2.24	0.00	2.24
15.95	0.26	0.74	0.35*	2.23	0.00	2.23
16.00	0.26	0.74	0.35*	2.22	0.00	2.22
16.05	0.26	0.74	0.35*	2.22	0.00	2.22
16.10	0.26	0.74	0.35*	2.21	0.00	2.21
16.15	0.26	0.74	0.35*	2.20	0.00	2.20
16.20	0.26	0.74	0.35*	2.19	0.00	2.19
16.25	0.26	0.74	0.34*	2.18	0.00	2.18
16.30	0.26	0.74	0.34*	2.17	0.00	2.17
16.35	0.25	0.74	0.34*	2.17	0.00	2.17
16.40	0.25	0.74	0.34*	2.16	0.00	2.16
16.45	0.25	0.74	0.34*	2.15	0.00	2.15
16.50	0.25	0.75	0.34*	2.14	0.00	2.14
16.55	0.25	0.75	0.34*	2.13	0.00	2.13
16.60	0.25	0.75	0.34*	2.12	0.00	2.12
16.65	0.25	0.75	0.34*	2.12	0.00	2.12
16.70	0.25	0.75	0.34*	2.11	0.00	2.11
16.75	0.25	0.75	0.34*	2.10	0.00	2.10
16.80	0.25	0.75	0.34*	2.09	0.00	2.09
16.85	0.25	0.75	0.34*	2.08	0.00	2.08
16.90	0.25	0.75	0.33*	2.07	0.00	2.07
16.95	0.25	0.75	0.33*	2.07	0.00	2.07
17.00	0.25	0.75	0.33*	2.06	0.00	2.06
17.05	0.25	0.75	0.33*	2.05	0.00	2.05
17.10	0.25	0.75	0.33*	2.04	0.00	2.04
17.15	0.25	0.75	0.33*	2.03	0.00	2.03
17.20	0.25	0.75	0.33*	2.02	0.00	2.02
17.25	0.25	0.76	0.33*	2.01	0.00	2.01
17.30	0.25	0.76	0.33*	2.01	0.00	2.01
17.35	0.25	0.76	0.33*	2.00	0.00	2.00
17.40	0.25	0.76	0.33*	1.99	0.00	1.99
17.45	0.25	0.76	0.33*	1.98	0.00	1.98
17.50	0.25	0.76	0.33*	1.97	0.00	1.97
17.55	0.25	0.76	0.32*	1.96	0.00	1.96
17.60	0.25	0.76	0.32*	1.95	0.00	1.95
17.65	0.25	0.76	0.32*	1.95	0.00	1.95
17.70	0.25	0.76	0.32*	1.94	0.00	1.94
17.75	0.25	0.76	0.32*	1.93	0.00	1.93
17.80	0.24	0.76	0.32*	1.92	0.00	1.92
17.85	0.24	0.76	0.32*	1.91	0.00	1.91
17.90	0.24	0.76	0.32*	1.90	0.00	1.90
17.95	0.24	0.76	0.32*	1.89	0.00	1.89
18.00	0.24	0.76	0.32*	1.89	0.00	1.89
18.05	0.24	0.77	0.32*	1.88	0.00	1.88
18.10	0.25	0.77	0.32*	1.87	0.00	1.87
18.15	0.25	0.77	0.32*	1.86	0.00	1.86
18.20	0.25	0.77	0.32*	1.85	0.00	1.85
18.25	0.25	0.77	0.33*	1.84	0.00	1.84
18.30	0.25	0.77	0.33*	1.83	0.00	1.83
18.35	0.25	0.77	0.33*	1.83	0.00	1.83
18.40	0.25	0.77	0.33*	1.82	0.00	1.82
18.45	0.26	0.77	0.33*	1.81	0.00	1.81
18.50	0.26	0.77	0.33*	1.80	0.00	1.80
18.55	0.26	0.77	0.34*	1.79	0.00	1.79
18.60	0.26	0.77	0.34*	1.78	0.00	1.78
18.65	0.26	0.77	0.34*	1.78	0.00	1.78

18.70	0.26	0.77	0.34*	1.77	0.00	1.77
18.75	0.26	0.77	0.34*	1.76	0.00	1.76
18.80	0.27	0.77	0.34*	1.75	0.00	1.75
18.85	0.27	0.77	0.35*	1.74	0.00	1.74
18.90	0.27	0.77	0.35*	1.74	0.00	1.74
18.95	0.27	0.78	0.35*	1.73	0.00	1.73
19.00	0.27	0.78	0.35*	1.72	0.00	1.72
19.05	0.27	0.78	0.35*	1.71	0.00	1.71
19.10	0.28	0.78	0.35*	1.70	0.00	1.70
19.15	0.28	0.78	0.36*	1.70	0.00	1.70
19.20	0.28	0.78	0.36*	1.69	0.00	1.69
19.25	0.28	0.78	0.36*	1.68	0.00	1.68
19.30	0.28	0.78	0.36*	1.67	0.00	1.67
19.35	0.28	0.78	0.36*	1.66	0.00	1.66
19.40	0.28	0.78	0.37*	1.66	0.00	1.66
19.45	0.29	0.78	0.37*	1.65	0.00	1.65
19.50	0.29	0.78	0.37*	1.64	0.00	1.64
19.55	0.29	0.78	0.37*	1.63	0.00	1.63
19.60	0.29	0.78	0.37*	1.63	0.00	1.63
19.65	0.29	0.78	0.37*	1.62	0.00	1.62
19.70	0.29	0.78	0.38*	1.61	0.00	1.61
19.75	0.30	0.78	0.38*	1.61	0.00	1.61
19.80	0.30	0.78	0.38*	1.60	0.00	1.60
19.85	0.30	0.78	0.38*	1.59	0.00	1.59
19.90	0.30	0.78	0.39*	1.58	0.00	1.58
19.95	0.30	0.78	0.39*	1.58	0.00	1.58
20.00	0.31	0.79	0.39*	1.57	0.00	1.57
20.05	0.31	0.79	0.39*	1.56	0.00	1.56
20.10	0.31	0.79	0.39*	1.55	0.00	1.55
20.15	0.31	0.79	0.40*	1.55	0.00	1.55
20.20	0.31	0.79	0.40*	1.54	0.00	1.54
20.25	0.32	0.79	0.40*	1.53	0.00	1.53
20.30	0.32	0.79	0.40*	1.53	0.00	1.53
20.35	0.32	0.79	0.41*	1.52	0.00	1.52
20.40	0.32	0.79	0.41*	1.51	0.00	1.51
20.45	0.32	0.79	0.41*	1.51	0.00	1.51
20.50	0.33	0.79	0.41*	1.50	0.00	1.50
20.55	0.33	0.79	0.41*	1.49	0.00	1.49
20.60	0.33	0.79	0.42*	1.49	0.00	1.49
20.65	0.33	0.79	0.42*	1.48	0.00	1.48
20.70	0.33	0.79	0.42*	1.47	0.00	1.47
20.75	0.34	0.79	0.43*	1.47	0.00	1.47
20.80	0.34	0.79	0.43*	1.46	0.00	1.46
20.85	0.34	0.79	0.43*	1.45	0.00	1.45
20.90	0.34	0.79	0.43*	1.45	0.00	1.45
20.95	0.35	0.79	0.44*	1.44	0.00	1.44
21.00	0.35	0.79	0.44*	1.43	0.00	1.43
21.05	0.35	0.79	0.44*	1.43	0.00	1.43
21.10	0.35	0.79	0.45*	1.42	0.00	1.42
21.15	0.36	0.80	0.45*	1.42	0.00	1.42
21.20	0.36	0.80	0.45*	1.41	0.00	1.41
21.25	0.36	0.80	0.45*	1.40	0.00	1.40
21.30	0.36	0.80	0.46*	1.40	0.00	1.40
21.35	0.37	0.80	0.46*	1.39	0.00	1.39
21.40	0.37	0.80	0.47*	1.39	0.00	1.39
21.45	0.37	0.80	0.47*	1.38	0.00	1.38
21.50	0.38	0.80	0.47*	1.37	0.00	1.37
21.55	0.38	0.80	0.48*	1.37	0.00	1.37
21.60	0.38	0.80	0.48*	1.36	0.00	1.36
21.65	0.39	0.80	0.48*	1.36	0.00	1.36
21.70	0.39	0.80	0.49*	1.35	0.00	1.35
21.75	0.39	0.80	0.49*	1.35	0.00	1.35
21.80	0.40	0.80	0.50*	1.34	0.00	1.34

21.85	0.40	0.80	0.50*	1.33	0.00	1.33
21.90	0.41	0.80	0.51*	1.33	0.00	1.33
21.95	0.41	0.80	0.52*	1.32	0.00	1.32
22.00	0.42	0.80	0.52*	1.32	0.00	1.32
22.05	0.43	0.80	0.53*	1.31	0.00	1.31
22.10	0.43	0.80	0.54*	1.31	0.00	1.31
22.15	0.44	0.80	0.55*	1.30	0.00	1.30
22.20	0.45	0.80	0.56*	1.30	0.00	1.30
22.25	0.47	0.80	0.58*	1.29	0.00	1.29
22.30	0.48	0.80	0.60*	1.29	0.00	1.29
22.35	0.51	0.80	0.64*	1.29	0.00	1.29
22.40	2.15	0.80	2.67	1.28	0.00	1.28
22.45	2.15	0.80	2.67	1.28	0.00	1.28
22.50	2.15	0.80	2.67	1.27	0.00	1.27
22.55	2.15	0.81	2.67	1.27	0.00	1.27
22.60	2.15	0.81	2.67	1.26	0.00	1.26
22.65	2.15	0.81	2.67	1.26	0.00	1.26
22.70	2.15	0.81	2.67	1.26	0.00	1.26
22.75	2.15	0.81	2.67	1.25	0.00	1.25
22.80	2.15	0.81	2.66	1.25	0.00	1.25
22.85	2.15	0.81	2.66	1.24	0.00	1.24
22.90	2.15	0.81	2.66	1.24	0.00	1.24
22.95	2.15	0.81	2.66	1.24	0.00	1.24
23.00	2.15	0.81	2.66	1.23	0.00	1.23
23.05	2.15	0.81	2.66	1.23	0.00	1.23
23.10	2.15	0.81	2.66	1.23	0.00	1.23
23.15	2.15	0.81	2.66	1.22	0.00	1.22
23.20	2.15	0.81	2.66	1.22	0.00	1.22
23.25	2.15	0.81	2.66	1.22	0.00	1.22
23.30	2.15	0.81	2.65	1.21	0.00	1.21
23.35	2.15	0.81	2.65	1.21	0.00	1.21
23.40	2.15	0.81	2.65	1.21	0.00	1.21
23.45	2.15	0.81	2.65	1.21	0.00	1.21
23.50	2.15	0.81	2.65	1.20	0.00	1.20
23.55	2.15	0.81	2.65	1.20	0.00	1.20
23.60	2.15	0.81	2.65	1.20	0.00	1.20
23.65	2.15	0.81	2.65	1.19	0.00	1.19
23.70	2.15	0.81	2.65	1.19	0.00	1.19
23.75	2.15	0.81	2.65	1.19	0.00	1.19
23.80	2.15	0.81	2.65	1.19	0.00	1.19
23.85	2.15	0.81	2.64	1.18	0.00	1.18
23.90	2.15	0.81	2.64	1.18	0.00	1.18
23.95	2.15	0.81	2.64	1.18	0.00	1.18
24.00	2.15	0.81	2.64	1.18	0.00	1.18
24.05	2.15	0.81	2.64	1.18	0.00	1.18
24.10	2.15	0.81	2.64	1.18	0.00	1.18
24.15	2.15	0.81	2.64	1.17	0.00	1.17
24.20	2.15	0.82	2.64	1.17	0.00	1.17
24.25	2.15	0.82	2.64	1.17	0.00	1.17
24.30	2.15	0.82	2.64	1.17	0.00	1.17
24.35	2.15	0.82	2.64	1.17	0.00	1.17
24.40	2.15	0.82	2.63	1.17	0.00	1.17
24.45	2.15	0.82	2.63	1.16	0.00	1.16
24.50	2.15	0.82	2.63	1.16	0.00	1.16
24.55	2.15	0.82	2.63	1.16	0.00	1.16
24.60	2.15	0.82	2.63	1.16	0.00	1.16
24.65	2.15	0.82	2.63	1.16	0.00	1.16
24.70	2.15	0.82	2.63	1.16	0.00	1.16
24.75	2.15	0.82	2.63	1.16	0.00	1.16
24.80	2.15	0.82	2.63	1.16	0.00	1.16
24.85	2.15	0.82	2.63	1.16	0.00	1.16
24.90	2.15	0.82	2.63	1.15	0.00	1.15
24.95	2.15	0.82	2.62	1.15	0.00	1.15

25.00	2.15	0.82	2.62	1.15	0.00	1.15
25.05	2.15	0.82	2.62	1.15	0.00	1.15
25.10	2.15	0.82	2.62	1.15	0.00	1.15
25.15	2.15	0.82	2.62	1.15	0.00	1.15
25.20	2.15	0.82	2.62	1.15	0.00	1.15
25.25	2.15	0.82	2.62	1.15	0.00	1.15
25.30	2.15	0.82	2.62	1.15	0.00	1.15
25.35	2.15	0.82	2.62	1.15	0.00	1.15
25.40	2.15	0.82	2.62	1.14	0.00	1.14
25.45	2.15	0.82	2.62	1.14	0.00	1.14
25.50	2.15	0.82	2.62	1.14	0.00	1.14
25.55	2.15	0.82	2.61	1.14	0.00	1.14
25.60	2.15	0.82	2.61	1.14	0.00	1.14
25.65	2.15	0.82	2.61	1.14	0.00	1.14
25.70	2.15	0.82	2.61	1.14	0.00	1.14
25.75	2.15	0.82	2.61	1.14	0.00	1.14
25.80	2.15	0.82	2.61	1.14	0.00	1.14
25.85	2.15	0.82	2.61	1.14	0.00	1.14
25.90	2.15	0.82	2.61	1.14	0.00	1.14
25.95	2.15	0.82	2.61	1.14	0.00	1.14
26.00	2.15	0.82	2.61	1.13	0.00	1.13
26.05	2.15	0.82	2.61	1.13	0.00	1.13
26.10	2.15	0.82	2.61	1.13	0.00	1.13
26.15	2.15	0.83	2.61	1.13	0.00	1.13
26.20	2.15	0.83	2.60	1.13	0.00	1.13
26.25	2.15	0.83	2.60	1.13	0.00	1.13
26.30	2.15	0.83	2.60	1.13	0.00	1.13
26.35	2.15	0.83	2.60	1.13	0.00	1.13
26.40	2.15	0.83	2.60	1.13	0.00	1.13
26.45	2.15	0.83	2.60	1.13	0.00	1.13
26.50	2.15	0.83	2.60	1.13	0.00	1.13
26.55	2.15	0.83	2.60	1.13	0.00	1.13
26.60	2.15	0.83	2.60	1.13	0.00	1.13
26.65	2.15	0.83	2.60	1.13	0.00	1.13
26.70	2.15	0.83	2.60	1.13	0.00	1.13
26.75	2.15	0.83	2.60	1.13	0.00	1.13
26.80	2.15	0.83	2.60	1.13	0.00	1.13
26.85	2.15	0.83	2.59	1.13	0.00	1.13
26.90	2.15	0.83	2.59	1.13	0.00	1.13
26.95	2.15	0.83	2.59	1.13	0.00	1.13
27.00	2.15	0.83	2.59	1.13	0.00	1.13
27.05	2.15	0.83	2.59	1.13	0.00	1.13
27.10	2.15	0.83	2.59	1.13	0.00	1.13
27.15	2.15	0.83	2.59	1.13	0.00	1.13
27.20	2.15	0.83	2.59	1.13	0.00	1.13
27.25	2.15	0.83	2.59	1.13	0.00	1.13
27.30	2.15	0.83	2.59	1.13	0.00	1.13
27.35	2.15	0.83	2.59	1.13	0.00	1.13
27.40	2.15	0.83	2.59	1.13	0.00	1.13
27.45	2.15	0.83	2.59	1.13	0.00	1.13
27.50	2.15	0.83	2.59	1.13	0.00	1.13
27.55	2.15	0.83	2.58	1.13	0.00	1.13
27.60	2.15	0.83	2.58	1.13	0.00	1.13
27.65	2.15	0.83	2.58	1.13	0.00	1.13
27.70	2.15	0.83	2.58	1.13	0.00	1.13
27.75	2.15	0.83	2.58	1.13	0.00	1.13
27.80	2.15	0.83	2.58	1.13	0.00	1.13
27.85	2.15	0.83	2.58	1.13	0.00	1.13
27.90	2.15	0.83	2.58	1.13	0.00	1.13
27.95	2.15	0.83	2.58	1.13	0.00	1.13
28.00	2.15	0.83	2.58	1.13	0.00	1.13
28.05	2.15	0.83	2.58	1.13	0.00	1.13
28.10	2.15	0.83	2.58	1.13	0.00	1.13

28.15	2.15	0.83	2.58	1.13	0.00	1.13
28.20	2.15	0.83	2.58	1.13	0.00	1.13
28.25	2.15	0.83	2.58	1.13	0.00	1.13
28.30	2.15	0.84	2.57	1.13	0.00	1.13
28.35	2.15	0.84	2.57	1.13	0.00	1.13
28.40	2.15	0.84	2.57	1.13	0.00	1.13
28.45	2.15	0.84	2.57	1.13	0.00	1.13
28.50	2.15	0.84	2.57	1.13	0.00	1.13
28.55	2.15	0.84	2.57	1.13	0.00	1.13
28.60	2.15	0.84	2.57	1.13	0.00	1.13
28.65	2.15	0.84	2.57	1.13	0.00	1.13
28.70	2.15	0.84	2.57	1.13	0.00	1.13
28.75	2.15	0.84	2.57	1.13	0.00	1.13
28.80	2.15	0.84	2.57	1.13	0.00	1.13
28.85	2.15	0.84	2.57	1.13	0.00	1.13
28.90	2.15	0.84	2.57	1.12	0.00	1.12
28.95	2.15	0.84	2.57	1.12	0.00	1.12
29.00	2.15	0.84	2.57	1.12	0.00	1.12
29.05	2.15	0.84	2.56	1.12	0.00	1.12
29.10	2.15	0.84	2.56	1.12	0.00	1.12
29.15	2.15	0.84	2.56	1.12	0.00	1.12
29.20	2.15	0.84	2.56	1.12	0.00	1.12
29.25	2.15	0.84	2.56	1.12	0.00	1.12
29.30	2.15	0.84	2.56	1.12	0.00	1.12
29.35	2.15	0.84	2.56	1.12	0.00	1.12
29.40	2.15	0.84	2.56	1.12	0.00	1.12
29.45	2.15	0.84	2.56	1.12	0.00	1.12
29.50	2.15	0.84	2.56	1.11	0.00	1.11
29.55	2.15	0.84	2.56	1.11	0.00	1.11
29.60	2.15	0.84	2.56	1.11	0.00	1.11
29.65	2.15	0.84	2.56	1.11	0.00	1.11
29.70	2.15	0.84	2.56	1.11	0.00	1.11
29.75	2.15	0.84	2.56	1.11	0.00	1.11
29.80	2.15	0.84	2.56	1.10	0.00	1.10
29.85	2.15	0.84	2.56	1.10	0.00	1.10
29.90	2.15	0.84	2.55	1.10	0.00	1.10
29.95	2.15	0.84	2.55	1.10	0.00	1.10
30.00	2.15	0.84	2.55	1.09	0.00	1.09
30.05	2.15	0.84	2.55	1.09	0.00	1.09
30.10	2.15	0.84	2.55	1.09	0.00	1.09
30.15	2.15	0.84	2.55	1.08	0.00	1.08
30.20	2.15	0.84	2.56	1.08	0.00	1.08
30.25	2.15	0.84	2.56	1.08	0.00	1.08
30.30	2.15	0.84	2.56	1.07	0.00	1.07
30.35	2.15	0.84	2.56	1.07	0.00	1.07
30.40	0.51	0.84	0.61*	1.06	0.00	1.06
30.45	0.47	0.84	0.55*	1.06	0.00	1.06
30.50	0.44	0.84	0.53*	1.05	0.00	1.05
30.55	0.43	0.84	0.51*	1.05	0.00	1.05
30.60	0.42	0.84	0.49*	1.04	0.00	1.04
30.65	0.41	0.84	0.48*	1.04	0.00	1.04
30.70	0.40	0.84	0.47*	1.03	0.00	1.03
30.75	0.39	0.84	0.46*	1.03	0.00	1.03
30.80	0.38	0.84	0.46*	1.02	0.00	1.02
30.85	0.38	0.84	0.45*	1.02	0.00	1.02
30.90	0.37	0.84	0.44*	1.01	0.00	1.01
30.95	0.37	0.84	0.43*	1.01	0.00	1.01
31.00	0.36	0.84	0.43*	1.00	0.00	1.00
31.05	0.36	0.84	0.42*	0.99	0.00	0.99
31.10	0.35	0.84	0.42*	0.99	0.00	0.99
31.15	0.35	0.84	0.41*	0.98	0.00	0.98
31.20	0.34	0.84	0.41*	0.97	0.00	0.97
31.25	0.34	0.84	0.40*	0.97	0.00	0.97

31.30	0.33	0.84	0.40*	0.96	0.00	0.96
31.35	0.33	0.84	0.39*	0.96	0.00	0.96
31.40	0.32	0.84	0.39*	0.95	0.00	0.95
31.45	0.32	0.84	0.38*	0.94	0.00	0.94
31.50	0.32	0.84	0.38*	0.94	0.00	0.94
31.55	0.31	0.84	0.37*	0.93	0.00	0.93
31.60	0.31	0.84	0.37*	0.92	0.00	0.92
31.65	0.31	0.84	0.37*	0.91	0.00	0.91
31.70	0.30	0.84	0.36*	0.91	0.00	0.91
31.75	0.30	0.84	0.36*	0.90	0.00	0.90
31.80	0.30	0.84	0.35*	0.89	0.00	0.89
31.85	0.29	0.84	0.35*	0.89	0.00	0.89
31.90	0.29	0.84	0.35*	0.88	0.00	0.88
31.95	0.29	0.84	0.34*	0.87	0.00	0.87
32.00	0.28	0.84	0.34*	0.86	0.00	0.86
32.05	0.28	0.84	0.34*	0.86	0.00	0.86
32.10	0.28	0.84	0.33*	0.85	0.00	0.85
32.15	0.28	0.84	0.33*	0.84	0.00	0.84
32.20	0.27	0.84	0.33*	0.83	0.00	0.83
32.25	0.27	0.84	0.32*	0.82	0.00	0.82
32.30	0.27	0.84	0.32*	0.82	0.00	0.82
32.35	0.26	0.84	0.32*	0.81	0.00	0.81
32.40	0.26	0.84	0.31*	0.80	0.00	0.80
32.45	0.26	0.84	0.31*	0.79	0.00	0.79
32.50	0.26	0.84	0.31*	0.78	0.00	0.78
32.55	0.25	0.84	0.30*	0.78	0.00	0.78
32.60	0.25	0.84	0.30*	0.77	0.00	0.77
32.65	0.25	0.84	0.30*	0.76	0.00	0.76
32.70	0.25	0.84	0.29*	0.75	0.00	0.75
32.75	0.24	0.84	0.29*	0.74	0.00	0.74
32.80	0.24	0.84	0.29*	0.73	0.00	0.73
32.85	0.24	0.84	0.29*	0.72	0.00	0.72
32.90	0.24	0.84	0.28*	0.72	0.00	0.72
32.95	0.23	0.84	0.28*	0.71	0.00	0.71
33.00	0.23	0.84	0.28*	0.70	0.00	0.70
33.05	0.23	0.84	0.28*	0.69	0.00	0.69
33.10	0.24	0.84	0.28*	0.68	0.00	0.68
33.15	0.24	0.83	0.28*	0.67	0.00	0.67
33.20	0.24	0.83	0.29*	0.66	0.00	0.66
33.25	0.24	0.83	0.29*	0.65	0.00	0.65
33.30	0.24	0.83	0.29*	0.64	0.00	0.64
33.35	0.24	0.83	0.29*	0.64	0.00	0.64
33.40	0.24	0.83	0.29*	0.63	0.00	0.63
33.45	0.25	0.83	0.29*	0.62	0.00	0.62
33.50	0.25	0.83	0.30*	0.61	0.00	0.61
33.55	0.25	0.83	0.30*	0.60	0.00	0.60
33.60	0.25	0.83	0.30*	0.59	0.00	0.59
33.65	0.25	0.83	0.30*	0.58	0.00	0.58
33.70	0.25	0.83	0.30*	0.58	0.00	0.58
33.75	0.25	0.83	0.31*	0.57	0.00	0.57
33.80	0.26	0.83	0.31*	0.56	0.00	0.56
33.85	0.26	0.83	0.31*	0.55	0.00	0.55
33.90	0.26	0.83	0.31*	0.54	0.00	0.54
33.95	0.26	0.83	0.31*	0.53	0.00	0.53
34.00	0.26	0.83	0.32*	0.53	0.00	0.53
34.05	0.26	0.83	0.32*	0.52	0.00	0.52
34.10	0.27	0.83	0.32*	0.51	0.00	0.51
34.15	0.27	0.83	0.32*	0.50	0.00	0.50
34.20	0.27	0.83	0.32*	0.49	0.00	0.49
34.25	0.27	0.83	0.33*	0.49	0.00	0.49
34.30	0.27	0.83	0.33*	0.48	0.00	0.48
34.35	0.27	0.83	0.33*	0.47	0.00	0.47
34.40	0.28	0.83	0.33*	0.46	0.00	0.46

34.45	0.28	0.83	0.33*	0.45	0.00	0.45
34.50	0.28	0.83	0.34*	0.45	0.00	0.45
34.55	0.28	0.83	0.34*	0.44	0.00	0.44
34.60	0.28	0.83	0.34*	0.43	0.00	0.43
34.65	0.28	0.83	0.34*	0.42	0.00	0.42
34.70	0.29	0.83	0.34*	0.42	0.00	0.42
34.75	0.29	0.83	0.35*	0.41	0.00	0.41
34.80	0.29	0.83	0.35*	0.40	0.00	0.40
34.85	0.29	0.83	0.35*	0.39	0.00	0.39
34.90	0.29	0.83	0.35*	0.39	0.00	0.39
34.95	0.30	0.83	0.36*	0.38	0.00	0.38
35.00	0.30	0.83	0.36*	0.37	0.00	0.37
35.05	0.30	0.83	0.36*	0.36	0.00	0.36
35.10	0.30	0.83	0.36*	0.36	0.00	0.36
35.15	0.30	0.83	0.37*	0.35	0.00	0.35
35.20	0.30	0.83	0.37*	0.34	0.00	0.34
35.25	0.31	0.83	0.37*	0.34	0.00	0.34
35.30	0.31	0.83	0.37*	0.33	0.00	0.33
35.35	0.31	0.83	0.38*	0.32	0.00	0.32
35.40	0.31	0.83	0.38*	0.31	0.00	0.31
35.45	0.32	0.83	0.38*	0.31	0.00	0.31
35.50	0.32	0.83	0.38*	0.30	0.00	0.30
35.55	0.32	0.83	0.39*	0.29	0.00	0.29
35.60	0.32	0.83	0.39*	0.29	0.00	0.29
35.65	0.32	0.83	0.39*	0.28	0.00	0.28
35.70	0.33	0.83	0.39*	0.27	0.00	0.27
35.75	0.33	0.83	0.40*	0.27	0.00	0.27
35.80	0.33	0.83	0.40*	0.26	0.00	0.26
35.85	0.33	0.83	0.40*	0.25	0.00	0.25
35.90	0.34	0.83	0.41*	0.25	0.00	0.25
35.95	0.34	0.83	0.41*	0.24	0.00	0.24
36.00	0.34	0.83	0.41*	0.23	0.00	0.23
36.05	0.34	0.83	0.42*	0.23	0.00	0.23
36.10	0.35	0.83	0.42*	0.22	0.00	0.22
36.15	0.35	0.83	0.42*	0.21	0.00	0.21
36.20	0.35	0.83	0.43*	0.21	0.00	0.21
36.25	0.35	0.83	0.43*	0.20	0.00	0.20
36.30	0.36	0.83	0.43*	0.20	0.00	0.20
36.35	0.36	0.82	0.44*	0.19	0.00	0.19
36.40	0.36	0.82	0.44*	0.18	0.00	0.18
36.45	0.37	0.82	0.44*	0.18	0.00	0.18
36.50	0.37	0.82	0.45*	0.17	0.00	0.17
36.55	0.37	0.82	0.45*	0.17	0.00	0.17
36.60	0.37	0.82	0.45*	0.16	0.00	0.16
36.65	0.38	0.82	0.46*	0.15	0.00	0.15
36.70	0.38	0.82	0.46*	0.15	0.00	0.15
36.75	0.39	0.82	0.47*	0.14	0.00	0.14
36.80	0.39	0.82	0.47*	0.14	0.00	0.14
36.85	0.39	0.82	0.48*	0.13	0.00	0.13
36.90	0.40	0.82	0.48*	0.13	0.00	0.13
36.95	0.40	0.82	0.49*	0.12	0.00	0.12
37.00	0.41	0.82	0.50*	0.11	0.00	0.11
37.05	0.41	0.82	0.50*	0.11	0.00	0.11
37.10	0.42	0.82	0.51*	0.10	0.00	0.10
37.15	0.43	0.82	0.52*	0.10	0.00	0.10
37.20	0.43	0.82	0.53*	0.09	0.00	0.09
37.25	0.44	0.82	0.54*	0.09	0.00	0.09
37.30	0.45	0.82	0.55*	0.08	0.00	0.08
37.35	0.47	0.82	0.57*	0.08	0.00	0.08
37.40	0.49	0.82	0.60*	0.08	0.00	0.08
37.45	0.53	0.82	0.64*	0.07	0.00	0.07
37.50	2.16	0.82	2.63	0.07	0.00	0.07
37.55	2.16	0.82	2.64	0.06	0.00	0.06

37.60	2.16	0.82	2.64	0.06	0.00	0.06
37.65	2.16	0.82	2.64	0.05	0.00	0.05
37.70	2.16	0.82	2.64	0.05	0.00	0.05
37.75	2.16	0.82	2.64	0.05	0.00	0.05
37.80	2.16	0.82	2.64	0.04	0.00	0.04
37.85	2.16	0.82	2.64	0.04	0.00	0.04
37.90	2.16	0.82	2.64	0.03	0.00	0.03
37.95	2.16	0.82	2.64	0.03	0.00	0.03
38.00	2.16	0.82	2.64	0.03	0.00	0.03
38.05	2.16	0.82	2.64	0.02	0.00	0.02
38.10	2.16	0.82	2.64	0.02	0.00	0.02
38.15	2.16	0.82	2.64	0.02	0.00	0.02
38.20	2.16	0.82	2.64	0.01	0.00	0.01
38.25	2.16	0.82	2.64	0.01	0.00	0.01
38.30	2.16	0.82	2.64	0.01	0.00	0.01
38.35	2.16	0.82	2.64	0.01	0.00	0.01
38.40	2.16	0.82	2.64	0.01	0.00	0.01
38.45	2.16	0.82	2.64	0.01	0.00	0.01
38.50	2.16	0.82	2.64	0.01	0.00	0.01
38.55	2.16	0.82	2.64	0.00	0.00	0.00
38.60	2.16	0.82	2.64	0.00	0.00	0.00
38.65	2.16	0.82	2.64	0.00	0.00	0.00
38.70	2.16	0.82	2.64	0.00	0.00	0.00
38.75	2.15	0.82	2.64	0.00	0.00	0.00
38.80	2.15	0.82	2.64	0.00	0.00	0.00
38.85	2.15	0.82	2.64	0.00	0.00	0.00
38.90	2.15	0.82	2.64	0.00	0.00	0.00
38.95	2.15	0.82	2.64	0.00	0.00	0.00
39.00	2.15	0.81	2.64	0.00	0.00	0.00
39.05	2.15	0.81	2.64	0.00	0.00	0.00
39.10	2.15	0.81	2.64	0.00	0.00	0.00
39.15	2.15	0.81	2.64	0.00	0.00	0.00
39.20	2.15	0.81	2.64	0.00	0.00	0.00
39.25	2.15	0.81	2.64	0.00	0.00	0.00
39.30	2.15	0.81	2.64	0.00	0.00	0.00
39.35	2.15	0.81	2.64	0.00	0.00	0.00
39.40	2.15	0.81	2.64	0.00	0.00	0.00
39.45	2.15	0.81	2.64	0.00	0.00	0.00
39.50	2.15	0.81	2.65	0.00	0.00	0.00
39.55	2.15	0.81	2.65	0.00	0.00	0.00
39.60	2.15	0.81	2.65	0.00	0.00	0.00
39.65	2.15	0.81	2.65	0.00	0.00	0.00
39.70	2.15	0.81	2.65	0.00	0.00	0.00
39.75	2.15	0.81	2.65	0.00	0.00	0.00
39.80	2.15	0.81	2.65	0.00	0.00	0.00
39.85	2.15	0.81	2.65	0.00	0.00	0.00
39.90	2.15	0.81	2.65	0.00	0.00	0.00
39.95	2.15	0.81	2.65	0.00	0.00	0.00
40.00	2.15	0.81	2.65	0.00	0.00	0.00
40.05	2.15	0.81	2.65	0.00	0.00	0.00
40.10	2.15	0.81	2.65	0.00	0.00	0.00
40.15	2.15	0.81	2.65	0.00	0.00	0.00
40.20	2.15	0.81	2.65	0.00	0.00	0.00
40.25	2.14	0.81	2.65	0.00	0.00	0.00
40.30	2.14	0.81	2.65	0.00	0.00	0.00
40.35	2.14	0.81	2.65	0.00	0.00	0.00
40.40	2.14	0.81	2.65	0.00	0.00	0.00
40.45	2.14	0.81	2.65	0.00	0.00	0.00
40.50	2.14	0.81	2.65	0.00	0.00	0.00
40.55	2.14	0.81	2.65	0.00	0.00	0.00
40.60	2.14	0.81	2.65	0.00	0.00	0.00
40.65	2.14	0.81	2.65	0.00	0.00	0.00
40.70	2.14	0.81	2.65	0.00	0.00	0.00

40.75	2.14	0.81	2.65	0.00	0.00	0.00
40.80	2.14	0.81	2.65	0.00	0.00	0.00
40.85	2.14	0.81	2.65	0.00	0.00	0.00
40.90	2.14	0.81	2.66	0.00	0.00	0.00
40.95	2.14	0.81	2.66	0.00	0.00	0.00
41.00	2.14	0.81	2.66	0.00	0.00	0.00
41.05	2.14	0.81	2.66	0.00	0.00	0.00
41.10	2.14	0.81	2.66	0.00	0.00	0.00
41.15	2.14	0.80	2.66	0.00	0.00	0.00
41.20	2.14	0.80	2.66	0.00	0.00	0.00
41.25	2.14	0.80	2.66	0.00	0.00	0.00
41.30	2.14	0.80	2.66	0.00	0.00	0.00
41.35	2.14	0.80	2.66	0.00	0.00	0.00
41.40	2.14	0.80	2.66	0.00	0.00	0.00
41.45	2.14	0.80	2.66	0.00	0.00	0.00
41.50	2.14	0.80	2.66	0.00	0.00	0.00
41.55	2.14	0.80	2.66	0.00	0.00	0.00
41.60	2.14	0.80	2.66	0.00	0.00	0.00
41.65	2.14	0.80	2.66	0.00	0.00	0.00
41.70	2.13	0.80	2.66	0.00	0.00	0.00
41.75	2.13	0.80	2.66	0.00	0.00	0.00
41.80	2.13	0.80	2.66	0.00	0.00	0.00
41.85	2.13	0.80	2.66	0.00	0.00	0.00
41.90	2.13	0.80	2.66	0.00	0.00	0.00
41.95	2.13	0.80	2.66	0.00	0.00	0.00
42.00	2.13	0.80	2.66	0.00	0.00	0.00
42.05	2.13	0.80	2.67	0.00	0.00	0.00
42.10	2.13	0.80	2.67	0.00	0.00	0.00
42.15	2.13	0.80	2.67	0.00	0.00	0.00
42.20	2.13	0.80	2.67	0.00	0.00	0.00
42.25	2.13	0.80	2.67	0.00	0.00	0.00
42.30	2.13	0.80	2.67	0.00	0.00	0.00
42.35	2.13	0.80	2.67	0.00	0.00	0.00
42.40	2.13	0.80	2.67	0.00	0.00	0.00
42.45	2.13	0.80	2.67	0.00	0.00	0.00
42.50	2.13	0.80	2.67	0.00	0.00	0.00
42.55	2.13	0.80	2.67	0.00	0.00	0.00
42.60	2.13	0.80	2.67	0.00	0.00	0.00
42.65	2.13	0.80	2.67	0.00	0.00	0.00
42.70	2.13	0.80	2.67	0.00	0.00	0.00
42.75	2.13	0.80	2.67	0.00	0.00	0.00
42.80	2.13	0.80	2.67	0.00	0.00	0.00
42.85	2.13	0.80	2.67	0.00	0.00	0.00
42.90	2.13	0.80	2.67	0.00	0.00	0.00
42.95	2.13	0.80	2.67	0.00	0.00	0.00
43.00	2.13	0.79	2.67	0.00	0.00	0.00
43.05	2.00	0.79	5.00	0.00	0.00	0.00
43.10	2.00	0.79	5.00	0.00	0.00	0.00
43.15	2.00	0.79	5.00	0.00	0.00	0.00
43.20	2.00	0.79	5.00	0.00	0.00	0.00
43.25	2.00	0.79	5.00	0.00	0.00	0.00
43.30	2.00	0.79	5.00	0.00	0.00	0.00
43.35	2.00	0.79	5.00	0.00	0.00	0.00
43.40	2.00	0.79	5.00	0.00	0.00	0.00
43.45	2.00	0.79	5.00	0.00	0.00	0.00
43.50	2.00	0.79	5.00	0.00	0.00	0.00
43.55	2.00	0.79	5.00	0.00	0.00	0.00
43.60	2.00	0.79	5.00	0.00	0.00	0.00
43.65	2.00	0.79	5.00	0.00	0.00	0.00
43.70	2.00	0.79	5.00	0.00	0.00	0.00
43.75	2.00	0.79	5.00	0.00	0.00	0.00
43.80	2.00	0.79	5.00	0.00	0.00	0.00
43.85	2.00	0.79	5.00	0.00	0.00	0.00

43.90	2.00	0.79	5.00	0.00	0.00	0.00
43.95	2.00	0.79	5.00	0.00	0.00	0.00
44.00	2.00	0.79	5.00	0.00	0.00	0.00
44.05	2.00	0.79	5.00	0.00	0.00	0.00
44.10	2.00	0.79	5.00	0.00	0.00	0.00
44.15	2.00	0.79	5.00	0.00	0.00	0.00
44.20	2.00	0.79	5.00	0.00	0.00	0.00
44.25	2.00	0.79	5.00	0.00	0.00	0.00
44.30	2.00	0.79	5.00	0.00	0.00	0.00
44.35	2.00	0.79	5.00	0.00	0.00	0.00
44.40	2.00	0.79	5.00	0.00	0.00	0.00
44.45	2.00	0.79	5.00	0.00	0.00	0.00
44.50	2.00	0.79	5.00	0.00	0.00	0.00
44.55	2.00	0.79	5.00	0.00	0.00	0.00
44.60	2.00	0.79	5.00	0.00	0.00	0.00
44.65	2.00	0.79	5.00	0.00	0.00	0.00
44.70	2.00	0.78	5.00	0.00	0.00	0.00
44.75	2.00	0.78	5.00	0.00	0.00	0.00
44.80	2.00	0.78	5.00	0.00	0.00	0.00
44.85	2.00	0.78	5.00	0.00	0.00	0.00
44.90	2.00	0.78	5.00	0.00	0.00	0.00
44.95	2.00	0.78	5.00	0.00	0.00	0.00
45.00	2.00	0.78	5.00	0.00	0.00	0.00
45.05	2.00	0.78	5.00	0.00	0.00	0.00
45.10	2.00	0.78	5.00	0.00	0.00	0.00
45.15	2.00	0.78	5.00	0.00	0.00	0.00
45.20	2.00	0.78	5.00	0.00	0.00	0.00
45.25	2.00	0.78	5.00	0.00	0.00	0.00
45.30	2.00	0.78	5.00	0.00	0.00	0.00
45.35	2.00	0.78	5.00	0.00	0.00	0.00
45.40	2.00	0.78	5.00	0.00	0.00	0.00
45.45	2.00	0.78	5.00	0.00	0.00	0.00
45.50	2.00	0.78	5.00	0.00	0.00	0.00
45.55	2.00	0.78	5.00	0.00	0.00	0.00
45.60	2.00	0.78	5.00	0.00	0.00	0.00
45.65	2.00	0.78	5.00	0.00	0.00	0.00
45.70	2.00	0.78	5.00	0.00	0.00	0.00
45.75	2.00	0.78	5.00	0.00	0.00	0.00
45.80	2.00	0.78	5.00	0.00	0.00	0.00
45.85	2.00	0.78	5.00	0.00	0.00	0.00
45.90	2.00	0.78	5.00	0.00	0.00	0.00
45.95	2.00	0.78	5.00	0.00	0.00	0.00
46.00	2.00	0.78	5.00	0.00	0.00	0.00
46.05	2.00	0.78	5.00	0.00	0.00	0.00
46.10	2.00	0.78	5.00	0.00	0.00	0.00
46.15	2.00	0.78	5.00	0.00	0.00	0.00
46.20	2.00	0.78	5.00	0.00	0.00	0.00
46.25	2.00	0.78	5.00	0.00	0.00	0.00
46.30	2.00	0.78	5.00	0.00	0.00	0.00
46.35	2.00	0.77	5.00	0.00	0.00	0.00
46.40	2.00	0.77	5.00	0.00	0.00	0.00
46.45	2.00	0.77	5.00	0.00	0.00	0.00
46.50	2.00	0.77	5.00	0.00	0.00	0.00
46.55	2.00	0.77	5.00	0.00	0.00	0.00
46.60	2.00	0.77	5.00	0.00	0.00	0.00
46.65	2.00	0.77	5.00	0.00	0.00	0.00
46.70	2.00	0.77	5.00	0.00	0.00	0.00
46.75	2.00	0.77	5.00	0.00	0.00	0.00
46.80	2.00	0.77	5.00	0.00	0.00	0.00
46.85	2.00	0.77	5.00	0.00	0.00	0.00
46.90	2.00	0.77	5.00	0.00	0.00	0.00
46.95	2.00	0.77	5.00	0.00	0.00	0.00
47.00	2.00	0.77	5.00	0.00	0.00	0.00

47.05	2.00	0.77	5.00	0.00	0.00	0.00
47.10	2.00	0.77	5.00	0.00	0.00	0.00
47.15	2.00	0.77	5.00	0.00	0.00	0.00
47.20	2.00	0.77	5.00	0.00	0.00	0.00
47.25	2.00	0.77	5.00	0.00	0.00	0.00
47.30	2.00	0.77	5.00	0.00	0.00	0.00
47.35	2.00	0.77	5.00	0.00	0.00	0.00
47.40	2.00	0.77	5.00	0.00	0.00	0.00
47.45	2.00	0.77	5.00	0.00	0.00	0.00
47.50	2.00	0.77	5.00	0.00	0.00	0.00
47.55	2.00	0.77	5.00	0.00	0.00	0.00
47.60	2.00	0.77	5.00	0.00	0.00	0.00
47.65	2.00	0.77	5.00	0.00	0.00	0.00
47.70	2.00	0.77	5.00	0.00	0.00	0.00
47.75	2.00	0.77	5.00	0.00	0.00	0.00
47.80	2.00	0.77	5.00	0.00	0.00	0.00
47.85	2.00	0.77	5.00	0.00	0.00	0.00
47.90	2.00	0.77	5.00	0.00	0.00	0.00
47.95	2.00	0.76	5.00	0.00	0.00	0.00
48.00	2.00	0.76	5.00	0.00	0.00	0.00
48.05	2.00	0.76	5.00	0.00	0.00	0.00
48.10	2.00	0.76	5.00	0.00	0.00	0.00
48.15	2.00	0.76	5.00	0.00	0.00	0.00
48.20	2.00	0.76	5.00	0.00	0.00	0.00
48.25	2.00	0.76	5.00	0.00	0.00	0.00
48.30	2.00	0.76	5.00	0.00	0.00	0.00
48.35	2.00	0.76	5.00	0.00	0.00	0.00
48.40	2.00	0.76	5.00	0.00	0.00	0.00
48.45	2.00	0.76	5.00	0.00	0.00	0.00
48.50	2.00	0.76	5.00	0.00	0.00	0.00
48.55	2.00	0.76	5.00	0.00	0.00	0.00
48.60	2.00	0.76	5.00	0.00	0.00	0.00
48.65	2.00	0.76	5.00	0.00	0.00	0.00
48.70	2.00	0.76	5.00	0.00	0.00	0.00
48.75	2.00	0.76	5.00	0.00	0.00	0.00
48.80	2.00	0.76	5.00	0.00	0.00	0.00
48.85	2.00	0.76	5.00	0.00	0.00	0.00
48.90	2.00	0.76	5.00	0.00	0.00	0.00
48.95	2.00	0.76	5.00	0.00	0.00	0.00
49.00	2.00	0.76	5.00	0.00	0.00	0.00
49.05	2.00	0.76	5.00	0.00	0.00	0.00
49.10	2.00	0.76	5.00	0.00	0.00	0.00
49.15	2.00	0.76	5.00	0.00	0.00	0.00
49.20	2.00	0.76	5.00	0.00	0.00	0.00
49.25	2.00	0.76	5.00	0.00	0.00	0.00
49.30	2.00	0.76	5.00	0.00	0.00	0.00
49.35	2.00	0.76	5.00	0.00	0.00	0.00
49.40	2.00	0.76	5.00	0.00	0.00	0.00
49.45	2.00	0.76	5.00	0.00	0.00	0.00
49.50	2.00	0.75	5.00	0.00	0.00	0.00
49.55	2.00	0.75	5.00	0.00	0.00	0.00
49.60	2.00	0.75	5.00	0.00	0.00	0.00
49.65	2.00	0.75	5.00	0.00	0.00	0.00
49.70	2.00	0.75	5.00	0.00	0.00	0.00
49.75	2.00	0.75	5.00	0.00	0.00	0.00
49.80	2.00	0.75	5.00	0.00	0.00	0.00
49.85	2.00	0.75	5.00	0.00	0.00	0.00
49.90	2.00	0.75	5.00	0.00	0.00	0.00
49.95	2.00	0.75	5.00	0.00	0.00	0.00
50.00	2.00	0.75	5.00	0.00	0.00	0.00

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* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)

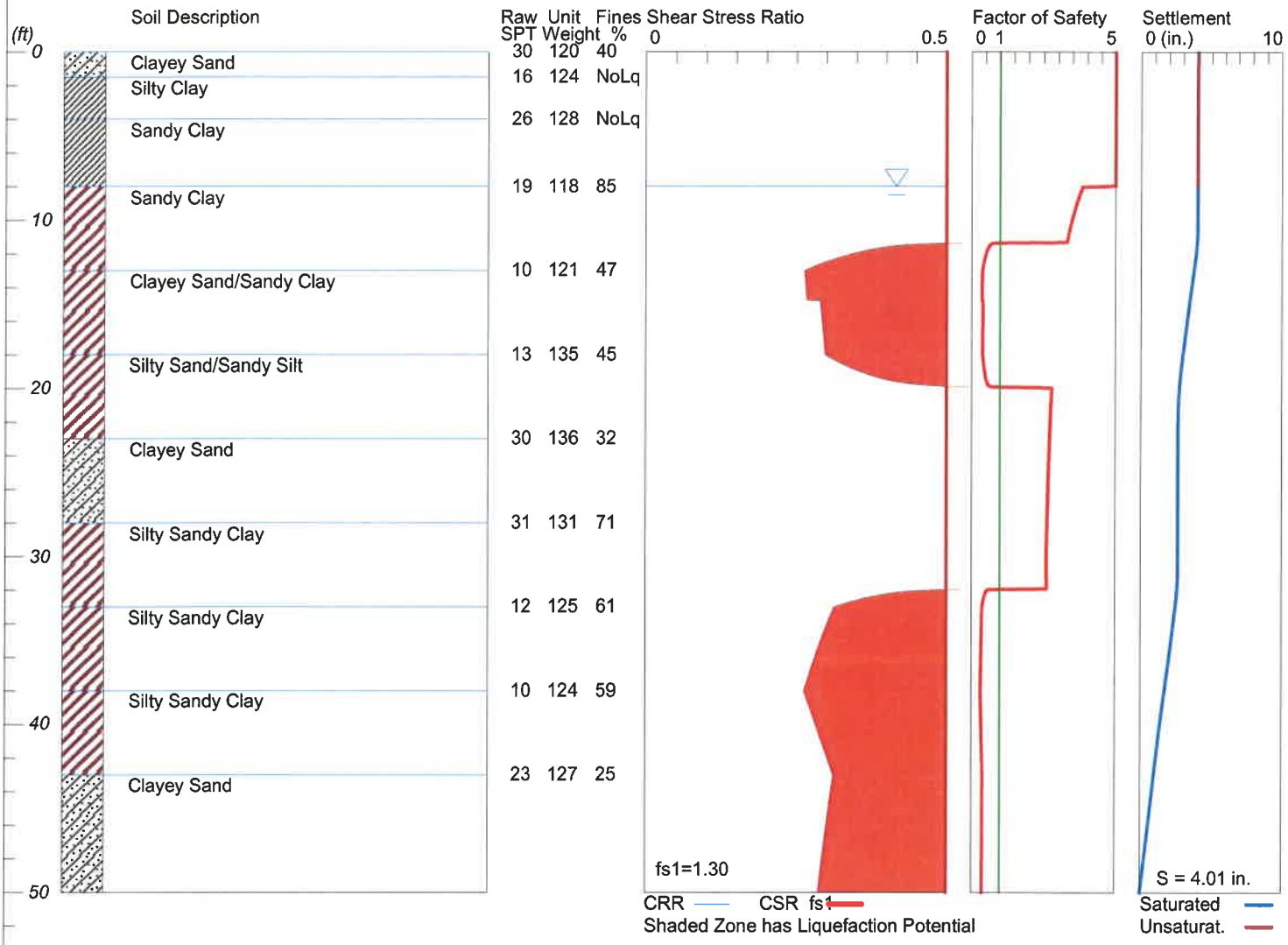
CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

LIQUEFACTION ANALYSIS

New High School - Dublin

Hole No.=B19 Water Depth=8 ft

Magnitude=7.29
Acceleration=0.674g



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LIQUEFACTION ANALYSIS SUMMARY
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Input File Name: C:\Liquefy5\04219017B19.liq
Title: New High School - Dublin
Subtitle: Boring B19
Surface Elev.=
Hole No.=B19
Depth of Hole= 50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 18.50 ft
Max. Acceleration= 0.67 g
Earthquake Magnitude= 7.29

Input Data:

Surface Elev.=
Hole No.=B19
Depth of Hole=50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 18.50 ft
Max. Acceleration=0.67 g
Earthquake Magnitude=7.29
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu/Seed
3. Fines Correction for Liquefaction: Modify Stark/Olson
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1.25
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*

* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	30.00	120.00	40.00
1.50	16.00	124.00	NoLiq
4.00	26.00	128.00	NoLiq
8.00	19.00	118.00	85.00
13.00	10.00	121.00	47.00
18.00	13.00	135.00	45.00
23.00	30.00	136.00	32.00
28.00	31.00	131.00	71.00
33.00	12.00	125.00	61.00
38.00	10.00	124.00	59.00
43.00	23.00	127.00	25.00
50.00	23.00	127.00	25.00

Output Results:

Settlement of Saturated Sands=4.01 in.
Settlement of Unsaturated Sands=0.00 in.
Total Settlement of Saturated and Unsaturated Sands=4.01 in.
Differential Settlement=2.005 to 2.647 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	in.	S_dry S_all in.
0.00	2.15	0.57	5.00	4.01	0.00	4.01
0.05	2.15	0.57	5.00	4.01	0.00	4.01
0.10	2.15	0.57	5.00	4.01	0.00	4.01
0.15	2.15	0.57	5.00	4.01	0.00	4.01
0.20	2.15	0.57	5.00	4.01	0.00	4.01
0.25	2.15	0.57	5.00	4.01	0.00	4.01
0.30	2.15	0.57	5.00	4.01	0.00	4.01
0.35	2.15	0.57	5.00	4.01	0.00	4.01
0.40	2.15	0.57	5.00	4.01	0.00	4.01
0.45	2.15	0.57	5.00	4.01	0.00	4.01
0.50	2.15	0.57	5.00	4.01	0.00	4.01
0.55	2.15	0.57	5.00	4.01	0.00	4.01
0.60	2.15	0.57	5.00	4.01	0.00	4.01
0.65	2.15	0.57	5.00	4.01	0.00	4.01
0.70	2.15	0.57	5.00	4.01	0.00	4.01
0.75	2.15	0.57	5.00	4.01	0.00	4.01
0.80	2.15	0.57	5.00	4.01	0.00	4.01
0.85	2.15	0.57	5.00	4.01	0.00	4.01
0.90	2.15	0.57	5.00	4.01	0.00	4.01
0.95	2.15	0.57	5.00	4.01	0.00	4.01
1.00	2.15	0.57	5.00	4.01	0.00	4.01
1.05	2.15	0.57	5.00	4.01	0.00	4.01
1.10	2.15	0.57	5.00	4.01	0.00	4.01
1.15	2.15	0.57	5.00	4.01	0.00	4.01
1.20	2.15	0.57	5.00	4.01	0.00	4.01
1.25	2.15	0.57	5.00	4.01	0.00	4.01
1.30	2.15	0.57	5.00	4.01	0.00	4.01
1.35	2.15	0.57	5.00	4.01	0.00	4.01
1.40	2.15	0.57	5.00	4.01	0.00	4.01
1.45	2.15	0.57	5.00	4.01	0.00	4.01
1.50	2.15	0.57	5.00	4.01	0.00	4.01
1.55	2.00	0.57	5.00	4.01	0.00	4.01
1.60	2.00	0.57	5.00	4.01	0.00	4.01
1.65	2.00	0.57	5.00	4.01	0.00	4.01
1.70	2.00	0.57	5.00	4.01	0.00	4.01
1.75	2.00	0.57	5.00	4.01	0.00	4.01
1.80	2.00	0.57	5.00	4.01	0.00	4.01
1.85	2.00	0.57	5.00	4.01	0.00	4.01
1.90	2.00	0.57	5.00	4.01	0.00	4.01
1.95	2.00	0.57	5.00	4.01	0.00	4.01
2.00	2.00	0.57	5.00	4.01	0.00	4.01
2.05	2.00	0.57	5.00	4.01	0.00	4.01
2.10	2.00	0.57	5.00	4.01	0.00	4.01
2.15	2.00	0.57	5.00	4.01	0.00	4.01
2.20	2.00	0.57	5.00	4.01	0.00	4.01
2.25	2.00	0.57	5.00	4.01	0.00	4.01
2.30	2.00	0.57	5.00	4.01	0.00	4.01
2.35	2.00	0.57	5.00	4.01	0.00	4.01
2.40	2.00	0.57	5.00	4.01	0.00	4.01
2.45	2.00	0.57	5.00	4.01	0.00	4.01
2.50	2.00	0.57	5.00	4.01	0.00	4.01
2.55	2.00	0.57	5.00	4.01	0.00	4.01
2.60	2.00	0.57	5.00	4.01	0.00	4.01
2.65	2.00	0.57	5.00	4.01	0.00	4.01
2.70	2.00	0.57	5.00	4.01	0.00	4.01
2.75	2.00	0.57	5.00	4.01	0.00	4.01
2.80	2.00	0.57	5.00	4.01	0.00	4.01
2.85	2.00	0.57	5.00	4.01	0.00	4.01
2.90	2.00	0.57	5.00	4.01	0.00	4.01

2.95	2.00	0.57	5.00	4.01	0.00	4.01
3.00	2.00	0.57	5.00	4.01	0.00	4.01
3.05	2.00	0.57	5.00	4.01	0.00	4.01
3.10	2.00	0.57	5.00	4.01	0.00	4.01
3.15	2.00	0.57	5.00	4.01	0.00	4.01
3.20	2.00	0.57	5.00	4.01	0.00	4.01
3.25	2.00	0.57	5.00	4.01	0.00	4.01
3.30	2.00	0.57	5.00	4.01	0.00	4.01
3.35	2.00	0.57	5.00	4.01	0.00	4.01
3.40	2.00	0.57	5.00	4.01	0.00	4.01
3.45	2.00	0.56	5.00	4.01	0.00	4.01
3.50	2.00	0.56	5.00	4.01	0.00	4.01
3.55	2.00	0.56	5.00	4.01	0.00	4.01
3.60	2.00	0.56	5.00	4.01	0.00	4.01
3.65	2.00	0.56	5.00	4.01	0.00	4.01
3.70	2.00	0.56	5.00	4.01	0.00	4.01
3.75	2.00	0.56	5.00	4.01	0.00	4.01
3.80	2.00	0.56	5.00	4.01	0.00	4.01
3.85	2.00	0.56	5.00	4.01	0.00	4.01
3.90	2.00	0.56	5.00	4.01	0.00	4.01
3.95	2.00	0.56	5.00	4.01	0.00	4.01
4.00	2.00	0.56	5.00	4.01	0.00	4.01
4.05	2.00	0.56	5.00	4.01	0.00	4.01
4.10	2.00	0.56	5.00	4.01	0.00	4.01
4.15	2.00	0.56	5.00	4.01	0.00	4.01
4.20	2.00	0.56	5.00	4.01	0.00	4.01
4.25	2.00	0.56	5.00	4.01	0.00	4.01
4.30	2.00	0.56	5.00	4.01	0.00	4.01
4.35	2.00	0.56	5.00	4.01	0.00	4.01
4.40	2.00	0.56	5.00	4.01	0.00	4.01
4.45	2.00	0.56	5.00	4.01	0.00	4.01
4.50	2.00	0.56	5.00	4.01	0.00	4.01
4.55	2.00	0.56	5.00	4.01	0.00	4.01
4.60	2.00	0.56	5.00	4.01	0.00	4.01
4.65	2.00	0.56	5.00	4.01	0.00	4.01
4.70	2.00	0.56	5.00	4.01	0.00	4.01
4.75	2.00	0.56	5.00	4.01	0.00	4.01
4.80	2.00	0.56	5.00	4.01	0.00	4.01
4.85	2.00	0.56	5.00	4.01	0.00	4.01
4.90	2.00	0.56	5.00	4.01	0.00	4.01
4.95	2.00	0.56	5.00	4.01	0.00	4.01
5.00	2.00	0.56	5.00	4.01	0.00	4.01
5.05	2.00	0.56	5.00	4.01	0.00	4.01
5.10	2.00	0.56	5.00	4.01	0.00	4.01
5.15	2.00	0.56	5.00	4.01	0.00	4.01
5.20	2.00	0.56	5.00	4.01	0.00	4.01
5.25	2.00	0.56	5.00	4.01	0.00	4.01
5.30	2.00	0.56	5.00	4.01	0.00	4.01
5.35	2.00	0.56	5.00	4.01	0.00	4.01
5.40	2.00	0.56	5.00	4.01	0.00	4.01
5.45	2.00	0.56	5.00	4.01	0.00	4.01
5.50	2.00	0.56	5.00	4.01	0.00	4.01
5.55	2.00	0.56	5.00	4.01	0.00	4.01
5.60	2.00	0.56	5.00	4.01	0.00	4.01
5.65	2.00	0.56	5.00	4.01	0.00	4.01
5.70	2.00	0.56	5.00	4.01	0.00	4.01
5.75	2.00	0.56	5.00	4.01	0.00	4.01
5.80	2.00	0.56	5.00	4.01	0.00	4.01
5.85	2.00	0.56	5.00	4.01	0.00	4.01
5.90	2.00	0.56	5.00	4.01	0.00	4.01
5.95	2.00	0.56	5.00	4.01	0.00	4.01
6.00	2.00	0.56	5.00	4.01	0.00	4.01
6.05	2.00	0.56	5.00	4.01	0.00	4.01

6.10	2.00	0.56	5.00	4.01	0.00	4.01
6.15	2.00	0.56	5.00	4.01	0.00	4.01
6.20	2.00	0.56	5.00	4.01	0.00	4.01
6.25	2.00	0.56	5.00	4.01	0.00	4.01
6.30	2.00	0.56	5.00	4.01	0.00	4.01
6.35	2.00	0.56	5.00	4.01	0.00	4.01
6.40	2.00	0.56	5.00	4.01	0.00	4.01
6.45	2.00	0.56	5.00	4.01	0.00	4.01
6.50	2.00	0.56	5.00	4.01	0.00	4.01
6.55	2.00	0.56	5.00	4.01	0.00	4.01
6.60	2.00	0.56	5.00	4.01	0.00	4.01
6.65	2.00	0.56	5.00	4.01	0.00	4.01
6.70	2.00	0.56	5.00	4.01	0.00	4.01
6.75	2.00	0.56	5.00	4.01	0.00	4.01
6.80	2.00	0.56	5.00	4.01	0.00	4.01
6.85	2.00	0.56	5.00	4.01	0.00	4.01
6.90	2.00	0.56	5.00	4.01	0.00	4.01
6.95	2.00	0.56	5.00	4.01	0.00	4.01
7.00	2.00	0.56	5.00	4.01	0.00	4.01
7.05	2.00	0.56	5.00	4.01	0.00	4.01
7.10	2.00	0.56	5.00	4.01	0.00	4.01
7.15	2.00	0.56	5.00	4.01	0.00	4.01
7.20	2.00	0.56	5.00	4.01	0.00	4.01
7.25	2.00	0.56	5.00	4.01	0.00	4.01
7.30	2.00	0.56	5.00	4.01	0.00	4.01
7.35	2.00	0.56	5.00	4.01	0.00	4.01
7.40	2.00	0.56	5.00	4.01	0.00	4.01
7.45	2.00	0.56	5.00	4.01	0.00	4.01
7.50	2.00	0.56	5.00	4.01	0.00	4.01
7.55	2.00	0.56	5.00	4.01	0.00	4.01
7.60	2.00	0.56	5.00	4.01	0.00	4.01
7.65	2.00	0.56	5.00	4.01	0.00	4.01
7.70	2.00	0.56	5.00	4.01	0.00	4.01
7.75	2.00	0.56	5.00	4.01	0.00	4.01
7.80	2.00	0.56	5.00	4.01	0.00	4.01
7.85	2.00	0.56	5.00	4.01	0.00	4.01
7.90	2.00	0.56	5.00	4.01	0.00	4.01
7.95	2.00	0.56	5.00	4.01	0.00	4.01
8.00	2.15	0.56	3.85	4.01	0.00	4.01
8.05	2.15	0.56	3.84	4.01	0.00	4.01
8.10	2.15	0.56	3.82	4.01	0.00	4.01
8.15	2.15	0.56	3.81	4.01	0.00	4.01
8.20	2.15	0.57	3.80	4.01	0.00	4.01
8.25	2.15	0.57	3.79	4.01	0.00	4.01
8.30	2.15	0.57	3.78	4.01	0.00	4.01
8.35	2.15	0.57	3.77	4.01	0.00	4.01
8.40	2.15	0.57	3.76	4.01	0.00	4.01
8.45	2.15	0.57	3.75	4.01	0.00	4.01
8.50	2.15	0.58	3.74	4.01	0.00	4.01
8.55	2.15	0.58	3.73	4.01	0.00	4.01
8.60	2.15	0.58	3.72	4.01	0.00	4.01
8.65	2.15	0.58	3.71	4.01	0.00	4.01
8.70	2.15	0.58	3.70	4.01	0.00	4.01
8.75	2.15	0.58	3.69	4.01	0.00	4.01
8.80	2.15	0.58	3.68	4.01	0.00	4.01
8.85	2.15	0.59	3.67	4.01	0.00	4.01
8.90	2.15	0.59	3.66	4.01	0.00	4.01
8.95	2.15	0.59	3.65	4.01	0.00	4.01
9.00	2.15	0.59	3.64	4.01	0.00	4.01
9.05	2.15	0.59	3.63	4.01	0.00	4.01
9.10	2.15	0.59	3.62	4.01	0.00	4.01
9.15	2.15	0.60	3.61	4.01	0.00	4.01
9.20	2.15	0.60	3.60	4.01	0.00	4.01

9.25	2.15	0.60	3.59	4.01	0.00	4.01
9.30	2.15	0.60	3.59	4.01	0.00	4.01
9.35	2.15	0.60	3.58	4.01	0.00	4.01
9.40	2.15	0.60	3.57	4.01	0.00	4.01
9.45	2.15	0.60	3.56	4.01	0.00	4.01
9.50	2.15	0.61	3.55	4.01	0.00	4.01
9.55	2.15	0.61	3.54	4.01	0.00	4.01
9.60	2.15	0.61	3.53	4.01	0.00	4.01
9.65	2.15	0.61	3.53	4.01	0.00	4.01
9.70	2.15	0.61	3.52	4.01	0.00	4.01
9.75	2.15	0.61	3.51	4.01	0.00	4.01
9.80	2.15	0.61	3.50	4.01	0.00	4.01
9.85	2.15	0.62	3.50	4.01	0.00	4.01
9.90	2.15	0.62	3.49	4.01	0.00	4.01
9.95	2.15	0.62	3.48	4.01	0.00	4.01
10.00	2.15	0.62	3.47	4.01	0.00	4.01
10.05	2.15	0.62	3.46	4.01	0.00	4.01
10.10	2.15	0.62	3.46	4.01	0.00	4.01
10.15	2.15	0.62	3.45	4.01	0.00	4.01
10.20	2.15	0.62	3.44	4.01	0.00	4.01
10.25	2.15	0.63	3.44	4.01	0.00	4.01
10.30	2.15	0.63	3.43	4.01	0.00	4.01
10.35	2.15	0.63	3.42	4.01	0.00	4.01
10.40	2.15	0.63	3.41	4.00	0.00	4.00
10.45	2.15	0.63	3.41	4.00	0.00	4.00
10.50	2.15	0.63	3.40	4.00	0.00	4.00
10.55	2.15	0.63	3.39	4.00	0.00	4.00
10.60	2.15	0.63	3.39	4.00	0.00	4.00
10.65	2.15	0.64	3.38	4.00	0.00	4.00
10.70	2.15	0.64	3.37	4.00	0.00	4.00
10.75	2.15	0.64	3.37	4.00	0.00	4.00
10.80	2.15	0.64	3.36	3.99	0.00	3.99
10.85	2.15	0.64	3.35	3.99	0.00	3.99
10.90	2.15	0.64	3.35	3.99	0.00	3.99
10.95	2.15	0.64	3.34	3.99	0.00	3.99
11.00	2.15	0.64	3.34	3.99	0.00	3.99
11.05	2.15	0.65	3.33	3.98	0.00	3.98
11.10	2.15	0.65	3.32	3.98	0.00	3.98
11.15	2.15	0.65	3.32	3.98	0.00	3.98
11.20	2.15	0.65	3.31	3.97	0.00	3.97
11.25	2.15	0.65	3.31	3.97	0.00	3.97
11.30	2.15	0.65	3.30	3.96	0.00	3.96
11.35	0.52	0.65	0.80*	3.96	0.00	3.96
11.40	0.47	0.65	0.71*	3.96	0.00	3.96
11.45	0.44	0.65	0.67*	3.95	0.00	3.95
11.50	0.42	0.66	0.64*	3.95	0.00	3.95
11.55	0.41	0.66	0.62*	3.94	0.00	3.94
11.60	0.40	0.66	0.60*	3.94	0.00	3.94
11.65	0.39	0.66	0.59*	3.93	0.00	3.93
11.70	0.38	0.66	0.58*	3.92	0.00	3.92
11.75	0.37	0.66	0.56*	3.92	0.00	3.92
11.80	0.37	0.66	0.55*	3.91	0.00	3.91
11.85	0.36	0.66	0.54*	3.91	0.00	3.91
11.90	0.35	0.66	0.53*	3.90	0.00	3.90
11.95	0.35	0.67	0.52*	3.89	0.00	3.89
12.00	0.34	0.67	0.51*	3.89	0.00	3.89
12.05	0.34	0.67	0.50*	3.88	0.00	3.88
12.10	0.33	0.67	0.50*	3.88	0.00	3.88
12.15	0.33	0.67	0.49*	3.87	0.00	3.87
12.20	0.32	0.67	0.48*	3.86	0.00	3.86
12.25	0.32	0.67	0.47*	3.86	0.00	3.86
12.30	0.31	0.67	0.47*	3.85	0.00	3.85
12.35	0.31	0.67	0.46*	3.84	0.00	3.84

12.40	0.31	0.68	0.45*	3.83	0.00	3.83
12.45	0.30	0.68	0.45*	3.83	0.00	3.83
12.50	0.30	0.68	0.44*	3.82	0.00	3.82
12.55	0.29	0.68	0.43*	3.81	0.00	3.81
12.60	0.29	0.68	0.43*	3.81	0.00	3.81
12.65	0.29	0.68	0.42*	3.80	0.00	3.80
12.70	0.28	0.68	0.41*	3.79	0.00	3.79
12.75	0.28	0.68	0.41*	3.78	0.00	3.78
12.80	0.28	0.68	0.40*	3.78	0.00	3.78
12.85	0.27	0.68	0.40*	3.77	0.00	3.77
12.90	0.27	0.69	0.39*	3.76	0.00	3.76
12.95	0.27	0.69	0.39*	3.75	0.00	3.75
13.00	0.26	0.69	0.38*	3.74	0.00	3.74
13.05	0.26	0.69	0.38*	3.74	0.00	3.74
13.10	0.26	0.69	0.38*	3.73	0.00	3.73
13.15	0.26	0.69	0.38*	3.72	0.00	3.72
13.20	0.26	0.69	0.38*	3.71	0.00	3.71
13.25	0.26	0.69	0.38*	3.70	0.00	3.70
13.30	0.26	0.69	0.38*	3.70	0.00	3.70
13.35	0.26	0.69	0.38*	3.69	0.00	3.69
13.40	0.26	0.69	0.38*	3.68	0.00	3.68
13.45	0.26	0.70	0.38*	3.67	0.00	3.67
13.50	0.26	0.70	0.38*	3.66	0.00	3.66
13.55	0.26	0.70	0.38*	3.65	0.00	3.65
13.60	0.26	0.70	0.38*	3.65	0.00	3.65
13.65	0.26	0.70	0.38*	3.64	0.00	3.64
13.70	0.26	0.70	0.38*	3.63	0.00	3.63
13.75	0.26	0.70	0.38*	3.62	0.00	3.62
13.80	0.26	0.70	0.38*	3.61	0.00	3.61
13.85	0.26	0.70	0.38*	3.61	0.00	3.61
13.90	0.26	0.70	0.38*	3.60	0.00	3.60
13.95	0.27	0.70	0.38*	3.59	0.00	3.59
14.00	0.27	0.71	0.38*	3.58	0.00	3.58
14.05	0.27	0.71	0.38*	3.57	0.00	3.57
14.10	0.27	0.71	0.38*	3.57	0.00	3.57
14.15	0.27	0.71	0.38*	3.56	0.00	3.56
14.20	0.27	0.71	0.37*	3.55	0.00	3.55
14.25	0.27	0.71	0.37*	3.54	0.00	3.54
14.30	0.27	0.71	0.37*	3.53	0.00	3.53
14.35	0.27	0.71	0.37*	3.53	0.00	3.53
14.40	0.27	0.71	0.37*	3.52	0.00	3.52
14.45	0.27	0.71	0.37*	3.51	0.00	3.51
14.50	0.27	0.71	0.37*	3.50	0.00	3.50
14.55	0.27	0.71	0.37*	3.49	0.00	3.49
14.60	0.27	0.72	0.37*	3.49	0.00	3.49
14.65	0.27	0.72	0.37*	3.48	0.00	3.48
14.70	0.27	0.72	0.37*	3.47	0.00	3.47
14.75	0.27	0.72	0.37*	3.46	0.00	3.46
14.80	0.29	0.72	0.40*	3.45	0.00	3.45
14.85	0.29	0.72	0.40*	3.45	0.00	3.45
14.90	0.29	0.72	0.40*	3.44	0.00	3.44
14.95	0.29	0.72	0.40*	3.43	0.00	3.43
15.00	0.29	0.72	0.40*	3.42	0.00	3.42
15.05	0.29	0.72	0.40*	3.42	0.00	3.42
15.10	0.29	0.72	0.40*	3.41	0.00	3.41
15.15	0.29	0.72	0.40*	3.40	0.00	3.40
15.20	0.29	0.72	0.40*	3.39	0.00	3.39
15.25	0.29	0.72	0.40*	3.39	0.00	3.39
15.30	0.29	0.73	0.40*	3.38	0.00	3.38
15.35	0.29	0.73	0.40*	3.37	0.00	3.37
15.40	0.29	0.73	0.40*	3.36	0.00	3.36
15.45	0.29	0.73	0.40*	3.36	0.00	3.36
15.50	0.29	0.73	0.40*	3.35	0.00	3.35

15.55	0.29	0.73	0.40*	3.34	0.00	3.34
15.60	0.29	0.73	0.40*	3.33	0.00	3.33
15.65	0.29	0.73	0.40*	3.33	0.00	3.33
15.70	0.29	0.73	0.40*	3.32	0.00	3.32
15.75	0.29	0.73	0.40*	3.31	0.00	3.31
15.80	0.29	0.73	0.40*	3.30	0.00	3.30
15.85	0.29	0.73	0.40*	3.30	0.00	3.30
15.90	0.29	0.73	0.40*	3.29	0.00	3.29
15.95	0.29	0.73	0.40*	3.28	0.00	3.28
16.00	0.29	0.74	0.40*	3.27	0.00	3.27
16.05	0.29	0.74	0.40*	3.27	0.00	3.27
16.10	0.29	0.74	0.40*	3.26	0.00	3.26
16.15	0.29	0.74	0.40*	3.25	0.00	3.25
16.20	0.29	0.74	0.40*	3.25	0.00	3.25
16.25	0.29	0.74	0.40*	3.24	0.00	3.24
16.30	0.29	0.74	0.40*	3.23	0.00	3.23
16.35	0.29	0.74	0.40*	3.22	0.00	3.22
16.40	0.29	0.74	0.40*	3.22	0.00	3.22
16.45	0.29	0.74	0.40*	3.21	0.00	3.21
16.50	0.29	0.74	0.40*	3.20	0.00	3.20
16.55	0.29	0.74	0.40*	3.19	0.00	3.19
16.60	0.29	0.74	0.40*	3.19	0.00	3.19
16.65	0.29	0.74	0.40*	3.18	0.00	3.18
16.70	0.29	0.74	0.40*	3.17	0.00	3.17
16.75	0.29	0.74	0.40*	3.16	0.00	3.16
16.80	0.29	0.75	0.40*	3.16	0.00	3.16
16.85	0.29	0.75	0.40*	3.15	0.00	3.15
16.90	0.30	0.75	0.40*	3.14	0.00	3.14
16.95	0.30	0.75	0.40*	3.14	0.00	3.14
17.00	0.30	0.75	0.40*	3.13	0.00	3.13
17.05	0.30	0.75	0.40*	3.12	0.00	3.12
17.10	0.30	0.75	0.39*	3.11	0.00	3.11
17.15	0.30	0.75	0.39*	3.11	0.00	3.11
17.20	0.30	0.75	0.39*	3.10	0.00	3.10
17.25	0.30	0.75	0.39*	3.09	0.00	3.09
17.30	0.30	0.75	0.39*	3.08	0.00	3.08
17.35	0.30	0.75	0.39*	3.08	0.00	3.08
17.40	0.30	0.75	0.39*	3.07	0.00	3.07
17.45	0.30	0.75	0.39*	3.06	0.00	3.06
17.50	0.30	0.75	0.39*	3.05	0.00	3.05
17.55	0.30	0.75	0.39*	3.05	0.00	3.05
17.60	0.30	0.75	0.39*	3.04	0.00	3.04
17.65	0.30	0.75	0.39*	3.03	0.00	3.03
17.70	0.30	0.76	0.39*	3.03	0.00	3.03
17.75	0.30	0.76	0.39*	3.02	0.00	3.02
17.80	0.30	0.76	0.39*	3.01	0.00	3.01
17.85	0.30	0.76	0.39*	3.00	0.00	3.00
17.90	0.30	0.76	0.39*	3.00	0.00	3.00
17.95	0.30	0.76	0.39*	2.99	0.00	2.99
18.00	0.30	0.76	0.39*	2.98	0.00	2.98
18.05	0.30	0.76	0.40*	2.97	0.00	2.97
18.10	0.30	0.76	0.40*	2.97	0.00	2.97
18.15	0.31	0.76	0.40*	2.96	0.00	2.96
18.20	0.31	0.76	0.40*	2.95	0.00	2.95
18.25	0.31	0.76	0.41*	2.95	0.00	2.95
18.30	0.31	0.76	0.41*	2.94	0.00	2.94
18.35	0.32	0.76	0.41*	2.93	0.00	2.93
18.40	0.32	0.76	0.42*	2.93	0.00	2.93
18.45	0.32	0.76	0.42*	2.92	0.00	2.92
18.50	0.32	0.76	0.42*	2.91	0.00	2.91
18.55	0.33	0.76	0.43*	2.90	0.00	2.90
18.60	0.33	0.76	0.43*	2.90	0.00	2.90
18.65	0.33	0.76	0.44*	2.89	0.00	2.89

18.70	0.34	0.76	0.44*	2.88	0.00	2.88
18.75	0.34	0.77	0.44*	2.88	0.00	2.88
18.80	0.34	0.77	0.45*	2.87	0.00	2.87
18.85	0.35	0.77	0.45*	2.87	0.00	2.87
18.90	0.35	0.77	0.46*	2.86	0.00	2.86
18.95	0.35	0.77	0.46*	2.85	0.00	2.85
19.00	0.36	0.77	0.46*	2.85	0.00	2.85
19.05	0.36	0.77	0.47*	2.84	0.00	2.84
19.10	0.36	0.77	0.47*	2.83	0.00	2.83
19.15	0.37	0.77	0.48*	2.83	0.00	2.83
19.20	0.37	0.77	0.48*	2.82	0.00	2.82
19.25	0.38	0.77	0.49*	2.82	0.00	2.82
19.30	0.38	0.77	0.49*	2.81	0.00	2.81
19.35	0.39	0.77	0.50*	2.80	0.00	2.80
19.40	0.39	0.77	0.51*	2.80	0.00	2.80
19.45	0.40	0.77	0.51*	2.79	0.00	2.79
19.50	0.40	0.77	0.52*	2.79	0.00	2.79
19.55	0.41	0.77	0.53*	2.78	0.00	2.78
19.60	0.42	0.77	0.54*	2.78	0.00	2.78
19.65	0.42	0.77	0.55*	2.77	0.00	2.77
19.70	0.43	0.77	0.56*	2.77	0.00	2.77
19.75	0.45	0.77	0.58*	2.76	0.00	2.76
19.80	0.46	0.77	0.60*	2.76	0.00	2.76
19.85	0.49	0.77	0.63*	2.75	0.00	2.75
19.90	0.54	0.77	0.69*	2.75	0.00	2.75
19.95	2.15	0.78	2.77	2.74	0.00	2.74
20.00	2.15	0.78	2.77	2.74	0.00	2.74
20.05	2.15	0.78	2.77	2.74	0.00	2.74
20.10	2.15	0.78	2.77	2.73	0.00	2.73
20.15	2.15	0.78	2.77	2.73	0.00	2.73
20.20	2.15	0.78	2.77	2.72	0.00	2.72
20.25	2.15	0.78	2.77	2.72	0.00	2.72
20.30	2.15	0.78	2.76	2.72	0.00	2.72
20.35	2.15	0.78	2.76	2.71	0.00	2.71
20.40	2.15	0.78	2.76	2.71	0.00	2.71
20.45	2.15	0.78	2.76	2.71	0.00	2.71
20.50	2.15	0.78	2.76	2.70	0.00	2.70
20.55	2.15	0.78	2.76	2.70	0.00	2.70
20.60	2.15	0.78	2.76	2.70	0.00	2.70
20.65	2.15	0.78	2.76	2.69	0.00	2.69
20.70	2.15	0.78	2.75	2.69	0.00	2.69
20.75	2.15	0.78	2.75	2.69	0.00	2.69
20.80	2.15	0.78	2.75	2.69	0.00	2.69
20.85	2.15	0.78	2.75	2.68	0.00	2.68
20.90	2.15	0.78	2.75	2.68	0.00	2.68
20.95	2.15	0.78	2.75	2.68	0.00	2.68
21.00	2.15	0.78	2.75	2.68	0.00	2.68
21.05	2.15	0.78	2.75	2.68	0.00	2.68
21.10	2.15	0.78	2.74	2.68	0.00	2.68
21.15	2.15	0.78	2.74	2.67	0.00	2.67
21.20	2.15	0.78	2.74	2.67	0.00	2.67
21.25	2.15	0.78	2.74	2.67	0.00	2.67
21.30	2.15	0.78	2.74	2.67	0.00	2.67
21.35	2.15	0.79	2.74	2.67	0.00	2.67
21.40	2.15	0.79	2.74	2.67	0.00	2.67
21.45	2.15	0.79	2.74	2.67	0.00	2.67
21.50	2.15	0.79	2.73	2.67	0.00	2.67
21.55	2.15	0.79	2.73	2.67	0.00	2.67
21.60	2.15	0.79	2.73	2.67	0.00	2.67
21.65	2.15	0.79	2.73	2.66	0.00	2.66
21.70	2.15	0.79	2.73	2.66	0.00	2.66
21.75	2.15	0.79	2.73	2.66	0.00	2.66
21.80	2.15	0.79	2.73	2.66	0.00	2.66

21.85	2.15	0.79	2.73	2.66	0.00	2.66
21.90	2.15	0.79	2.73	2.66	0.00	2.66
21.95	2.15	0.79	2.72	2.66	0.00	2.66
22.00	2.15	0.79	2.72	2.66	0.00	2.66
22.05	2.15	0.79	2.72	2.66	0.00	2.66
22.10	2.15	0.79	2.72	2.66	0.00	2.66
22.15	2.15	0.79	2.72	2.66	0.00	2.66
22.20	2.15	0.79	2.72	2.66	0.00	2.66
22.25	2.15	0.79	2.72	2.65	0.00	2.65
22.30	2.15	0.79	2.72	2.65	0.00	2.65
22.35	2.15	0.79	2.72	2.65	0.00	2.65
22.40	2.15	0.79	2.72	2.65	0.00	2.65
22.45	2.15	0.79	2.71	2.65	0.00	2.65
22.50	2.15	0.79	2.71	2.65	0.00	2.65
22.55	2.15	0.79	2.71	2.65	0.00	2.65
22.60	2.15	0.79	2.71	2.65	0.00	2.65
22.65	2.15	0.79	2.71	2.65	0.00	2.65
22.70	2.15	0.79	2.71	2.65	0.00	2.65
22.75	2.15	0.79	2.71	2.65	0.00	2.65
22.80	2.15	0.79	2.71	2.65	0.00	2.65
22.85	2.15	0.79	2.71	2.65	0.00	2.65
22.90	2.15	0.79	2.71	2.65	0.00	2.65
22.95	2.15	0.79	2.70	2.65	0.00	2.65
23.00	2.15	0.80	2.70	2.65	0.00	2.65
23.05	2.15	0.80	2.70	2.65	0.00	2.65
23.10	2.15	0.80	2.70	2.65	0.00	2.65
23.15	2.15	0.80	2.70	2.65	0.00	2.65
23.20	2.15	0.80	2.70	2.65	0.00	2.65
23.25	2.15	0.80	2.70	2.65	0.00	2.65
23.30	2.15	0.80	2.70	2.65	0.00	2.65
23.35	2.15	0.80	2.70	2.65	0.00	2.65
23.40	2.15	0.80	2.70	2.65	0.00	2.65
23.45	2.15	0.80	2.70	2.65	0.00	2.65
23.50	2.15	0.80	2.69	2.65	0.00	2.65
23.55	2.15	0.80	2.69	2.65	0.00	2.65
23.60	2.15	0.80	2.69	2.65	0.00	2.65
23.65	2.15	0.80	2.69	2.65	0.00	2.65
23.70	2.15	0.80	2.69	2.65	0.00	2.65
23.75	2.15	0.80	2.69	2.65	0.00	2.65
23.80	2.15	0.80	2.69	2.65	0.00	2.65
23.85	2.15	0.80	2.69	2.65	0.00	2.65
23.90	2.15	0.80	2.69	2.65	0.00	2.65
23.95	2.15	0.80	2.69	2.65	0.00	2.65
24.00	2.15	0.80	2.69	2.65	0.00	2.65
24.05	2.15	0.80	2.68	2.65	0.00	2.65
24.10	2.15	0.80	2.68	2.65	0.00	2.65
24.15	2.15	0.80	2.68	2.65	0.00	2.65
24.20	2.15	0.80	2.68	2.65	0.00	2.65
24.25	2.15	0.80	2.68	2.65	0.00	2.65
24.30	2.15	0.80	2.68	2.65	0.00	2.65
24.35	2.15	0.80	2.68	2.65	0.00	2.65
24.40	2.15	0.80	2.68	2.65	0.00	2.65
24.45	2.15	0.80	2.68	2.65	0.00	2.65
24.50	2.15	0.80	2.68	2.65	0.00	2.65
24.55	2.15	0.80	2.68	2.65	0.00	2.65
24.60	2.15	0.80	2.68	2.65	0.00	2.65
24.65	2.15	0.80	2.67	2.65	0.00	2.65
24.70	2.15	0.80	2.67	2.65	0.00	2.65
24.75	2.15	0.80	2.67	2.65	0.00	2.65
24.80	2.15	0.80	2.67	2.65	0.00	2.65
24.85	2.15	0.80	2.67	2.65	0.00	2.65
24.90	2.15	0.81	2.67	2.65	0.00	2.65
24.95	2.15	0.81	2.67	2.65	0.00	2.65

25.00	2.15	0.81	2.67	2.65	0.00	2.65
25.05	2.15	0.81	2.67	2.65	0.00	2.65
25.10	2.15	0.81	2.67	2.65	0.00	2.65
25.15	2.15	0.81	2.67	2.65	0.00	2.65
25.20	2.15	0.81	2.67	2.65	0.00	2.65
25.25	2.15	0.81	2.67	2.65	0.00	2.65
25.30	2.15	0.81	2.66	2.65	0.00	2.65
25.35	2.15	0.81	2.66	2.65	0.00	2.65
25.40	2.15	0.81	2.66	2.65	0.00	2.65
25.45	2.15	0.81	2.66	2.65	0.00	2.65
25.50	2.15	0.81	2.66	2.65	0.00	2.65
25.55	2.15	0.81	2.66	2.65	0.00	2.65
25.60	2.15	0.81	2.66	2.65	0.00	2.65
25.65	2.15	0.81	2.66	2.65	0.00	2.65
25.70	2.15	0.81	2.66	2.65	0.00	2.65
25.75	2.15	0.81	2.66	2.65	0.00	2.65
25.80	2.15	0.81	2.66	2.65	0.00	2.65
25.85	2.15	0.81	2.66	2.65	0.00	2.65
25.90	2.15	0.81	2.66	2.65	0.00	2.65
25.95	2.15	0.81	2.66	2.65	0.00	2.65
26.00	2.15	0.81	2.65	2.65	0.00	2.65
26.05	2.15	0.81	2.65	2.65	0.00	2.65
26.10	2.15	0.81	2.65	2.65	0.00	2.65
26.15	2.15	0.81	2.65	2.65	0.00	2.65
26.20	2.15	0.81	2.65	2.65	0.00	2.65
26.25	2.15	0.81	2.65	2.65	0.00	2.65
26.30	2.15	0.81	2.65	2.65	0.00	2.65
26.35	2.15	0.81	2.65	2.65	0.00	2.65
26.40	2.15	0.81	2.65	2.65	0.00	2.65
26.45	2.15	0.81	2.65	2.65	0.00	2.65
26.50	2.15	0.81	2.65	2.65	0.00	2.65
26.55	2.15	0.81	2.65	2.65	0.00	2.65
26.60	2.15	0.81	2.65	2.65	0.00	2.65
26.65	2.15	0.81	2.65	2.65	0.00	2.65
26.70	2.15	0.81	2.64	2.65	0.00	2.65
26.75	2.15	0.81	2.64	2.65	0.00	2.65
26.80	2.15	0.81	2.64	2.65	0.00	2.65
26.85	2.15	0.81	2.64	2.65	0.00	2.65
26.90	2.15	0.81	2.64	2.65	0.00	2.65
26.95	2.15	0.81	2.64	2.65	0.00	2.65
27.00	2.15	0.81	2.64	2.65	0.00	2.65
27.05	2.15	0.81	2.64	2.65	0.00	2.65
27.10	2.15	0.81	2.64	2.65	0.00	2.65
27.15	2.15	0.81	2.64	2.65	0.00	2.65
27.20	2.15	0.82	2.64	2.65	0.00	2.65
27.25	2.15	0.82	2.64	2.65	0.00	2.65
27.30	2.15	0.82	2.64	2.65	0.00	2.65
27.35	2.15	0.82	2.64	2.65	0.00	2.65
27.40	2.15	0.82	2.64	2.65	0.00	2.65
27.45	2.15	0.82	2.63	2.65	0.00	2.65
27.50	2.15	0.82	2.63	2.65	0.00	2.65
27.55	2.15	0.82	2.63	2.65	0.00	2.65
27.60	2.15	0.82	2.63	2.65	0.00	2.65
27.65	2.15	0.82	2.63	2.65	0.00	2.65
27.70	2.15	0.82	2.63	2.65	0.00	2.65
27.75	2.15	0.82	2.63	2.65	0.00	2.65
27.80	2.15	0.82	2.63	2.65	0.00	2.65
27.85	2.15	0.82	2.63	2.65	0.00	2.65
27.90	2.15	0.82	2.63	2.65	0.00	2.65
27.95	2.15	0.82	2.63	2.65	0.00	2.65
28.00	2.15	0.82	2.63	2.65	0.00	2.65
28.05	2.15	0.82	2.63	2.65	0.00	2.65
28.10	2.15	0.82	2.63	2.65	0.00	2.65

28.15	2.15	0.82	2.63	2.65	0.00	2.65
28.20	2.15	0.82	2.63	2.65	0.00	2.65
28.25	2.15	0.82	2.62	2.65	0.00	2.65
28.30	2.15	0.82	2.62	2.65	0.00	2.65
28.35	2.15	0.82	2.62	2.65	0.00	2.65
28.40	2.15	0.82	2.62	2.65	0.00	2.65
28.45	2.15	0.82	2.62	2.65	0.00	2.65
28.50	2.15	0.82	2.62	2.65	0.00	2.65
28.55	2.15	0.82	2.62	2.65	0.00	2.65
28.60	2.15	0.82	2.62	2.65	0.00	2.65
28.65	2.15	0.82	2.62	2.65	0.00	2.65
28.70	2.15	0.82	2.62	2.65	0.00	2.65
28.75	2.15	0.82	2.62	2.65	0.00	2.65
28.80	2.15	0.82	2.62	2.65	0.00	2.65
28.85	2.15	0.82	2.62	2.65	0.00	2.65
28.90	2.15	0.82	2.62	2.65	0.00	2.65
28.95	2.15	0.82	2.62	2.65	0.00	2.65
29.00	2.15	0.82	2.62	2.65	0.00	2.65
29.05	2.15	0.82	2.62	2.65	0.00	2.65
29.10	2.15	0.82	2.61	2.65	0.00	2.65
29.15	2.15	0.82	2.61	2.65	0.00	2.65
29.20	2.15	0.82	2.61	2.65	0.00	2.65
29.25	2.15	0.82	2.61	2.65	0.00	2.65
29.30	2.15	0.82	2.61	2.65	0.00	2.65
29.35	2.15	0.82	2.61	2.65	0.00	2.65
29.40	2.15	0.82	2.61	2.65	0.00	2.65
29.45	2.15	0.82	2.61	2.65	0.00	2.65
29.50	2.15	0.82	2.61	2.65	0.00	2.65
29.55	2.15	0.82	2.61	2.65	0.00	2.65
29.60	2.15	0.82	2.61	2.65	0.00	2.65
29.65	2.15	0.82	2.61	2.65	0.00	2.65
29.70	2.15	0.82	2.61	2.65	0.00	2.65
29.75	2.15	0.82	2.61	2.65	0.00	2.65
29.80	2.15	0.82	2.61	2.65	0.00	2.65
29.85	2.15	0.82	2.61	2.65	0.00	2.65
29.90	2.15	0.83	2.61	2.65	0.00	2.65
29.95	2.15	0.83	2.61	2.65	0.00	2.65
30.00	2.15	0.83	2.60	2.65	0.00	2.65
30.05	2.15	0.83	2.61	2.65	0.00	2.65
30.10	2.15	0.83	2.61	2.65	0.00	2.65
30.15	2.15	0.82	2.61	2.65	0.00	2.65
30.20	2.15	0.82	2.61	2.65	0.00	2.65
30.25	2.15	0.82	2.61	2.65	0.00	2.65
30.30	2.15	0.82	2.61	2.65	0.00	2.65
30.35	2.15	0.82	2.61	2.65	0.00	2.65
30.40	2.15	0.82	2.61	2.65	0.00	2.65
30.45	2.15	0.82	2.61	2.65	0.00	2.65
30.50	2.15	0.82	2.61	2.65	0.00	2.65
30.55	2.15	0.82	2.61	2.65	0.00	2.65
30.60	2.15	0.82	2.61	2.65	0.00	2.65
30.65	2.15	0.82	2.61	2.65	0.00	2.65
30.70	2.15	0.82	2.61	2.65	0.00	2.65
30.75	2.15	0.82	2.61	2.65	0.00	2.65
30.80	2.15	0.82	2.61	2.65	0.00	2.65
30.85	2.15	0.82	2.61	2.65	0.00	2.65
30.90	2.15	0.82	2.61	2.65	0.00	2.65
30.95	2.15	0.82	2.61	2.65	0.00	2.65
31.00	2.15	0.82	2.61	2.65	0.00	2.65
31.05	2.15	0.82	2.61	2.65	0.00	2.65
31.10	2.15	0.82	2.61	2.64	0.00	2.64
31.15	2.15	0.82	2.61	2.64	0.00	2.64
31.20	2.15	0.82	2.61	2.64	0.00	2.64
31.25	2.15	0.82	2.61	2.64	0.00	2.64

31.30	2.15	0.82	2.61	2.64	0.00	2.64
31.35	2.15	0.82	2.61	2.64	0.00	2.64
31.40	2.15	0.82	2.61	2.64	0.00	2.64
31.45	2.15	0.82	2.61	2.63	0.00	2.63
31.50	2.15	0.82	2.61	2.63	0.00	2.63
31.55	2.15	0.82	2.61	2.63	0.00	2.63
31.60	2.15	0.82	2.62	2.63	0.00	2.63
31.65	2.15	0.82	2.62	2.62	0.00	2.62
31.70	2.15	0.82	2.62	2.62	0.00	2.62
31.75	2.15	0.82	2.62	2.62	0.00	2.62
31.80	2.15	0.82	2.62	2.61	0.00	2.61
31.85	2.15	0.82	2.62	2.61	0.00	2.61
31.90	2.15	0.82	2.62	2.60	0.00	2.60
31.95	0.52	0.82	0.64*	2.60	0.00	2.60
32.00	0.47	0.82	0.57*	2.59	0.00	2.59
32.05	0.44	0.82	0.54*	2.59	0.00	2.59
32.10	0.43	0.82	0.52*	2.59	0.00	2.59
32.15	0.41	0.82	0.50*	2.58	0.00	2.58
32.20	0.40	0.82	0.49*	2.58	0.00	2.58
32.25	0.40	0.82	0.48*	2.57	0.00	2.57
32.30	0.39	0.82	0.47*	2.56	0.00	2.56
32.35	0.38	0.82	0.46*	2.56	0.00	2.56
32.40	0.37	0.82	0.46*	2.55	0.00	2.55
32.45	0.37	0.82	0.45*	2.55	0.00	2.55
32.50	0.36	0.82	0.44*	2.54	0.00	2.54
32.55	0.36	0.82	0.43*	2.54	0.00	2.54
32.60	0.35	0.82	0.43*	2.53	0.00	2.53
32.65	0.34	0.82	0.42*	2.52	0.00	2.52
32.70	0.34	0.82	0.41*	2.52	0.00	2.52
32.75	0.33	0.82	0.41*	2.51	0.00	2.51
32.80	0.33	0.82	0.40*	2.50	0.00	2.50
32.85	0.33	0.82	0.40*	2.50	0.00	2.50
32.90	0.32	0.82	0.39*	2.49	0.00	2.49
32.95	0.32	0.82	0.39*	2.48	0.00	2.48
33.00	0.31	0.82	0.38*	2.48	0.00	2.48
33.05	0.31	0.82	0.38*	2.47	0.00	2.47
33.10	0.31	0.82	0.38*	2.46	0.00	2.46
33.15	0.31	0.82	0.38*	2.46	0.00	2.46
33.20	0.31	0.82	0.38*	2.45	0.00	2.45
33.25	0.31	0.82	0.38*	2.44	0.00	2.44
33.30	0.31	0.82	0.38*	2.43	0.00	2.43
33.35	0.31	0.82	0.38*	2.43	0.00	2.43
33.40	0.31	0.82	0.38*	2.42	0.00	2.42
33.45	0.31	0.82	0.38*	2.41	0.00	2.41
33.50	0.31	0.82	0.38*	2.41	0.00	2.41
33.55	0.31	0.82	0.37*	2.40	0.00	2.40
33.60	0.31	0.82	0.37*	2.39	0.00	2.39
33.65	0.31	0.82	0.37*	2.38	0.00	2.38
33.70	0.30	0.82	0.37*	2.38	0.00	2.38
33.75	0.30	0.82	0.37*	2.37	0.00	2.37
33.80	0.30	0.82	0.37*	2.36	0.00	2.36
33.85	0.30	0.82	0.37*	2.36	0.00	2.36
33.90	0.30	0.82	0.37*	2.35	0.00	2.35
33.95	0.30	0.82	0.37*	2.34	0.00	2.34
34.00	0.30	0.82	0.37*	2.33	0.00	2.33
34.05	0.30	0.82	0.37*	2.33	0.00	2.33
34.10	0.30	0.82	0.37*	2.32	0.00	2.32
34.15	0.30	0.82	0.37*	2.31	0.00	2.31
34.20	0.30	0.82	0.37*	2.31	0.00	2.31
34.25	0.30	0.82	0.37*	2.30	0.00	2.30
34.30	0.30	0.82	0.37*	2.29	0.00	2.29
34.35	0.30	0.82	0.36*	2.28	0.00	2.28
34.40	0.30	0.82	0.36*	2.28	0.00	2.28

34.45	0.30	0.82	0.36*	2.27	0.00	2.27
34.50	0.30	0.82	0.36*	2.26	0.00	2.26
34.55	0.30	0.81	0.36*	2.25	0.00	2.25
34.60	0.29	0.81	0.36*	2.25	0.00	2.25
34.65	0.29	0.81	0.36*	2.24	0.00	2.24
34.70	0.29	0.81	0.36*	2.23	0.00	2.23
34.75	0.29	0.81	0.36*	2.23	0.00	2.23
34.80	0.29	0.81	0.36*	2.22	0.00	2.22
34.85	0.29	0.81	0.36*	2.21	0.00	2.21
34.90	0.29	0.81	0.36*	2.20	0.00	2.20
34.95	0.29	0.81	0.36*	2.20	0.00	2.20
35.00	0.29	0.81	0.36*	2.19	0.00	2.19
35.05	0.29	0.81	0.36*	2.18	0.00	2.18
35.10	0.29	0.81	0.36*	2.17	0.00	2.17
35.15	0.29	0.81	0.36*	2.17	0.00	2.17
35.20	0.29	0.81	0.35*	2.16	0.00	2.16
35.25	0.29	0.81	0.35*	2.15	0.00	2.15
35.30	0.29	0.81	0.35*	2.14	0.00	2.14
35.35	0.29	0.81	0.35*	2.14	0.00	2.14
35.40	0.29	0.81	0.35*	2.13	0.00	2.13
35.45	0.29	0.81	0.35*	2.12	0.00	2.12
35.50	0.29	0.81	0.35*	2.11	0.00	2.11
35.55	0.28	0.81	0.35*	2.11	0.00	2.11
35.60	0.28	0.81	0.35*	2.10	0.00	2.10
35.65	0.28	0.81	0.35*	2.09	0.00	2.09
35.70	0.28	0.81	0.35*	2.08	0.00	2.08
35.75	0.28	0.81	0.35*	2.08	0.00	2.08
35.80	0.28	0.81	0.35*	2.07	0.00	2.07
35.85	0.28	0.81	0.35*	2.06	0.00	2.06
35.90	0.28	0.81	0.35*	2.05	0.00	2.05
35.95	0.28	0.81	0.35*	2.05	0.00	2.05
36.00	0.28	0.81	0.35*	2.04	0.00	2.04
36.05	0.28	0.81	0.35*	2.03	0.00	2.03
36.10	0.28	0.81	0.34*	2.02	0.00	2.02
36.15	0.28	0.81	0.34*	2.01	0.00	2.01
36.20	0.28	0.81	0.34*	2.01	0.00	2.01
36.25	0.28	0.81	0.34*	2.00	0.00	2.00
36.30	0.28	0.81	0.34*	1.99	0.00	1.99
36.35	0.28	0.81	0.34*	1.98	0.00	1.98
36.40	0.28	0.81	0.34*	1.98	0.00	1.98
36.45	0.28	0.81	0.34*	1.97	0.00	1.97
36.50	0.28	0.81	0.34*	1.96	0.00	1.96
36.55	0.28	0.81	0.34*	1.95	0.00	1.95
36.60	0.27	0.81	0.34*	1.95	0.00	1.95
36.65	0.27	0.81	0.34*	1.94	0.00	1.94
36.70	0.27	0.81	0.34*	1.93	0.00	1.93
36.75	0.27	0.81	0.34*	1.92	0.00	1.92
36.80	0.27	0.81	0.34*	1.91	0.00	1.91
36.85	0.27	0.81	0.34*	1.91	0.00	1.91
36.90	0.27	0.81	0.34*	1.90	0.00	1.90
36.95	0.27	0.81	0.34*	1.89	0.00	1.89
37.00	0.27	0.81	0.34*	1.88	0.00	1.88
37.05	0.27	0.81	0.34*	1.88	0.00	1.88
37.10	0.27	0.81	0.33*	1.87	0.00	1.87
37.15	0.27	0.81	0.33*	1.86	0.00	1.86
37.20	0.27	0.81	0.33*	1.85	0.00	1.85
37.25	0.27	0.81	0.33*	1.84	0.00	1.84
37.30	0.27	0.81	0.33*	1.84	0.00	1.84
37.35	0.27	0.81	0.33*	1.83	0.00	1.83
37.40	0.27	0.81	0.33*	1.82	0.00	1.82
37.45	0.27	0.81	0.33*	1.81	0.00	1.81
37.50	0.27	0.81	0.33*	1.80	0.00	1.80
37.55	0.27	0.81	0.33*	1.80	0.00	1.80

37.60	0.27	0.81	0.33*	1.79	0.00	1.79
37.65	0.27	0.80	0.33*	1.78	0.00	1.78
37.70	0.26	0.80	0.33*	1.77	0.00	1.77
37.75	0.26	0.80	0.33*	1.76	0.00	1.76
37.80	0.26	0.80	0.33*	1.76	0.00	1.76
37.85	0.26	0.80	0.33*	1.75	0.00	1.75
37.90	0.26	0.80	0.33*	1.74	0.00	1.74
37.95	0.26	0.80	0.33*	1.73	0.00	1.73
38.00	0.26	0.80	0.33*	1.72	0.00	1.72
38.05	0.26	0.80	0.33*	1.72	0.00	1.72
38.10	0.26	0.80	0.33*	1.71	0.00	1.71
38.15	0.26	0.80	0.33*	1.70	0.00	1.70
38.20	0.26	0.80	0.33*	1.69	0.00	1.69
38.25	0.26	0.80	0.33*	1.68	0.00	1.68
38.30	0.27	0.80	0.33*	1.68	0.00	1.68
38.35	0.27	0.80	0.33*	1.67	0.00	1.67
38.40	0.27	0.80	0.33*	1.66	0.00	1.66
38.45	0.27	0.80	0.33*	1.65	0.00	1.65
38.50	0.27	0.80	0.33*	1.64	0.00	1.64
38.55	0.27	0.80	0.33*	1.64	0.00	1.64
38.60	0.27	0.80	0.33*	1.63	0.00	1.63
38.65	0.27	0.80	0.34*	1.62	0.00	1.62
38.70	0.27	0.80	0.34*	1.61	0.00	1.61
38.75	0.27	0.80	0.34*	1.60	0.00	1.60
38.80	0.27	0.80	0.34*	1.60	0.00	1.60
38.85	0.27	0.80	0.34*	1.59	0.00	1.59
38.90	0.27	0.80	0.34*	1.58	0.00	1.58
38.95	0.27	0.80	0.34*	1.57	0.00	1.57
39.00	0.27	0.80	0.34*	1.57	0.00	1.57
39.05	0.27	0.80	0.34*	1.56	0.00	1.56
39.10	0.27	0.80	0.34*	1.55	0.00	1.55
39.15	0.27	0.80	0.34*	1.54	0.00	1.54
39.20	0.27	0.80	0.34*	1.53	0.00	1.53
39.25	0.27	0.80	0.34*	1.53	0.00	1.53
39.30	0.28	0.80	0.34*	1.52	0.00	1.52
39.35	0.28	0.80	0.35*	1.51	0.00	1.51
39.40	0.28	0.80	0.35*	1.50	0.00	1.50
39.45	0.28	0.80	0.35*	1.50	0.00	1.50
39.50	0.28	0.80	0.35*	1.49	0.00	1.49
39.55	0.28	0.80	0.35*	1.48	0.00	1.48
39.60	0.28	0.80	0.35*	1.47	0.00	1.47
39.65	0.28	0.80	0.35*	1.46	0.00	1.46
39.70	0.28	0.80	0.35*	1.46	0.00	1.46
39.75	0.28	0.80	0.35*	1.45	0.00	1.45
39.80	0.28	0.80	0.35*	1.44	0.00	1.44
39.85	0.28	0.80	0.35*	1.43	0.00	1.43
39.90	0.28	0.80	0.35*	1.43	0.00	1.43
39.95	0.28	0.80	0.35*	1.42	0.00	1.42
40.00	0.28	0.80	0.35*	1.41	0.00	1.41
40.05	0.28	0.80	0.36*	1.40	0.00	1.40
40.10	0.28	0.80	0.36*	1.40	0.00	1.40
40.15	0.28	0.80	0.36*	1.39	0.00	1.39
40.20	0.28	0.79	0.36*	1.38	0.00	1.38
40.25	0.28	0.79	0.36*	1.37	0.00	1.37
40.30	0.29	0.79	0.36*	1.37	0.00	1.37
40.35	0.29	0.79	0.36*	1.36	0.00	1.36
40.40	0.29	0.79	0.36*	1.35	0.00	1.35
40.45	0.29	0.79	0.36*	1.34	0.00	1.34
40.50	0.29	0.79	0.36*	1.34	0.00	1.34
40.55	0.29	0.79	0.36*	1.33	0.00	1.33
40.60	0.29	0.79	0.36*	1.32	0.00	1.32
40.65	0.29	0.79	0.36*	1.32	0.00	1.32
40.70	0.29	0.79	0.36*	1.31	0.00	1.31

40.75	0.29	0.79	0.37*	1.30	0.00	1.30
40.80	0.29	0.79	0.37*	1.29	0.00	1.29
40.85	0.29	0.79	0.37*	1.29	0.00	1.29
40.90	0.29	0.79	0.37*	1.28	0.00	1.28
40.95	0.29	0.79	0.37*	1.27	0.00	1.27
41.00	0.29	0.79	0.37*	1.26	0.00	1.26
41.05	0.29	0.79	0.37*	1.26	0.00	1.26
41.10	0.29	0.79	0.37*	1.25	0.00	1.25
41.15	0.29	0.79	0.37*	1.24	0.00	1.24
41.20	0.29	0.79	0.37*	1.24	0.00	1.24
41.25	0.29	0.79	0.37*	1.23	0.00	1.23
41.30	0.29	0.79	0.37*	1.22	0.00	1.22
41.35	0.30	0.79	0.37*	1.21	0.00	1.21
41.40	0.30	0.79	0.37*	1.21	0.00	1.21
41.45	0.30	0.79	0.38*	1.20	0.00	1.20
41.50	0.30	0.79	0.38*	1.19	0.00	1.19
41.55	0.30	0.79	0.38*	1.18	0.00	1.18
41.60	0.30	0.79	0.38*	1.18	0.00	1.18
41.65	0.30	0.79	0.38*	1.17	0.00	1.17
41.70	0.30	0.79	0.38*	1.16	0.00	1.16
41.75	0.30	0.79	0.38*	1.16	0.00	1.16
41.80	0.30	0.79	0.38*	1.15	0.00	1.15
41.85	0.30	0.79	0.38*	1.14	0.00	1.14
41.90	0.30	0.79	0.38*	1.14	0.00	1.14
41.95	0.30	0.79	0.38*	1.13	0.00	1.13
42.00	0.30	0.79	0.38*	1.12	0.00	1.12
42.05	0.30	0.79	0.38*	1.11	0.00	1.11
42.10	0.30	0.79	0.39*	1.11	0.00	1.11
42.15	0.30	0.79	0.39*	1.10	0.00	1.10
42.20	0.30	0.79	0.39*	1.09	0.00	1.09
42.25	0.30	0.79	0.39*	1.09	0.00	1.09
42.30	0.30	0.79	0.39*	1.08	0.00	1.08
42.35	0.31	0.79	0.39*	1.07	0.00	1.07
42.40	0.31	0.78	0.39*	1.07	0.00	1.07
42.45	0.31	0.78	0.39*	1.06	0.00	1.06
42.50	0.31	0.78	0.39*	1.05	0.00	1.05
42.55	0.31	0.78	0.39*	1.04	0.00	1.04
42.60	0.31	0.78	0.39*	1.04	0.00	1.04
42.65	0.31	0.78	0.39*	1.03	0.00	1.03
42.70	0.31	0.78	0.39*	1.02	0.00	1.02
42.75	0.31	0.78	0.39*	1.02	0.00	1.02
42.80	0.31	0.78	0.40*	1.01	0.00	1.01
42.85	0.31	0.78	0.40*	1.00	0.00	1.00
42.90	0.31	0.78	0.40*	1.00	0.00	1.00
42.95	0.31	0.78	0.40*	0.99	0.00	0.99
43.00	0.31	0.78	0.40*	0.98	0.00	0.98
43.05	0.31	0.78	0.40*	0.98	0.00	0.98
43.10	0.31	0.78	0.40*	0.97	0.00	0.97
43.15	0.31	0.78	0.40*	0.96	0.00	0.96
43.20	0.31	0.78	0.40*	0.96	0.00	0.96
43.25	0.31	0.78	0.40*	0.95	0.00	0.95
43.30	0.31	0.78	0.40*	0.94	0.00	0.94
43.35	0.31	0.78	0.40*	0.93	0.00	0.93
43.40	0.31	0.78	0.40*	0.93	0.00	0.93
43.45	0.31	0.78	0.40*	0.92	0.00	0.92
43.50	0.31	0.78	0.40*	0.91	0.00	0.91
43.55	0.31	0.78	0.40*	0.91	0.00	0.91
43.60	0.31	0.78	0.40*	0.90	0.00	0.90
43.65	0.31	0.78	0.40*	0.89	0.00	0.89
43.70	0.31	0.78	0.40*	0.89	0.00	0.89
43.75	0.31	0.78	0.40*	0.88	0.00	0.88
43.80	0.31	0.78	0.40*	0.87	0.00	0.87
43.85	0.31	0.78	0.40*	0.87	0.00	0.87

43.90	0.31	0.78	0.40*	0.86	0.00	0.86
43.95	0.31	0.78	0.40*	0.85	0.00	0.85
44.00	0.31	0.78	0.40*	0.85	0.00	0.85
44.05	0.31	0.78	0.40*	0.84	0.00	0.84
44.10	0.31	0.78	0.40*	0.83	0.00	0.83
44.15	0.31	0.78	0.40*	0.83	0.00	0.83
44.20	0.31	0.78	0.40*	0.82	0.00	0.82
44.25	0.31	0.78	0.40*	0.81	0.00	0.81
44.30	0.31	0.78	0.40*	0.80	0.00	0.80
44.35	0.31	0.78	0.40*	0.80	0.00	0.80
44.40	0.31	0.77	0.40*	0.79	0.00	0.79
44.45	0.31	0.77	0.39*	0.78	0.00	0.78
44.50	0.31	0.77	0.39*	0.78	0.00	0.78
44.55	0.31	0.77	0.39*	0.77	0.00	0.77
44.60	0.31	0.77	0.39*	0.76	0.00	0.76
44.65	0.31	0.77	0.39*	0.76	0.00	0.76
44.70	0.30	0.77	0.39*	0.75	0.00	0.75
44.75	0.30	0.77	0.39*	0.74	0.00	0.74
44.80	0.30	0.77	0.39*	0.74	0.00	0.74
44.85	0.30	0.77	0.39*	0.73	0.00	0.73
44.90	0.30	0.77	0.39*	0.72	0.00	0.72
44.95	0.30	0.77	0.39*	0.71	0.00	0.71
45.00	0.30	0.77	0.39*	0.71	0.00	0.71
45.05	0.30	0.77	0.39*	0.70	0.00	0.70
45.10	0.30	0.77	0.39*	0.69	0.00	0.69
45.15	0.30	0.77	0.39*	0.69	0.00	0.69
45.20	0.30	0.77	0.39*	0.68	0.00	0.68
45.25	0.30	0.77	0.39*	0.67	0.00	0.67
45.30	0.30	0.77	0.39*	0.67	0.00	0.67
45.35	0.30	0.77	0.39*	0.66	0.00	0.66
45.40	0.30	0.77	0.39*	0.65	0.00	0.65
45.45	0.30	0.77	0.39*	0.65	0.00	0.65
45.50	0.30	0.77	0.39*	0.64	0.00	0.64
45.55	0.30	0.77	0.39*	0.63	0.00	0.63
45.60	0.30	0.77	0.39*	0.62	0.00	0.62
45.65	0.30	0.77	0.39*	0.62	0.00	0.62
45.70	0.30	0.77	0.39*	0.61	0.00	0.61
45.75	0.30	0.77	0.39*	0.60	0.00	0.60
45.80	0.30	0.77	0.39*	0.60	0.00	0.60
45.85	0.30	0.77	0.39*	0.59	0.00	0.59
45.90	0.30	0.77	0.39*	0.58	0.00	0.58
45.95	0.30	0.77	0.39*	0.58	0.00	0.58
46.00	0.30	0.77	0.39*	0.57	0.00	0.57
46.05	0.30	0.77	0.39*	0.56	0.00	0.56
46.10	0.30	0.77	0.39*	0.55	0.00	0.55
46.15	0.30	0.77	0.39*	0.55	0.00	0.55
46.20	0.30	0.77	0.39*	0.54	0.00	0.54
46.25	0.30	0.77	0.39*	0.53	0.00	0.53
46.30	0.30	0.76	0.39*	0.53	0.00	0.53
46.35	0.30	0.76	0.39*	0.52	0.00	0.52
46.40	0.30	0.76	0.39*	0.51	0.00	0.51
46.45	0.30	0.76	0.39*	0.51	0.00	0.51
46.50	0.30	0.76	0.39*	0.50	0.00	0.50
46.55	0.30	0.76	0.39*	0.49	0.00	0.49
46.60	0.30	0.76	0.39*	0.48	0.00	0.48
46.65	0.30	0.76	0.39*	0.48	0.00	0.48
46.70	0.30	0.76	0.39*	0.47	0.00	0.47
46.75	0.30	0.76	0.39*	0.46	0.00	0.46
46.80	0.30	0.76	0.39*	0.46	0.00	0.46
46.85	0.30	0.76	0.39*	0.45	0.00	0.45
46.90	0.30	0.76	0.39*	0.44	0.00	0.44
46.95	0.30	0.76	0.39*	0.44	0.00	0.44
47.00	0.30	0.76	0.39*	0.43	0.00	0.43

47.05	0.30	0.76	0.39*	0.42	0.00	0.42
47.10	0.30	0.76	0.39*	0.41	0.00	0.41
47.15	0.30	0.76	0.39*	0.41	0.00	0.41
47.20	0.30	0.76	0.39*	0.40	0.00	0.40
47.25	0.30	0.76	0.39*	0.39	0.00	0.39
47.30	0.30	0.76	0.39*	0.39	0.00	0.39
47.35	0.30	0.76	0.39*	0.38	0.00	0.38
47.40	0.29	0.76	0.39*	0.37	0.00	0.37
47.45	0.29	0.76	0.39*	0.36	0.00	0.36
47.50	0.29	0.76	0.39*	0.36	0.00	0.36
47.55	0.29	0.76	0.39*	0.35	0.00	0.35
47.60	0.29	0.76	0.39*	0.34	0.00	0.34
47.65	0.29	0.76	0.39*	0.34	0.00	0.34
47.70	0.29	0.76	0.39*	0.33	0.00	0.33
47.75	0.29	0.76	0.39*	0.32	0.00	0.32
47.80	0.29	0.76	0.39*	0.32	0.00	0.32
47.85	0.29	0.76	0.39*	0.31	0.00	0.31
47.90	0.29	0.76	0.39*	0.30	0.00	0.30
47.95	0.29	0.76	0.39*	0.29	0.00	0.29
48.00	0.29	0.76	0.39*	0.29	0.00	0.29
48.05	0.29	0.76	0.39*	0.28	0.00	0.28
48.10	0.29	0.75	0.39*	0.27	0.00	0.27
48.15	0.29	0.75	0.39*	0.27	0.00	0.27
48.20	0.29	0.75	0.39*	0.26	0.00	0.26
48.25	0.29	0.75	0.39*	0.25	0.00	0.25
48.30	0.29	0.75	0.39*	0.24	0.00	0.24
48.35	0.29	0.75	0.39*	0.24	0.00	0.24
48.40	0.29	0.75	0.39*	0.23	0.00	0.23
48.45	0.29	0.75	0.39*	0.22	0.00	0.22
48.50	0.29	0.75	0.39*	0.22	0.00	0.22
48.55	0.29	0.75	0.39*	0.21	0.00	0.21
48.60	0.29	0.75	0.39*	0.20	0.00	0.20
48.65	0.29	0.75	0.39*	0.19	0.00	0.19
48.70	0.29	0.75	0.39*	0.19	0.00	0.19
48.75	0.29	0.75	0.39*	0.18	0.00	0.18
48.80	0.29	0.75	0.39*	0.17	0.00	0.17
48.85	0.29	0.75	0.39*	0.17	0.00	0.17
48.90	0.29	0.75	0.39*	0.16	0.00	0.16
48.95	0.29	0.75	0.39*	0.15	0.00	0.15
49.00	0.29	0.75	0.39*	0.14	0.00	0.14
49.05	0.29	0.75	0.39*	0.14	0.00	0.14
49.10	0.29	0.75	0.39*	0.13	0.00	0.13
49.15	0.29	0.75	0.39*	0.12	0.00	0.12
49.20	0.29	0.75	0.39*	0.12	0.00	0.12
49.25	0.29	0.75	0.39*	0.11	0.00	0.11
49.30	0.29	0.75	0.39*	0.10	0.00	0.10
49.35	0.29	0.75	0.39*	0.09	0.00	0.09
49.40	0.29	0.75	0.39*	0.09	0.00	0.09
49.45	0.29	0.75	0.39*	0.08	0.00	0.08
49.50	0.29	0.75	0.39*	0.07	0.00	0.07
49.55	0.29	0.75	0.39*	0.06	0.00	0.06
49.60	0.29	0.75	0.39*	0.06	0.00	0.06
49.65	0.29	0.75	0.39*	0.05	0.00	0.05
49.70	0.29	0.75	0.38*	0.04	0.00	0.04
49.75	0.29	0.75	0.38*	0.04	0.00	0.04
49.80	0.29	0.75	0.38*	0.03	0.00	0.03
49.85	0.29	0.74	0.38*	0.02	0.00	0.02
49.90	0.29	0.74	0.38*	0.01	0.00	0.01
49.95	0.29	0.74	0.38*	0.01	0.00	0.01
50.00	0.29	0.74	0.38*	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)

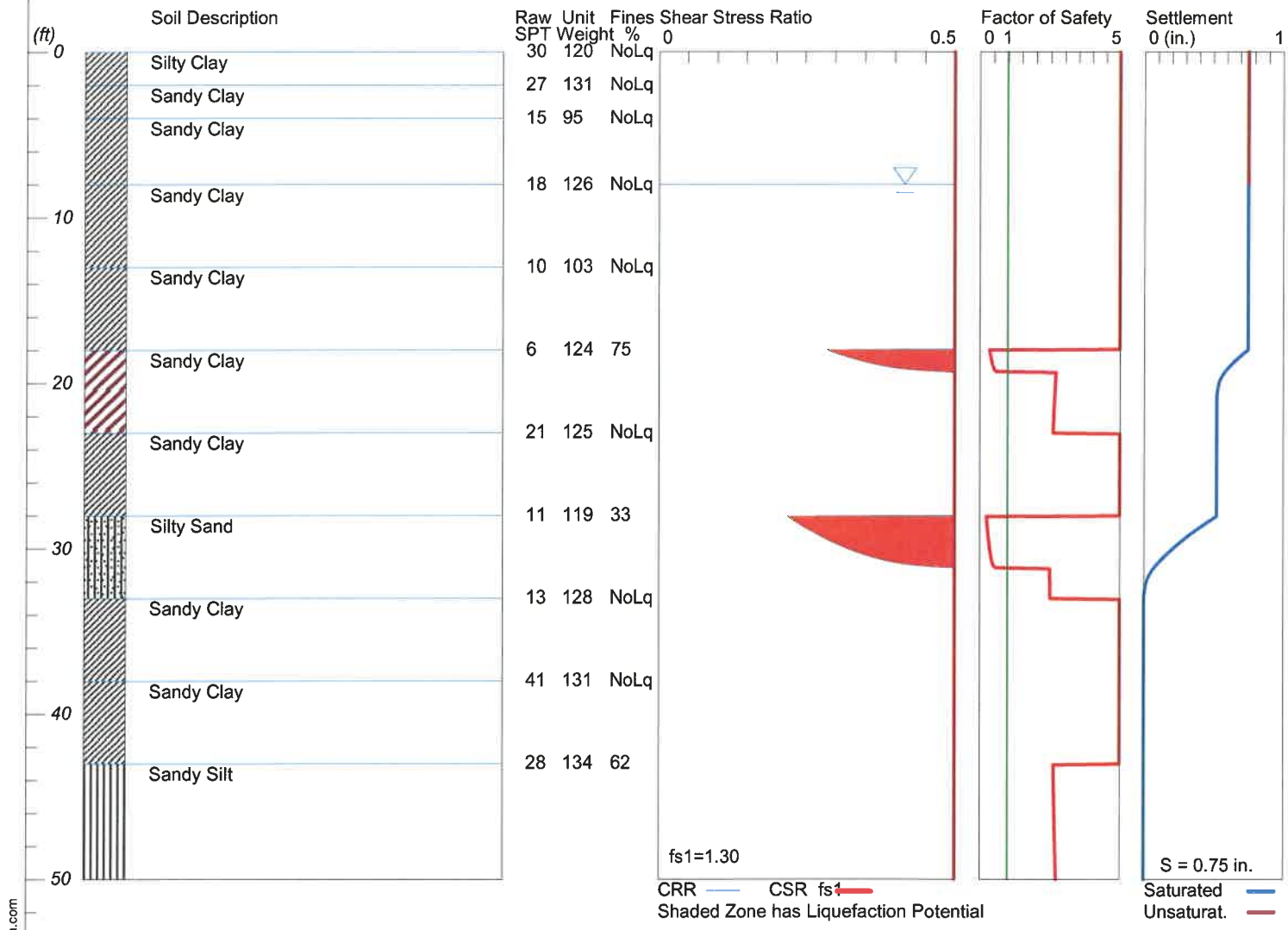
CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

LIQUEFACTION ANALYSIS

New High School - Dublin

Hole No.=B30 Water Depth=8 ft

Magnitude=7.29
Acceleration=0.674g



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LIQUEFACTION ANALYSIS SUMMARY
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Input File Name: C:\Liquefy5\04219017B30.liq
Title: New High School - Dublin
Subtitle: Boring B30
Surface Elev.=
Hole No.=B30
Depth of Hole= 50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 19.00 ft
Max. Acceleration= 0.67 g
Earthquake Magnitude= 7.29

Input Data:

Surface Elev.=
Hole No.=B30
Depth of Hole=50.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 19.00 ft
Max. Acceleration=0.67 g
Earthquake Magnitude=7.29
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu/Seed
3. Fines Correction for Liquefaction: Modify Stark/Olson
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1.25
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*

* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.00	30.00	120.00	NoLiq
2.00	27.00	131.00	NoLiq
4.00	15.00	95.00	NoLiq
8.00	18.00	126.00	NoLiq
13.00	10.00	103.00	NoLiq
18.00	6.00	124.00	75.00
23.00	21.00	125.00	NoLiq
28.00	11.00	119.00	33.00
33.00	13.00	128.00	NoLiq
38.00	41.00	131.00	NoLiq
43.00	28.00	134.00	62.00
50.00	28.00	134.00	62.00

Output Results:

Settlement of Saturated Sands=0.75 in.
Settlement of Unsaturated Sands=0.00 in.
Total Settlement of Saturated and Unsaturated Sands=0.75 in.
Differential Settlement=0.377 to 0.498 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	in.	S_dry S_all in.
0.00	2.00	0.57	5.00	0.75	0.00	0.75
0.05	2.00	0.57	5.00	0.75	0.00	0.75
0.10	2.00	0.57	5.00	0.75	0.00	0.75
0.15	2.00	0.57	5.00	0.75	0.00	0.75
0.20	2.00	0.57	5.00	0.75	0.00	0.75
0.25	2.00	0.57	5.00	0.75	0.00	0.75
0.30	2.00	0.57	5.00	0.75	0.00	0.75
0.35	2.00	0.57	5.00	0.75	0.00	0.75
0.40	2.00	0.57	5.00	0.75	0.00	0.75
0.45	2.00	0.57	5.00	0.75	0.00	0.75
0.50	2.00	0.57	5.00	0.75	0.00	0.75
0.55	2.00	0.57	5.00	0.75	0.00	0.75
0.60	2.00	0.57	5.00	0.75	0.00	0.75
0.65	2.00	0.57	5.00	0.75	0.00	0.75
0.70	2.00	0.57	5.00	0.75	0.00	0.75
0.75	2.00	0.57	5.00	0.75	0.00	0.75
0.80	2.00	0.57	5.00	0.75	0.00	0.75
0.85	2.00	0.57	5.00	0.75	0.00	0.75
0.90	2.00	0.57	5.00	0.75	0.00	0.75
0.95	2.00	0.57	5.00	0.75	0.00	0.75
1.00	2.00	0.57	5.00	0.75	0.00	0.75
1.05	2.00	0.57	5.00	0.75	0.00	0.75
1.10	2.00	0.57	5.00	0.75	0.00	0.75
1.15	2.00	0.57	5.00	0.75	0.00	0.75
1.20	2.00	0.57	5.00	0.75	0.00	0.75
1.25	2.00	0.57	5.00	0.75	0.00	0.75
1.30	2.00	0.57	5.00	0.75	0.00	0.75
1.35	2.00	0.57	5.00	0.75	0.00	0.75
1.40	2.00	0.57	5.00	0.75	0.00	0.75
1.45	2.00	0.57	5.00	0.75	0.00	0.75
1.50	2.00	0.57	5.00	0.75	0.00	0.75
1.55	2.00	0.57	5.00	0.75	0.00	0.75
1.60	2.00	0.57	5.00	0.75	0.00	0.75
1.65	2.00	0.57	5.00	0.75	0.00	0.75
1.70	2.00	0.57	5.00	0.75	0.00	0.75
1.75	2.00	0.57	5.00	0.75	0.00	0.75
1.80	2.00	0.57	5.00	0.75	0.00	0.75
1.85	2.00	0.57	5.00	0.75	0.00	0.75
1.90	2.00	0.57	5.00	0.75	0.00	0.75
1.95	2.00	0.57	5.00	0.75	0.00	0.75
2.00	2.00	0.57	5.00	0.75	0.00	0.75
2.05	2.00	0.57	5.00	0.75	0.00	0.75
2.10	2.00	0.57	5.00	0.75	0.00	0.75
2.15	2.00	0.57	5.00	0.75	0.00	0.75
2.20	2.00	0.57	5.00	0.75	0.00	0.75
2.25	2.00	0.57	5.00	0.75	0.00	0.75
2.30	2.00	0.57	5.00	0.75	0.00	0.75
2.35	2.00	0.57	5.00	0.75	0.00	0.75
2.40	2.00	0.57	5.00	0.75	0.00	0.75
2.45	2.00	0.57	5.00	0.75	0.00	0.75
2.50	2.00	0.57	5.00	0.75	0.00	0.75
2.55	2.00	0.57	5.00	0.75	0.00	0.75
2.60	2.00	0.57	5.00	0.75	0.00	0.75
2.65	2.00	0.57	5.00	0.75	0.00	0.75
2.70	2.00	0.57	5.00	0.75	0.00	0.75
2.75	2.00	0.57	5.00	0.75	0.00	0.75
2.80	2.00	0.57	5.00	0.75	0.00	0.75
2.85	2.00	0.57	5.00	0.75	0.00	0.75
2.90	2.00	0.57	5.00	0.75	0.00	0.75

2.95	2.00	0.57	5.00	0.75	0.00	0.75
3.00	2.00	0.57	5.00	0.75	0.00	0.75
3.05	2.00	0.57	5.00	0.75	0.00	0.75
3.10	2.00	0.57	5.00	0.75	0.00	0.75
3.15	2.00	0.57	5.00	0.75	0.00	0.75
3.20	2.00	0.57	5.00	0.75	0.00	0.75
3.25	2.00	0.57	5.00	0.75	0.00	0.75
3.30	2.00	0.57	5.00	0.75	0.00	0.75
3.35	2.00	0.57	5.00	0.75	0.00	0.75
3.40	2.00	0.57	5.00	0.75	0.00	0.75
3.45	2.00	0.56	5.00	0.75	0.00	0.75
3.50	2.00	0.56	5.00	0.75	0.00	0.75
3.55	2.00	0.56	5.00	0.75	0.00	0.75
3.60	2.00	0.56	5.00	0.75	0.00	0.75
3.65	2.00	0.56	5.00	0.75	0.00	0.75
3.70	2.00	0.56	5.00	0.75	0.00	0.75
3.75	2.00	0.56	5.00	0.75	0.00	0.75
3.80	2.00	0.56	5.00	0.75	0.00	0.75
3.85	2.00	0.56	5.00	0.75	0.00	0.75
3.90	2.00	0.56	5.00	0.75	0.00	0.75
3.95	2.00	0.56	5.00	0.75	0.00	0.75
4.00	2.00	0.56	5.00	0.75	0.00	0.75
4.05	2.00	0.56	5.00	0.75	0.00	0.75
4.10	2.00	0.56	5.00	0.75	0.00	0.75
4.15	2.00	0.56	5.00	0.75	0.00	0.75
4.20	2.00	0.56	5.00	0.75	0.00	0.75
4.25	2.00	0.56	5.00	0.75	0.00	0.75
4.30	2.00	0.56	5.00	0.75	0.00	0.75
4.35	2.00	0.56	5.00	0.75	0.00	0.75
4.40	2.00	0.56	5.00	0.75	0.00	0.75
4.45	2.00	0.56	5.00	0.75	0.00	0.75
4.50	2.00	0.56	5.00	0.75	0.00	0.75
4.55	2.00	0.56	5.00	0.75	0.00	0.75
4.60	2.00	0.56	5.00	0.75	0.00	0.75
4.65	2.00	0.56	5.00	0.75	0.00	0.75
4.70	2.00	0.56	5.00	0.75	0.00	0.75
4.75	2.00	0.56	5.00	0.75	0.00	0.75
4.80	2.00	0.56	5.00	0.75	0.00	0.75
4.85	2.00	0.56	5.00	0.75	0.00	0.75
4.90	2.00	0.56	5.00	0.75	0.00	0.75
4.95	2.00	0.56	5.00	0.75	0.00	0.75
5.00	2.00	0.56	5.00	0.75	0.00	0.75
5.05	2.00	0.56	5.00	0.75	0.00	0.75
5.10	2.00	0.56	5.00	0.75	0.00	0.75
5.15	2.00	0.56	5.00	0.75	0.00	0.75
5.20	2.00	0.56	5.00	0.75	0.00	0.75
5.25	2.00	0.56	5.00	0.75	0.00	0.75
5.30	2.00	0.56	5.00	0.75	0.00	0.75
5.35	2.00	0.56	5.00	0.75	0.00	0.75
5.40	2.00	0.56	5.00	0.75	0.00	0.75
5.45	2.00	0.56	5.00	0.75	0.00	0.75
5.50	2.00	0.56	5.00	0.75	0.00	0.75
5.55	2.00	0.56	5.00	0.75	0.00	0.75
5.60	2.00	0.56	5.00	0.75	0.00	0.75
5.65	2.00	0.56	5.00	0.75	0.00	0.75
5.70	2.00	0.56	5.00	0.75	0.00	0.75
5.75	2.00	0.56	5.00	0.75	0.00	0.75
5.80	2.00	0.56	5.00	0.75	0.00	0.75
5.85	2.00	0.56	5.00	0.75	0.00	0.75
5.90	2.00	0.56	5.00	0.75	0.00	0.75
5.95	2.00	0.56	5.00	0.75	0.00	0.75
6.00	2.00	0.56	5.00	0.75	0.00	0.75
6.05	2.00	0.56	5.00	0.75	0.00	0.75

6.10	2.00	0.56	5.00	0.75	0.00	0.75
6.15	2.00	0.56	5.00	0.75	0.00	0.75
6.20	2.00	0.56	5.00	0.75	0.00	0.75
6.25	2.00	0.56	5.00	0.75	0.00	0.75
6.30	2.00	0.56	5.00	0.75	0.00	0.75
6.35	2.00	0.56	5.00	0.75	0.00	0.75
6.40	2.00	0.56	5.00	0.75	0.00	0.75
6.45	2.00	0.56	5.00	0.75	0.00	0.75
6.50	2.00	0.56	5.00	0.75	0.00	0.75
6.55	2.00	0.56	5.00	0.75	0.00	0.75
6.60	2.00	0.56	5.00	0.75	0.00	0.75
6.65	2.00	0.56	5.00	0.75	0.00	0.75
6.70	2.00	0.56	5.00	0.75	0.00	0.75
6.75	2.00	0.56	5.00	0.75	0.00	0.75
6.80	2.00	0.56	5.00	0.75	0.00	0.75
6.85	2.00	0.56	5.00	0.75	0.00	0.75
6.90	2.00	0.56	5.00	0.75	0.00	0.75
6.95	2.00	0.56	5.00	0.75	0.00	0.75
7.00	2.00	0.56	5.00	0.75	0.00	0.75
7.05	2.00	0.56	5.00	0.75	0.00	0.75
7.10	2.00	0.56	5.00	0.75	0.00	0.75
7.15	2.00	0.56	5.00	0.75	0.00	0.75
7.20	2.00	0.56	5.00	0.75	0.00	0.75
7.25	2.00	0.56	5.00	0.75	0.00	0.75
7.30	2.00	0.56	5.00	0.75	0.00	0.75
7.35	2.00	0.56	5.00	0.75	0.00	0.75
7.40	2.00	0.56	5.00	0.75	0.00	0.75
7.45	2.00	0.56	5.00	0.75	0.00	0.75
7.50	2.00	0.56	5.00	0.75	0.00	0.75
7.55	2.00	0.56	5.00	0.75	0.00	0.75
7.60	2.00	0.56	5.00	0.75	0.00	0.75
7.65	2.00	0.56	5.00	0.75	0.00	0.75
7.70	2.00	0.56	5.00	0.75	0.00	0.75
7.75	2.00	0.56	5.00	0.75	0.00	0.75
7.80	2.00	0.56	5.00	0.75	0.00	0.75
7.85	2.00	0.56	5.00	0.75	0.00	0.75
7.90	2.00	0.56	5.00	0.75	0.00	0.75
7.95	2.00	0.56	5.00	0.75	0.00	0.75
8.00	2.00	0.56	5.00	0.75	0.00	0.75
8.05	2.00	0.56	5.00	0.75	0.00	0.75
8.10	2.00	0.56	5.00	0.75	0.00	0.75
8.15	2.00	0.56	5.00	0.75	0.00	0.75
8.20	2.00	0.57	5.00	0.75	0.00	0.75
8.25	2.00	0.57	5.00	0.75	0.00	0.75
8.30	2.00	0.57	5.00	0.75	0.00	0.75
8.35	2.00	0.57	5.00	0.75	0.00	0.75
8.40	2.00	0.57	5.00	0.75	0.00	0.75
8.45	2.00	0.57	5.00	0.75	0.00	0.75
8.50	2.00	0.58	5.00	0.75	0.00	0.75
8.55	2.00	0.58	5.00	0.75	0.00	0.75
8.60	2.00	0.58	5.00	0.75	0.00	0.75
8.65	2.00	0.58	5.00	0.75	0.00	0.75
8.70	2.00	0.58	5.00	0.75	0.00	0.75
8.75	2.00	0.58	5.00	0.75	0.00	0.75
8.80	2.00	0.59	5.00	0.75	0.00	0.75
8.85	2.00	0.59	5.00	0.75	0.00	0.75
8.90	2.00	0.59	5.00	0.75	0.00	0.75
8.95	2.00	0.59	5.00	0.75	0.00	0.75
9.00	2.00	0.59	5.00	0.75	0.00	0.75
9.05	2.00	0.59	5.00	0.75	0.00	0.75
9.10	2.00	0.60	5.00	0.75	0.00	0.75
9.15	2.00	0.60	5.00	0.75	0.00	0.75
9.20	2.00	0.60	5.00	0.75	0.00	0.75

9.25	2.00	0.60	5.00	0.75	0.00	0.75
9.30	2.00	0.60	5.00	0.75	0.00	0.75
9.35	2.00	0.60	5.00	0.75	0.00	0.75
9.40	2.00	0.61	5.00	0.75	0.00	0.75
9.45	2.00	0.61	5.00	0.75	0.00	0.75
9.50	2.00	0.61	5.00	0.75	0.00	0.75
9.55	2.00	0.61	5.00	0.75	0.00	0.75
9.60	2.00	0.61	5.00	0.75	0.00	0.75
9.65	2.00	0.61	5.00	0.75	0.00	0.75
9.70	2.00	0.61	5.00	0.75	0.00	0.75
9.75	2.00	0.62	5.00	0.75	0.00	0.75
9.80	2.00	0.62	5.00	0.75	0.00	0.75
9.85	2.00	0.62	5.00	0.75	0.00	0.75
9.90	2.00	0.62	5.00	0.75	0.00	0.75
9.95	2.00	0.62	5.00	0.75	0.00	0.75
10.00	2.00	0.62	5.00	0.75	0.00	0.75
10.05	2.00	0.62	5.00	0.75	0.00	0.75
10.10	2.00	0.63	5.00	0.75	0.00	0.75
10.15	2.00	0.63	5.00	0.75	0.00	0.75
10.20	2.00	0.63	5.00	0.75	0.00	0.75
10.25	2.00	0.63	5.00	0.75	0.00	0.75
10.30	2.00	0.63	5.00	0.75	0.00	0.75
10.35	2.00	0.63	5.00	0.75	0.00	0.75
10.40	2.00	0.63	5.00	0.75	0.00	0.75
10.45	2.00	0.64	5.00	0.75	0.00	0.75
10.50	2.00	0.64	5.00	0.75	0.00	0.75
10.55	2.00	0.64	5.00	0.75	0.00	0.75
10.60	2.00	0.64	5.00	0.75	0.00	0.75
10.65	2.00	0.64	5.00	0.75	0.00	0.75
10.70	2.00	0.64	5.00	0.75	0.00	0.75
10.75	2.00	0.64	5.00	0.75	0.00	0.75
10.80	2.00	0.65	5.00	0.75	0.00	0.75
10.85	2.00	0.65	5.00	0.75	0.00	0.75
10.90	2.00	0.65	5.00	0.75	0.00	0.75
10.95	2.00	0.65	5.00	0.75	0.00	0.75
11.00	2.00	0.65	5.00	0.75	0.00	0.75
11.05	2.00	0.65	5.00	0.75	0.00	0.75
11.10	2.00	0.65	5.00	0.75	0.00	0.75
11.15	2.00	0.65	5.00	0.75	0.00	0.75
11.20	2.00	0.66	5.00	0.75	0.00	0.75
11.25	2.00	0.66	5.00	0.75	0.00	0.75
11.30	2.00	0.66	5.00	0.75	0.00	0.75
11.35	2.00	0.66	5.00	0.75	0.00	0.75
11.40	2.00	0.66	5.00	0.75	0.00	0.75
11.45	2.00	0.66	5.00	0.75	0.00	0.75
11.50	2.00	0.66	5.00	0.75	0.00	0.75
11.55	2.00	0.66	5.00	0.75	0.00	0.75
11.60	2.00	0.67	5.00	0.75	0.00	0.75
11.65	2.00	0.67	5.00	0.75	0.00	0.75
11.70	2.00	0.67	5.00	0.75	0.00	0.75
11.75	2.00	0.67	5.00	0.75	0.00	0.75
11.80	2.00	0.67	5.00	0.75	0.00	0.75
11.85	2.00	0.67	5.00	0.75	0.00	0.75
11.90	2.00	0.67	5.00	0.75	0.00	0.75
11.95	2.00	0.67	5.00	0.75	0.00	0.75
12.00	2.00	0.68	5.00	0.75	0.00	0.75
12.05	2.00	0.68	5.00	0.75	0.00	0.75
12.10	2.00	0.68	5.00	0.75	0.00	0.75
12.15	2.00	0.68	5.00	0.75	0.00	0.75
12.20	2.00	0.68	5.00	0.75	0.00	0.75
12.25	2.00	0.68	5.00	0.75	0.00	0.75
12.30	2.00	0.68	5.00	0.75	0.00	0.75
12.35	2.00	0.68	5.00	0.75	0.00	0.75

12.40	2.00	0.68	5.00	0.75	0.00	0.75
12.45	2.00	0.69	5.00	0.75	0.00	0.75
12.50	2.00	0.69	5.00	0.75	0.00	0.75
12.55	2.00	0.69	5.00	0.75	0.00	0.75
12.60	2.00	0.69	5.00	0.75	0.00	0.75
12.65	2.00	0.69	5.00	0.75	0.00	0.75
12.70	2.00	0.69	5.00	0.75	0.00	0.75
12.75	2.00	0.69	5.00	0.75	0.00	0.75
12.80	2.00	0.69	5.00	0.75	0.00	0.75
12.85	2.00	0.69	5.00	0.75	0.00	0.75
12.90	2.00	0.70	5.00	0.75	0.00	0.75
12.95	2.00	0.70	5.00	0.75	0.00	0.75
13.00	2.00	0.70	5.00	0.75	0.00	0.75
13.05	2.00	0.70	5.00	0.75	0.00	0.75
13.10	2.00	0.70	5.00	0.75	0.00	0.75
13.15	2.00	0.70	5.00	0.75	0.00	0.75
13.20	2.00	0.70	5.00	0.75	0.00	0.75
13.25	2.00	0.70	5.00	0.75	0.00	0.75
13.30	2.00	0.70	5.00	0.75	0.00	0.75
13.35	2.00	0.71	5.00	0.75	0.00	0.75
13.40	2.00	0.71	5.00	0.75	0.00	0.75
13.45	2.00	0.71	5.00	0.75	0.00	0.75
13.50	2.00	0.71	5.00	0.75	0.00	0.75
13.55	2.00	0.71	5.00	0.75	0.00	0.75
13.60	2.00	0.71	5.00	0.75	0.00	0.75
13.65	2.00	0.71	5.00	0.75	0.00	0.75
13.70	2.00	0.71	5.00	0.75	0.00	0.75
13.75	2.00	0.71	5.00	0.75	0.00	0.75
13.80	2.00	0.72	5.00	0.75	0.00	0.75
13.85	2.00	0.72	5.00	0.75	0.00	0.75
13.90	2.00	0.72	5.00	0.75	0.00	0.75
13.95	2.00	0.72	5.00	0.75	0.00	0.75
14.00	2.00	0.72	5.00	0.75	0.00	0.75
14.05	2.00	0.72	5.00	0.75	0.00	0.75
14.10	2.00	0.72	5.00	0.75	0.00	0.75
14.15	2.00	0.72	5.00	0.75	0.00	0.75
14.20	2.00	0.72	5.00	0.75	0.00	0.75
14.25	2.00	0.72	5.00	0.75	0.00	0.75
14.30	2.00	0.73	5.00	0.75	0.00	0.75
14.35	2.00	0.73	5.00	0.75	0.00	0.75
14.40	2.00	0.73	5.00	0.75	0.00	0.75
14.45	2.00	0.73	5.00	0.75	0.00	0.75
14.50	2.00	0.73	5.00	0.75	0.00	0.75
14.55	2.00	0.73	5.00	0.75	0.00	0.75
14.60	2.00	0.73	5.00	0.75	0.00	0.75
14.65	2.00	0.73	5.00	0.75	0.00	0.75
14.70	2.00	0.73	5.00	0.75	0.00	0.75
14.75	2.00	0.73	5.00	0.75	0.00	0.75
14.80	2.00	0.74	5.00	0.75	0.00	0.75
14.85	2.00	0.74	5.00	0.75	0.00	0.75
14.90	2.00	0.74	5.00	0.75	0.00	0.75
14.95	2.00	0.74	5.00	0.75	0.00	0.75
15.00	2.00	0.74	5.00	0.75	0.00	0.75
15.05	2.00	0.74	5.00	0.75	0.00	0.75
15.10	2.00	0.74	5.00	0.75	0.00	0.75
15.15	2.00	0.74	5.00	0.75	0.00	0.75
15.20	2.00	0.74	5.00	0.75	0.00	0.75
15.25	2.00	0.74	5.00	0.75	0.00	0.75
15.30	2.00	0.74	5.00	0.75	0.00	0.75
15.35	2.00	0.74	5.00	0.75	0.00	0.75
15.40	2.00	0.75	5.00	0.75	0.00	0.75
15.45	2.00	0.75	5.00	0.75	0.00	0.75
15.50	2.00	0.75	5.00	0.75	0.00	0.75

15.55	2.00	0.75	5.00	0.75	0.00	0.75
15.60	2.00	0.75	5.00	0.75	0.00	0.75
15.65	2.00	0.75	5.00	0.75	0.00	0.75
15.70	2.00	0.75	5.00	0.75	0.00	0.75
15.75	2.00	0.75	5.00	0.75	0.00	0.75
15.80	2.00	0.75	5.00	0.75	0.00	0.75
15.85	2.00	0.75	5.00	0.75	0.00	0.75
15.90	2.00	0.75	5.00	0.75	0.00	0.75
15.95	2.00	0.75	5.00	0.75	0.00	0.75
16.00	2.00	0.76	5.00	0.75	0.00	0.75
16.05	2.00	0.76	5.00	0.75	0.00	0.75
16.10	2.00	0.76	5.00	0.75	0.00	0.75
16.15	2.00	0.76	5.00	0.75	0.00	0.75
16.20	2.00	0.76	5.00	0.75	0.00	0.75
16.25	2.00	0.76	5.00	0.75	0.00	0.75
16.30	2.00	0.76	5.00	0.75	0.00	0.75
16.35	2.00	0.76	5.00	0.75	0.00	0.75
16.40	2.00	0.76	5.00	0.75	0.00	0.75
16.45	2.00	0.76	5.00	0.75	0.00	0.75
16.50	2.00	0.76	5.00	0.75	0.00	0.75
16.55	2.00	0.76	5.00	0.75	0.00	0.75
16.60	2.00	0.76	5.00	0.75	0.00	0.75
16.65	2.00	0.77	5.00	0.75	0.00	0.75
16.70	2.00	0.77	5.00	0.75	0.00	0.75
16.75	2.00	0.77	5.00	0.75	0.00	0.75
16.80	2.00	0.77	5.00	0.75	0.00	0.75
16.85	2.00	0.77	5.00	0.75	0.00	0.75
16.90	2.00	0.77	5.00	0.75	0.00	0.75
16.95	2.00	0.77	5.00	0.75	0.00	0.75
17.00	2.00	0.77	5.00	0.75	0.00	0.75
17.05	2.00	0.77	5.00	0.75	0.00	0.75
17.10	2.00	0.77	5.00	0.75	0.00	0.75
17.15	2.00	0.77	5.00	0.75	0.00	0.75
17.20	2.00	0.77	5.00	0.75	0.00	0.75
17.25	2.00	0.77	5.00	0.75	0.00	0.75
17.30	2.00	0.77	5.00	0.75	0.00	0.75
17.35	2.00	0.77	5.00	0.75	0.00	0.75
17.40	2.00	0.78	5.00	0.75	0.00	0.75
17.45	2.00	0.78	5.00	0.75	0.00	0.75
17.50	2.00	0.78	5.00	0.75	0.00	0.75
17.55	2.00	0.78	5.00	0.75	0.00	0.75
17.60	2.00	0.78	5.00	0.75	0.00	0.75
17.65	2.00	0.78	5.00	0.75	0.00	0.75
17.70	2.00	0.78	5.00	0.75	0.00	0.75
17.75	2.00	0.78	5.00	0.75	0.00	0.75
17.80	2.00	0.78	5.00	0.75	0.00	0.75
17.85	2.00	0.78	5.00	0.75	0.00	0.75
17.90	2.00	0.78	5.00	0.75	0.00	0.75
17.95	2.00	0.78	5.00	0.75	0.00	0.75
18.00	0.29	0.78	0.37*	0.75	0.00	0.75
18.05	0.29	0.78	0.37*	0.75	0.00	0.75
18.10	0.30	0.78	0.38*	0.74	0.00	0.74
18.15	0.30	0.78	0.38*	0.73	0.00	0.73
18.20	0.30	0.79	0.39*	0.72	0.00	0.72
18.25	0.31	0.79	0.39*	0.72	0.00	0.72
18.30	0.31	0.79	0.40*	0.71	0.00	0.71
18.35	0.32	0.79	0.40*	0.70	0.00	0.70
18.40	0.32	0.79	0.41*	0.70	0.00	0.70
18.45	0.32	0.79	0.41*	0.69	0.00	0.69
18.50	0.33	0.79	0.42*	0.68	0.00	0.68
18.55	0.33	0.79	0.42*	0.68	0.00	0.68
18.60	0.34	0.79	0.43*	0.67	0.00	0.67
18.65	0.34	0.79	0.43*	0.66	0.00	0.66

18.70	0.35	0.79	0.44*	0.66	0.00	0.66
18.75	0.35	0.79	0.45*	0.65	0.00	0.65
18.80	0.36	0.79	0.45*	0.64	0.00	0.64
18.85	0.37	0.79	0.46*	0.64	0.00	0.64
18.90	0.37	0.79	0.47*	0.63	0.00	0.63
18.95	0.38	0.79	0.48*	0.63	0.00	0.63
19.00	0.39	0.79	0.49*	0.62	0.00	0.62
19.05	0.39	0.79	0.50*	0.62	0.00	0.62
19.10	0.40	0.79	0.51*	0.61	0.00	0.61
19.15	0.42	0.80	0.52*	0.60	0.00	0.60
19.20	0.43	0.80	0.54*	0.60	0.00	0.60
19.25	0.45	0.80	0.56*	0.59	0.00	0.59
19.30	0.48	0.80	0.60*	0.59	0.00	0.59
19.35	2.15	0.80	2.70	0.59	0.00	0.59
19.40	2.15	0.80	2.69	0.58	0.00	0.58
19.45	2.15	0.80	2.69	0.58	0.00	0.58
19.50	2.15	0.80	2.69	0.57	0.00	0.57
19.55	2.15	0.80	2.69	0.57	0.00	0.57
19.60	2.15	0.80	2.69	0.57	0.00	0.57
19.65	2.15	0.80	2.69	0.56	0.00	0.56
19.70	2.15	0.80	2.68	0.56	0.00	0.56
19.75	2.15	0.80	2.68	0.56	0.00	0.56
19.80	2.15	0.80	2.68	0.55	0.00	0.55
19.85	2.15	0.80	2.68	0.55	0.00	0.55
19.90	2.15	0.80	2.68	0.55	0.00	0.55
19.95	2.15	0.80	2.68	0.55	0.00	0.55
20.00	2.15	0.80	2.67	0.54	0.00	0.54
20.05	2.15	0.80	2.67	0.54	0.00	0.54
20.10	2.15	0.80	2.67	0.54	0.00	0.54
20.15	2.15	0.81	2.67	0.54	0.00	0.54
20.20	2.15	0.81	2.67	0.54	0.00	0.54
20.25	2.15	0.81	2.67	0.54	0.00	0.54
20.30	2.15	0.81	2.67	0.54	0.00	0.54
20.35	2.15	0.81	2.66	0.53	0.00	0.53
20.40	2.15	0.81	2.66	0.53	0.00	0.53
20.45	2.15	0.81	2.66	0.53	0.00	0.53
20.50	2.15	0.81	2.66	0.53	0.00	0.53
20.55	2.15	0.81	2.66	0.53	0.00	0.53
20.60	2.15	0.81	2.66	0.53	0.00	0.53
20.65	2.15	0.81	2.66	0.53	0.00	0.53
20.70	2.15	0.81	2.65	0.53	0.00	0.53
20.75	2.15	0.81	2.65	0.53	0.00	0.53
20.80	2.15	0.81	2.65	0.53	0.00	0.53
20.85	2.15	0.81	2.65	0.53	0.00	0.53
20.90	2.15	0.81	2.65	0.53	0.00	0.53
20.95	2.15	0.81	2.65	0.53	0.00	0.53
21.00	2.15	0.81	2.65	0.53	0.00	0.53
21.05	2.15	0.81	2.64	0.53	0.00	0.53
21.10	2.15	0.81	2.64	0.53	0.00	0.53
21.15	2.15	0.81	2.64	0.53	0.00	0.53
21.20	2.15	0.81	2.64	0.53	0.00	0.53
21.25	2.15	0.81	2.64	0.53	0.00	0.53
21.30	2.15	0.82	2.64	0.53	0.00	0.53
21.35	2.15	0.82	2.64	0.53	0.00	0.53
21.40	2.15	0.82	2.63	0.53	0.00	0.53
21.45	2.15	0.82	2.63	0.53	0.00	0.53
21.50	2.15	0.82	2.63	0.53	0.00	0.53
21.55	2.15	0.82	2.63	0.53	0.00	0.53
21.60	2.15	0.82	2.63	0.53	0.00	0.53
21.65	2.15	0.82	2.63	0.53	0.00	0.53
21.70	2.15	0.82	2.63	0.53	0.00	0.53
21.75	2.15	0.82	2.63	0.53	0.00	0.53
21.80	2.15	0.82	2.62	0.53	0.00	0.53

21.85	2.15	0.82	2.62	0.53	0.00	0.53
21.90	2.15	0.82	2.62	0.53	0.00	0.53
21.95	2.15	0.82	2.62	0.53	0.00	0.53
22.00	2.15	0.82	2.62	0.53	0.00	0.53
22.05	2.15	0.82	2.62	0.53	0.00	0.53
22.10	2.15	0.82	2.62	0.53	0.00	0.53
22.15	2.15	0.82	2.62	0.53	0.00	0.53
22.20	2.15	0.82	2.61	0.53	0.00	0.53
22.25	2.15	0.82	2.61	0.53	0.00	0.53
22.30	2.15	0.82	2.61	0.53	0.00	0.53
22.35	2.15	0.82	2.61	0.53	0.00	0.53
22.40	2.15	0.82	2.61	0.53	0.00	0.53
22.45	2.15	0.82	2.61	0.53	0.00	0.53
22.50	2.15	0.82	2.61	0.53	0.00	0.53
22.55	2.15	0.82	2.61	0.53	0.00	0.53
22.60	2.15	0.83	2.61	0.53	0.00	0.53
22.65	2.15	0.83	2.60	0.53	0.00	0.53
22.70	2.15	0.83	2.60	0.53	0.00	0.53
22.75	2.15	0.83	2.60	0.53	0.00	0.53
22.80	2.15	0.83	2.60	0.53	0.00	0.53
22.85	2.15	0.83	2.60	0.53	0.00	0.53
22.90	2.15	0.83	2.60	0.53	0.00	0.53
22.95	2.15	0.83	2.60	0.53	0.00	0.53
23.00	2.15	0.83	2.60	0.53	0.00	0.53
23.05	2.00	0.83	5.00	0.53	0.00	0.53
23.10	2.00	0.83	5.00	0.53	0.00	0.53
23.15	2.00	0.83	5.00	0.53	0.00	0.53
23.20	2.00	0.83	5.00	0.53	0.00	0.53
23.25	2.00	0.83	5.00	0.53	0.00	0.53
23.30	2.00	0.83	5.00	0.53	0.00	0.53
23.35	2.00	0.83	5.00	0.53	0.00	0.53
23.40	2.00	0.83	5.00	0.53	0.00	0.53
23.45	2.00	0.83	5.00	0.53	0.00	0.53
23.50	2.00	0.83	5.00	0.53	0.00	0.53
23.55	2.00	0.83	5.00	0.53	0.00	0.53
23.60	2.00	0.83	5.00	0.53	0.00	0.53
23.65	2.00	0.83	5.00	0.53	0.00	0.53
23.70	2.00	0.83	5.00	0.53	0.00	0.53
23.75	2.00	0.83	5.00	0.53	0.00	0.53
23.80	2.00	0.83	5.00	0.53	0.00	0.53
23.85	2.00	0.83	5.00	0.53	0.00	0.53
23.90	2.00	0.83	5.00	0.53	0.00	0.53
23.95	2.00	0.83	5.00	0.53	0.00	0.53
24.00	2.00	0.83	5.00	0.53	0.00	0.53
24.05	2.00	0.83	5.00	0.53	0.00	0.53
24.10	2.00	0.84	5.00	0.53	0.00	0.53
24.15	2.00	0.84	5.00	0.53	0.00	0.53
24.20	2.00	0.84	5.00	0.53	0.00	0.53
24.25	2.00	0.84	5.00	0.53	0.00	0.53
24.30	2.00	0.84	5.00	0.53	0.00	0.53
24.35	2.00	0.84	5.00	0.53	0.00	0.53
24.40	2.00	0.84	5.00	0.53	0.00	0.53
24.45	2.00	0.84	5.00	0.53	0.00	0.53
24.50	2.00	0.84	5.00	0.53	0.00	0.53
24.55	2.00	0.84	5.00	0.53	0.00	0.53
24.60	2.00	0.84	5.00	0.53	0.00	0.53
24.65	2.00	0.84	5.00	0.53	0.00	0.53
24.70	2.00	0.84	5.00	0.53	0.00	0.53
24.75	2.00	0.84	5.00	0.53	0.00	0.53
24.80	2.00	0.84	5.00	0.53	0.00	0.53
24.85	2.00	0.84	5.00	0.53	0.00	0.53
24.90	2.00	0.84	5.00	0.53	0.00	0.53
24.95	2.00	0.84	5.00	0.53	0.00	0.53

25.00	2.00	0.84	5.00	0.53	0.00	0.53
25.05	2.00	0.84	5.00	0.53	0.00	0.53
25.10	2.00	0.84	5.00	0.53	0.00	0.53
25.15	2.00	0.84	5.00	0.53	0.00	0.53
25.20	2.00	0.84	5.00	0.53	0.00	0.53
25.25	2.00	0.84	5.00	0.53	0.00	0.53
25.30	2.00	0.84	5.00	0.53	0.00	0.53
25.35	2.00	0.84	5.00	0.53	0.00	0.53
25.40	2.00	0.84	5.00	0.53	0.00	0.53
25.45	2.00	0.84	5.00	0.53	0.00	0.53
25.50	2.00	0.84	5.00	0.53	0.00	0.53
25.55	2.00	0.84	5.00	0.53	0.00	0.53
25.60	2.00	0.84	5.00	0.53	0.00	0.53
25.65	2.00	0.84	5.00	0.53	0.00	0.53
25.70	2.00	0.84	5.00	0.53	0.00	0.53
25.75	2.00	0.85	5.00	0.53	0.00	0.53
25.80	2.00	0.85	5.00	0.53	0.00	0.53
25.85	2.00	0.85	5.00	0.53	0.00	0.53
25.90	2.00	0.85	5.00	0.53	0.00	0.53
25.95	2.00	0.85	5.00	0.53	0.00	0.53
26.00	2.00	0.85	5.00	0.53	0.00	0.53
26.05	2.00	0.85	5.00	0.53	0.00	0.53
26.10	2.00	0.85	5.00	0.53	0.00	0.53
26.15	2.00	0.85	5.00	0.53	0.00	0.53
26.20	2.00	0.85	5.00	0.53	0.00	0.53
26.25	2.00	0.85	5.00	0.53	0.00	0.53
26.30	2.00	0.85	5.00	0.53	0.00	0.53
26.35	2.00	0.85	5.00	0.53	0.00	0.53
26.40	2.00	0.85	5.00	0.53	0.00	0.53
26.45	2.00	0.85	5.00	0.53	0.00	0.53
26.50	2.00	0.85	5.00	0.53	0.00	0.53
26.55	2.00	0.85	5.00	0.53	0.00	0.53
26.60	2.00	0.85	5.00	0.53	0.00	0.53
26.65	2.00	0.85	5.00	0.53	0.00	0.53
26.70	2.00	0.85	5.00	0.53	0.00	0.53
26.75	2.00	0.85	5.00	0.53	0.00	0.53
26.80	2.00	0.85	5.00	0.53	0.00	0.53
26.85	2.00	0.85	5.00	0.53	0.00	0.53
26.90	2.00	0.85	5.00	0.53	0.00	0.53
26.95	2.00	0.85	5.00	0.53	0.00	0.53
27.00	2.00	0.85	5.00	0.53	0.00	0.53
27.05	2.00	0.85	5.00	0.53	0.00	0.53
27.10	2.00	0.85	5.00	0.53	0.00	0.53
27.15	2.00	0.85	5.00	0.53	0.00	0.53
27.20	2.00	0.85	5.00	0.53	0.00	0.53
27.25	2.00	0.85	5.00	0.53	0.00	0.53
27.30	2.00	0.85	5.00	0.53	0.00	0.53
27.35	2.00	0.85	5.00	0.53	0.00	0.53
27.40	2.00	0.85	5.00	0.53	0.00	0.53
27.45	2.00	0.85	5.00	0.53	0.00	0.53
27.50	2.00	0.85	5.00	0.53	0.00	0.53
27.55	2.00	0.86	5.00	0.53	0.00	0.53
27.60	2.00	0.86	5.00	0.53	0.00	0.53
27.65	2.00	0.86	5.00	0.53	0.00	0.53
27.70	2.00	0.86	5.00	0.53	0.00	0.53
27.75	2.00	0.86	5.00	0.53	0.00	0.53
27.80	2.00	0.86	5.00	0.53	0.00	0.53
27.85	2.00	0.86	5.00	0.53	0.00	0.53
27.90	2.00	0.86	5.00	0.53	0.00	0.53
27.95	2.00	0.86	5.00	0.53	0.00	0.53
28.00	2.00	0.86	5.00	0.53	0.00	0.53
28.05	0.22	0.86	0.26*	0.53	0.00	0.53
28.10	0.22	0.86	0.26*	0.52	0.00	0.52

28.15	0.22	0.86	0.26*	0.51	0.00	0.51
28.20	0.23	0.86	0.26*	0.50	0.00	0.50
28.25	0.23	0.86	0.27*	0.49	0.00	0.49
28.30	0.23	0.86	0.27*	0.48	0.00	0.48
28.35	0.23	0.86	0.27*	0.47	0.00	0.47
28.40	0.24	0.86	0.27*	0.46	0.00	0.46
28.45	0.24	0.86	0.28*	0.45	0.00	0.45
28.50	0.24	0.86	0.28*	0.44	0.00	0.44
28.55	0.24	0.86	0.28*	0.44	0.00	0.44
28.60	0.24	0.86	0.28*	0.43	0.00	0.43
28.65	0.25	0.86	0.29*	0.42	0.00	0.42
28.70	0.25	0.86	0.29*	0.41	0.00	0.41
28.75	0.25	0.86	0.29*	0.40	0.00	0.40
28.80	0.25	0.86	0.29*	0.39	0.00	0.39
28.85	0.26	0.86	0.30*	0.38	0.00	0.38
28.90	0.26	0.86	0.30*	0.38	0.00	0.38
28.95	0.26	0.86	0.30*	0.37	0.00	0.37
29.00	0.26	0.86	0.31*	0.36	0.00	0.36
29.05	0.27	0.86	0.31*	0.35	0.00	0.35
29.10	0.27	0.86	0.31*	0.34	0.00	0.34
29.15	0.27	0.86	0.31*	0.34	0.00	0.34
29.20	0.27	0.86	0.32*	0.33	0.00	0.33
29.25	0.28	0.86	0.32*	0.32	0.00	0.32
29.30	0.28	0.86	0.32*	0.31	0.00	0.31
29.35	0.28	0.86	0.33*	0.30	0.00	0.30
29.40	0.28	0.86	0.33*	0.30	0.00	0.30
29.45	0.29	0.86	0.33*	0.29	0.00	0.29
29.50	0.29	0.86	0.34*	0.28	0.00	0.28
29.55	0.29	0.86	0.34*	0.27	0.00	0.27
29.60	0.30	0.86	0.34*	0.27	0.00	0.27
29.65	0.30	0.86	0.35*	0.26	0.00	0.26
29.70	0.30	0.87	0.35*	0.25	0.00	0.25
29.75	0.31	0.87	0.35*	0.25	0.00	0.25
29.80	0.31	0.87	0.36*	0.24	0.00	0.24
29.85	0.31	0.87	0.36*	0.23	0.00	0.23
29.90	0.31	0.87	0.36*	0.22	0.00	0.22
29.95	0.32	0.87	0.37*	0.22	0.00	0.22
30.00	0.32	0.87	0.37*	0.21	0.00	0.21
30.05	0.33	0.87	0.38*	0.20	0.00	0.20
30.10	0.33	0.87	0.38*	0.20	0.00	0.20
30.15	0.33	0.87	0.38*	0.19	0.00	0.19
30.20	0.34	0.87	0.39*	0.18	0.00	0.18
30.25	0.34	0.87	0.39*	0.18	0.00	0.18
30.30	0.34	0.87	0.40*	0.17	0.00	0.17
30.35	0.35	0.87	0.40*	0.16	0.00	0.16
30.40	0.35	0.87	0.41*	0.16	0.00	0.16
30.45	0.36	0.87	0.41*	0.15	0.00	0.15
30.50	0.36	0.87	0.42*	0.15	0.00	0.15
30.55	0.37	0.87	0.42*	0.14	0.00	0.14
30.60	0.37	0.87	0.43*	0.13	0.00	0.13
30.65	0.38	0.86	0.44*	0.13	0.00	0.13
30.70	0.38	0.86	0.44*	0.12	0.00	0.12
30.75	0.39	0.86	0.45*	0.12	0.00	0.12
30.80	0.39	0.86	0.46*	0.11	0.00	0.11
30.85	0.40	0.86	0.47*	0.11	0.00	0.11
30.90	0.41	0.86	0.47*	0.10	0.00	0.10
30.95	0.42	0.86	0.49*	0.09	0.00	0.09
31.00	0.43	0.86	0.50*	0.09	0.00	0.09
31.05	0.45	0.86	0.52*	0.08	0.00	0.08
31.10	0.47	0.86	0.54*	0.08	0.00	0.08
31.15	0.51	0.86	0.59*	0.08	0.00	0.08
31.20	2.15	0.86	2.49	0.07	0.00	0.07
31.25	2.15	0.86	2.49	0.07	0.00	0.07

31.30	2.15	0.86	2.49	0.06	0.00	0.06
31.35	2.15	0.86	2.49	0.06	0.00	0.06
31.40	2.15	0.86	2.49	0.05	0.00	0.05
31.45	2.15	0.86	2.49	0.05	0.00	0.05
31.50	2.15	0.86	2.49	0.05	0.00	0.05
31.55	2.15	0.86	2.49	0.04	0.00	0.04
31.60	2.15	0.86	2.49	0.04	0.00	0.04
31.65	2.15	0.86	2.49	0.04	0.00	0.04
31.70	2.15	0.86	2.49	0.03	0.00	0.03
31.75	2.15	0.86	2.49	0.03	0.00	0.03
31.80	2.15	0.86	2.49	0.03	0.00	0.03
31.85	2.15	0.86	2.49	0.03	0.00	0.03
31.90	2.15	0.86	2.49	0.02	0.00	0.02
31.95	2.15	0.86	2.50	0.02	0.00	0.02
32.00	2.15	0.86	2.50	0.02	0.00	0.02
32.05	2.15	0.86	2.50	0.02	0.00	0.02
32.10	2.15	0.86	2.50	0.02	0.00	0.02
32.15	2.15	0.86	2.50	0.01	0.00	0.01
32.20	2.15	0.86	2.50	0.01	0.00	0.01
32.25	2.15	0.86	2.50	0.01	0.00	0.01
32.30	2.15	0.86	2.50	0.01	0.00	0.01
32.35	2.15	0.86	2.50	0.01	0.00	0.01
32.40	2.15	0.86	2.50	0.01	0.00	0.01
32.45	2.15	0.86	2.50	0.01	0.00	0.01
32.50	2.15	0.86	2.50	0.01	0.00	0.01
32.55	2.15	0.86	2.50	0.01	0.00	0.01
32.60	2.15	0.86	2.50	0.01	0.00	0.01
32.65	2.15	0.86	2.50	0.00	0.00	0.00
32.70	2.15	0.86	2.50	0.00	0.00	0.00
32.75	2.15	0.86	2.50	0.00	0.00	0.00
32.80	2.15	0.86	2.50	0.00	0.00	0.00
32.85	2.15	0.86	2.50	0.00	0.00	0.00
32.90	2.15	0.86	2.50	0.00	0.00	0.00
32.95	2.15	0.86	2.50	0.00	0.00	0.00
33.00	2.15	0.86	2.51	0.00	0.00	0.00
33.05	2.00	0.86	5.00	0.00	0.00	0.00
33.10	2.00	0.86	5.00	0.00	0.00	0.00
33.15	2.00	0.86	5.00	0.00	0.00	0.00
33.20	2.00	0.86	5.00	0.00	0.00	0.00
33.25	2.00	0.86	5.00	0.00	0.00	0.00
33.30	2.00	0.86	5.00	0.00	0.00	0.00
33.35	2.00	0.86	5.00	0.00	0.00	0.00
33.40	2.00	0.86	5.00	0.00	0.00	0.00
33.45	2.00	0.86	5.00	0.00	0.00	0.00
33.50	2.00	0.86	5.00	0.00	0.00	0.00
33.55	2.00	0.86	5.00	0.00	0.00	0.00
33.60	2.00	0.86	5.00	0.00	0.00	0.00
33.65	2.00	0.86	5.00	0.00	0.00	0.00
33.70	2.00	0.86	5.00	0.00	0.00	0.00
33.75	2.00	0.86	5.00	0.00	0.00	0.00
33.80	2.00	0.86	5.00	0.00	0.00	0.00
33.85	2.00	0.86	5.00	0.00	0.00	0.00
33.90	2.00	0.85	5.00	0.00	0.00	0.00
33.95	2.00	0.85	5.00	0.00	0.00	0.00
34.00	2.00	0.85	5.00	0.00	0.00	0.00
34.05	2.00	0.85	5.00	0.00	0.00	0.00
34.10	2.00	0.85	5.00	0.00	0.00	0.00
34.15	2.00	0.85	5.00	0.00	0.00	0.00
34.20	2.00	0.85	5.00	0.00	0.00	0.00
34.25	2.00	0.85	5.00	0.00	0.00	0.00
34.30	2.00	0.85	5.00	0.00	0.00	0.00
34.35	2.00	0.85	5.00	0.00	0.00	0.00
34.40	2.00	0.85	5.00	0.00	0.00	0.00

34.45	2.00	0.85	5.00	0.00	0.00	0.00
34.50	2.00	0.85	5.00	0.00	0.00	0.00
34.55	2.00	0.85	5.00	0.00	0.00	0.00
34.60	2.00	0.85	5.00	0.00	0.00	0.00
34.65	2.00	0.85	5.00	0.00	0.00	0.00
34.70	2.00	0.85	5.00	0.00	0.00	0.00
34.75	2.00	0.85	5.00	0.00	0.00	0.00
34.80	2.00	0.85	5.00	0.00	0.00	0.00
34.85	2.00	0.85	5.00	0.00	0.00	0.00
34.90	2.00	0.85	5.00	0.00	0.00	0.00
34.95	2.00	0.85	5.00	0.00	0.00	0.00
35.00	2.00	0.85	5.00	0.00	0.00	0.00
35.05	2.00	0.85	5.00	0.00	0.00	0.00
35.10	2.00	0.85	5.00	0.00	0.00	0.00
35.15	2.00	0.85	5.00	0.00	0.00	0.00
35.20	2.00	0.85	5.00	0.00	0.00	0.00
35.25	2.00	0.85	5.00	0.00	0.00	0.00
35.30	2.00	0.85	5.00	0.00	0.00	0.00
35.35	2.00	0.85	5.00	0.00	0.00	0.00
35.40	2.00	0.85	5.00	0.00	0.00	0.00
35.45	2.00	0.85	5.00	0.00	0.00	0.00
35.50	2.00	0.85	5.00	0.00	0.00	0.00
35.55	2.00	0.85	5.00	0.00	0.00	0.00
35.60	2.00	0.85	5.00	0.00	0.00	0.00
35.65	2.00	0.85	5.00	0.00	0.00	0.00
35.70	2.00	0.85	5.00	0.00	0.00	0.00
35.75	2.00	0.85	5.00	0.00	0.00	0.00
35.80	2.00	0.85	5.00	0.00	0.00	0.00
35.85	2.00	0.85	5.00	0.00	0.00	0.00
35.90	2.00	0.85	5.00	0.00	0.00	0.00
35.95	2.00	0.85	5.00	0.00	0.00	0.00
36.00	2.00	0.85	5.00	0.00	0.00	0.00
36.05	2.00	0.85	5.00	0.00	0.00	0.00
36.10	2.00	0.85	5.00	0.00	0.00	0.00
36.15	2.00	0.85	5.00	0.00	0.00	0.00
36.20	2.00	0.84	5.00	0.00	0.00	0.00
36.25	2.00	0.84	5.00	0.00	0.00	0.00
36.30	2.00	0.84	5.00	0.00	0.00	0.00
36.35	2.00	0.84	5.00	0.00	0.00	0.00
36.40	2.00	0.84	5.00	0.00	0.00	0.00
36.45	2.00	0.84	5.00	0.00	0.00	0.00
36.50	2.00	0.84	5.00	0.00	0.00	0.00
36.55	2.00	0.84	5.00	0.00	0.00	0.00
36.60	2.00	0.84	5.00	0.00	0.00	0.00
36.65	2.00	0.84	5.00	0.00	0.00	0.00
36.70	2.00	0.84	5.00	0.00	0.00	0.00
36.75	2.00	0.84	5.00	0.00	0.00	0.00
36.80	2.00	0.84	5.00	0.00	0.00	0.00
36.85	2.00	0.84	5.00	0.00	0.00	0.00
36.90	2.00	0.84	5.00	0.00	0.00	0.00
36.95	2.00	0.84	5.00	0.00	0.00	0.00
37.00	2.00	0.84	5.00	0.00	0.00	0.00
37.05	2.00	0.84	5.00	0.00	0.00	0.00
37.10	2.00	0.84	5.00	0.00	0.00	0.00
37.15	2.00	0.84	5.00	0.00	0.00	0.00
37.20	2.00	0.84	5.00	0.00	0.00	0.00
37.25	2.00	0.84	5.00	0.00	0.00	0.00
37.30	2.00	0.84	5.00	0.00	0.00	0.00
37.35	2.00	0.84	5.00	0.00	0.00	0.00
37.40	2.00	0.84	5.00	0.00	0.00	0.00
37.45	2.00	0.84	5.00	0.00	0.00	0.00
37.50	2.00	0.84	5.00	0.00	0.00	0.00
37.55	2.00	0.84	5.00	0.00	0.00	0.00

37.60	2.00	0.84	5.00	0.00	0.00	0.00
37.65	2.00	0.84	5.00	0.00	0.00	0.00
37.70	2.00	0.84	5.00	0.00	0.00	0.00
37.75	2.00	0.84	5.00	0.00	0.00	0.00
37.80	2.00	0.84	5.00	0.00	0.00	0.00
37.85	2.00	0.84	5.00	0.00	0.00	0.00
37.90	2.00	0.84	5.00	0.00	0.00	0.00
37.95	2.00	0.84	5.00	0.00	0.00	0.00
38.00	2.00	0.84	5.00	0.00	0.00	0.00
38.05	2.00	0.84	5.00	0.00	0.00	0.00
38.10	2.00	0.84	5.00	0.00	0.00	0.00
38.15	2.00	0.84	5.00	0.00	0.00	0.00
38.20	2.00	0.83	5.00	0.00	0.00	0.00
38.25	2.00	0.83	5.00	0.00	0.00	0.00
38.30	2.00	0.83	5.00	0.00	0.00	0.00
38.35	2.00	0.83	5.00	0.00	0.00	0.00
38.40	2.00	0.83	5.00	0.00	0.00	0.00
38.45	2.00	0.83	5.00	0.00	0.00	0.00
38.50	2.00	0.83	5.00	0.00	0.00	0.00
38.55	2.00	0.83	5.00	0.00	0.00	0.00
38.60	2.00	0.83	5.00	0.00	0.00	0.00
38.65	2.00	0.83	5.00	0.00	0.00	0.00
38.70	2.00	0.83	5.00	0.00	0.00	0.00
38.75	2.00	0.83	5.00	0.00	0.00	0.00
38.80	2.00	0.83	5.00	0.00	0.00	0.00
38.85	2.00	0.83	5.00	0.00	0.00	0.00
38.90	2.00	0.83	5.00	0.00	0.00	0.00
38.95	2.00	0.83	5.00	0.00	0.00	0.00
39.00	2.00	0.83	5.00	0.00	0.00	0.00
39.05	2.00	0.83	5.00	0.00	0.00	0.00
39.10	2.00	0.83	5.00	0.00	0.00	0.00
39.15	2.00	0.83	5.00	0.00	0.00	0.00
39.20	2.00	0.83	5.00	0.00	0.00	0.00
39.25	2.00	0.83	5.00	0.00	0.00	0.00
39.30	2.00	0.83	5.00	0.00	0.00	0.00
39.35	2.00	0.83	5.00	0.00	0.00	0.00
39.40	2.00	0.83	5.00	0.00	0.00	0.00
39.45	2.00	0.83	5.00	0.00	0.00	0.00
39.50	2.00	0.83	5.00	0.00	0.00	0.00
39.55	2.00	0.83	5.00	0.00	0.00	0.00
39.60	2.00	0.83	5.00	0.00	0.00	0.00
39.65	2.00	0.83	5.00	0.00	0.00	0.00
39.70	2.00	0.83	5.00	0.00	0.00	0.00
39.75	2.00	0.83	5.00	0.00	0.00	0.00
39.80	2.00	0.83	5.00	0.00	0.00	0.00
39.85	2.00	0.83	5.00	0.00	0.00	0.00
39.90	2.00	0.83	5.00	0.00	0.00	0.00
39.95	2.00	0.83	5.00	0.00	0.00	0.00
40.00	2.00	0.83	5.00	0.00	0.00	0.00
40.05	2.00	0.82	5.00	0.00	0.00	0.00
40.10	2.00	0.82	5.00	0.00	0.00	0.00
40.15	2.00	0.82	5.00	0.00	0.00	0.00
40.20	2.00	0.82	5.00	0.00	0.00	0.00
40.25	2.00	0.82	5.00	0.00	0.00	0.00
40.30	2.00	0.82	5.00	0.00	0.00	0.00
40.35	2.00	0.82	5.00	0.00	0.00	0.00
40.40	2.00	0.82	5.00	0.00	0.00	0.00
40.45	2.00	0.82	5.00	0.00	0.00	0.00
40.50	2.00	0.82	5.00	0.00	0.00	0.00
40.55	2.00	0.82	5.00	0.00	0.00	0.00
40.60	2.00	0.82	5.00	0.00	0.00	0.00
40.65	2.00	0.82	5.00	0.00	0.00	0.00
40.70	2.00	0.82	5.00	0.00	0.00	0.00

40.75	2.00	0.82	5.00	0.00	0.00	0.00
40.80	2.00	0.82	5.00	0.00	0.00	0.00
40.85	2.00	0.82	5.00	0.00	0.00	0.00
40.90	2.00	0.82	5.00	0.00	0.00	0.00
40.95	2.00	0.82	5.00	0.00	0.00	0.00
41.00	2.00	0.82	5.00	0.00	0.00	0.00
41.05	2.00	0.82	5.00	0.00	0.00	0.00
41.10	2.00	0.82	5.00	0.00	0.00	0.00
41.15	2.00	0.82	5.00	0.00	0.00	0.00
41.20	2.00	0.82	5.00	0.00	0.00	0.00
41.25	2.00	0.82	5.00	0.00	0.00	0.00
41.30	2.00	0.82	5.00	0.00	0.00	0.00
41.35	2.00	0.82	5.00	0.00	0.00	0.00
41.40	2.00	0.82	5.00	0.00	0.00	0.00
41.45	2.00	0.82	5.00	0.00	0.00	0.00
41.50	2.00	0.82	5.00	0.00	0.00	0.00
41.55	2.00	0.82	5.00	0.00	0.00	0.00
41.60	2.00	0.82	5.00	0.00	0.00	0.00
41.65	2.00	0.82	5.00	0.00	0.00	0.00
41.70	2.00	0.82	5.00	0.00	0.00	0.00
41.75	2.00	0.81	5.00	0.00	0.00	0.00
41.80	2.00	0.81	5.00	0.00	0.00	0.00
41.85	2.00	0.81	5.00	0.00	0.00	0.00
41.90	2.00	0.81	5.00	0.00	0.00	0.00
41.95	2.00	0.81	5.00	0.00	0.00	0.00
42.00	2.00	0.81	5.00	0.00	0.00	0.00
42.05	2.00	0.81	5.00	0.00	0.00	0.00
42.10	2.00	0.81	5.00	0.00	0.00	0.00
42.15	2.00	0.81	5.00	0.00	0.00	0.00
42.20	2.00	0.81	5.00	0.00	0.00	0.00
42.25	2.00	0.81	5.00	0.00	0.00	0.00
42.30	2.00	0.81	5.00	0.00	0.00	0.00
42.35	2.00	0.81	5.00	0.00	0.00	0.00
42.40	2.00	0.81	5.00	0.00	0.00	0.00
42.45	2.00	0.81	5.00	0.00	0.00	0.00
42.50	2.00	0.81	5.00	0.00	0.00	0.00
42.55	2.00	0.81	5.00	0.00	0.00	0.00
42.60	2.00	0.81	5.00	0.00	0.00	0.00
42.65	2.00	0.81	5.00	0.00	0.00	0.00
42.70	2.00	0.81	5.00	0.00	0.00	0.00
42.75	2.00	0.81	5.00	0.00	0.00	0.00
42.80	2.00	0.81	5.00	0.00	0.00	0.00
42.85	2.00	0.81	5.00	0.00	0.00	0.00
42.90	2.00	0.81	5.00	0.00	0.00	0.00
42.95	2.00	0.81	5.00	0.00	0.00	0.00
43.00	2.00	0.81	5.00	0.00	0.00	0.00
43.05	2.11	0.81	2.62	0.00	0.00	0.00
43.10	2.11	0.81	2.62	0.00	0.00	0.00
43.15	2.11	0.81	2.62	0.00	0.00	0.00
43.20	2.11	0.81	2.62	0.00	0.00	0.00
43.25	2.11	0.81	2.62	0.00	0.00	0.00
43.30	2.11	0.81	2.62	0.00	0.00	0.00
43.35	2.11	0.80	2.62	0.00	0.00	0.00
43.40	2.11	0.80	2.63	0.00	0.00	0.00
43.45	2.11	0.80	2.63	0.00	0.00	0.00
43.50	2.11	0.80	2.63	0.00	0.00	0.00
43.55	2.11	0.80	2.63	0.00	0.00	0.00
43.60	2.11	0.80	2.63	0.00	0.00	0.00
43.65	2.11	0.80	2.63	0.00	0.00	0.00
43.70	2.11	0.80	2.63	0.00	0.00	0.00
43.75	2.11	0.80	2.63	0.00	0.00	0.00
43.80	2.11	0.80	2.63	0.00	0.00	0.00
43.85	2.11	0.80	2.63	0.00	0.00	0.00

43.90	2.11	0.80	2.63	0.00	0.00	0.00
43.95	2.11	0.80	2.63	0.00	0.00	0.00
44.00	2.11	0.80	2.63	0.00	0.00	0.00
44.05	2.11	0.80	2.63	0.00	0.00	0.00
44.10	2.11	0.80	2.63	0.00	0.00	0.00
44.15	2.11	0.80	2.63	0.00	0.00	0.00
44.20	2.11	0.80	2.63	0.00	0.00	0.00
44.25	2.11	0.80	2.64	0.00	0.00	0.00
44.30	2.11	0.80	2.64	0.00	0.00	0.00
44.35	2.11	0.80	2.64	0.00	0.00	0.00
44.40	2.11	0.80	2.64	0.00	0.00	0.00
44.45	2.10	0.80	2.64	0.00	0.00	0.00
44.50	2.10	0.80	2.64	0.00	0.00	0.00
44.55	2.10	0.80	2.64	0.00	0.00	0.00
44.60	2.10	0.80	2.64	0.00	0.00	0.00
44.65	2.10	0.80	2.64	0.00	0.00	0.00
44.70	2.10	0.80	2.64	0.00	0.00	0.00
44.75	2.10	0.80	2.64	0.00	0.00	0.00
44.80	2.10	0.80	2.64	0.00	0.00	0.00
44.85	2.10	0.80	2.64	0.00	0.00	0.00
44.90	2.10	0.79	2.64	0.00	0.00	0.00
44.95	2.10	0.79	2.64	0.00	0.00	0.00
45.00	2.10	0.79	2.64	0.00	0.00	0.00
45.05	2.10	0.79	2.65	0.00	0.00	0.00
45.10	2.10	0.79	2.65	0.00	0.00	0.00
45.15	2.10	0.79	2.65	0.00	0.00	0.00
45.20	2.10	0.79	2.65	0.00	0.00	0.00
45.25	2.10	0.79	2.65	0.00	0.00	0.00
45.30	2.10	0.79	2.65	0.00	0.00	0.00
45.35	2.10	0.79	2.65	0.00	0.00	0.00
45.40	2.10	0.79	2.65	0.00	0.00	0.00
45.45	2.10	0.79	2.65	0.00	0.00	0.00
45.50	2.10	0.79	2.65	0.00	0.00	0.00
45.55	2.10	0.79	2.65	0.00	0.00	0.00
45.60	2.10	0.79	2.65	0.00	0.00	0.00
45.65	2.10	0.79	2.65	0.00	0.00	0.00
45.70	2.10	0.79	2.65	0.00	0.00	0.00
45.75	2.10	0.79	2.65	0.00	0.00	0.00
45.80	2.10	0.79	2.66	0.00	0.00	0.00
45.85	2.09	0.79	2.66	0.00	0.00	0.00
45.90	2.09	0.79	2.66	0.00	0.00	0.00
45.95	2.09	0.79	2.66	0.00	0.00	0.00
46.00	2.09	0.79	2.66	0.00	0.00	0.00
46.05	2.09	0.79	2.66	0.00	0.00	0.00
46.10	2.09	0.79	2.66	0.00	0.00	0.00
46.15	2.09	0.79	2.66	0.00	0.00	0.00
46.20	2.09	0.79	2.66	0.00	0.00	0.00
46.25	2.09	0.79	2.66	0.00	0.00	0.00
46.30	2.09	0.79	2.66	0.00	0.00	0.00
46.35	2.09	0.79	2.66	0.00	0.00	0.00
46.40	2.09	0.79	2.66	0.00	0.00	0.00
46.45	2.09	0.78	2.66	0.00	0.00	0.00
46.50	2.09	0.78	2.66	0.00	0.00	0.00
46.55	2.09	0.78	2.67	0.00	0.00	0.00
46.60	2.09	0.78	2.67	0.00	0.00	0.00
46.65	2.09	0.78	2.67	0.00	0.00	0.00
46.70	2.09	0.78	2.67	0.00	0.00	0.00
46.75	2.09	0.78	2.67	0.00	0.00	0.00
46.80	2.09	0.78	2.67	0.00	0.00	0.00
46.85	2.09	0.78	2.67	0.00	0.00	0.00
46.90	2.09	0.78	2.67	0.00	0.00	0.00
46.95	2.09	0.78	2.67	0.00	0.00	0.00
47.00	2.09	0.78	2.67	0.00	0.00	0.00

47.05	2.09	0.78	2.67	0.00	0.00	0.00
47.10	2.09	0.78	2.67	0.00	0.00	0.00
47.15	2.09	0.78	2.67	0.00	0.00	0.00
47.20	2.09	0.78	2.67	0.00	0.00	0.00
47.25	2.08	0.78	2.67	0.00	0.00	0.00
47.30	2.08	0.78	2.68	0.00	0.00	0.00
47.35	2.08	0.78	2.68	0.00	0.00	0.00
47.40	2.08	0.78	2.68	0.00	0.00	0.00
47.45	2.08	0.78	2.68	0.00	0.00	0.00
47.50	2.08	0.78	2.68	0.00	0.00	0.00
47.55	2.08	0.78	2.68	0.00	0.00	0.00
47.60	2.08	0.78	2.68	0.00	0.00	0.00
47.65	2.08	0.78	2.68	0.00	0.00	0.00
47.70	2.08	0.78	2.68	0.00	0.00	0.00
47.75	2.08	0.78	2.68	0.00	0.00	0.00
47.80	2.08	0.78	2.68	0.00	0.00	0.00
47.85	2.08	0.78	2.68	0.00	0.00	0.00
47.90	2.08	0.78	2.68	0.00	0.00	0.00
47.95	2.08	0.77	2.68	0.00	0.00	0.00
48.00	2.08	0.77	2.69	0.00	0.00	0.00
48.05	2.08	0.77	2.69	0.00	0.00	0.00
48.10	2.08	0.77	2.69	0.00	0.00	0.00
48.15	2.08	0.77	2.69	0.00	0.00	0.00
48.20	2.08	0.77	2.69	0.00	0.00	0.00
48.25	2.08	0.77	2.69	0.00	0.00	0.00
48.30	2.08	0.77	2.69	0.00	0.00	0.00
48.35	2.08	0.77	2.69	0.00	0.00	0.00
48.40	2.08	0.77	2.69	0.00	0.00	0.00
48.45	2.08	0.77	2.69	0.00	0.00	0.00
48.50	2.08	0.77	2.69	0.00	0.00	0.00
48.55	2.08	0.77	2.69	0.00	0.00	0.00
48.60	2.08	0.77	2.69	0.00	0.00	0.00
48.65	2.08	0.77	2.70	0.00	0.00	0.00
48.70	2.07	0.77	2.70	0.00	0.00	0.00
48.75	2.07	0.77	2.70	0.00	0.00	0.00
48.80	2.07	0.77	2.70	0.00	0.00	0.00
48.85	2.07	0.77	2.70	0.00	0.00	0.00
48.90	2.07	0.77	2.70	0.00	0.00	0.00
48.95	2.07	0.77	2.70	0.00	0.00	0.00
49.00	2.07	0.77	2.70	0.00	0.00	0.00
49.05	2.07	0.77	2.70	0.00	0.00	0.00
49.10	2.07	0.77	2.70	0.00	0.00	0.00
49.15	2.07	0.77	2.70	0.00	0.00	0.00
49.20	2.07	0.77	2.70	0.00	0.00	0.00
49.25	2.07	0.77	2.70	0.00	0.00	0.00
49.30	2.07	0.77	2.70	0.00	0.00	0.00
49.35	2.07	0.77	2.71	0.00	0.00	0.00
49.40	2.07	0.76	2.71	0.00	0.00	0.00
49.45	2.07	0.76	2.71	0.00	0.00	0.00
49.50	2.07	0.76	2.71	0.00	0.00	0.00
49.55	2.07	0.76	2.71	0.00	0.00	0.00
49.60	2.07	0.76	2.71	0.00	0.00	0.00
49.65	2.07	0.76	2.71	0.00	0.00	0.00
49.70	2.07	0.76	2.71	0.00	0.00	0.00
49.75	2.07	0.76	2.71	0.00	0.00	0.00
49.80	2.07	0.76	2.71	0.00	0.00	0.00
49.85	2.07	0.76	2.71	0.00	0.00	0.00
49.90	2.07	0.76	2.71	0.00	0.00	0.00
49.95	2.07	0.76	2.72	0.00	0.00	0.00
50.00	2.07	0.76	2.72	0.00	0.00	0.00

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* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)

CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

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August 2018 | Geological and Environmental Hazards Assessment Report

PROPOSED PROMENADE SCHOOL SITE

Dublin Unified School District

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PLACEWORKS

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1. Introduction

1.1 INTRODUCTION

This report has been prepared for the proposed Promenade School Site (proposed project) and provides an evaluation on whether the proposed project conforms to the state school facility standards, which apply to state-funded new school facilities projects. The State of California's standards for school site selection are found in Title 5 of the California Code of Regulations (CCR) Section 14010; additional codes and regulations applicable to school facilities are found in the Education, Government, and Public Resources Codes.

1.2 PROJECT LOCATION

The project site (Site) is a vacant lot located at the southeast corner of Central Parkway and Chancery Lane in the City of Dublin, Alameda County, California (Assessor's Parcel Numbers [APNs] 985-78-2, -3, -4, -5, -6 and -7). Regional access to the proposed school is provided by Interstate 580 (I-580), located to the south. The City of Dublin is surrounded by San Ramon and unincorporated Contra Costa County to the north, unincorporated Alameda County to the east and west, and Pleasanton and Livermore to the south and southeast, respectively. Figure 1, Regional and Vicinity Map, and Figure 2, Project Site, show the project site in its surrounding and local contexts.

1.3 PROJECT DESCRIPTION

Dublin Unified School District is evaluating the vacant lot located at the southeast corner of Central Parkway and Chancery Lane in Dublin (Site) for possible site acquisition for a new school site. The Site is approximately 23 acres in size.

1.4 CONCLUSIONS/RECOMMENDATIONS

Based on a review of various information sources contained in this report, the following potentially environmental health and safety hazards are subject to further evaluation:

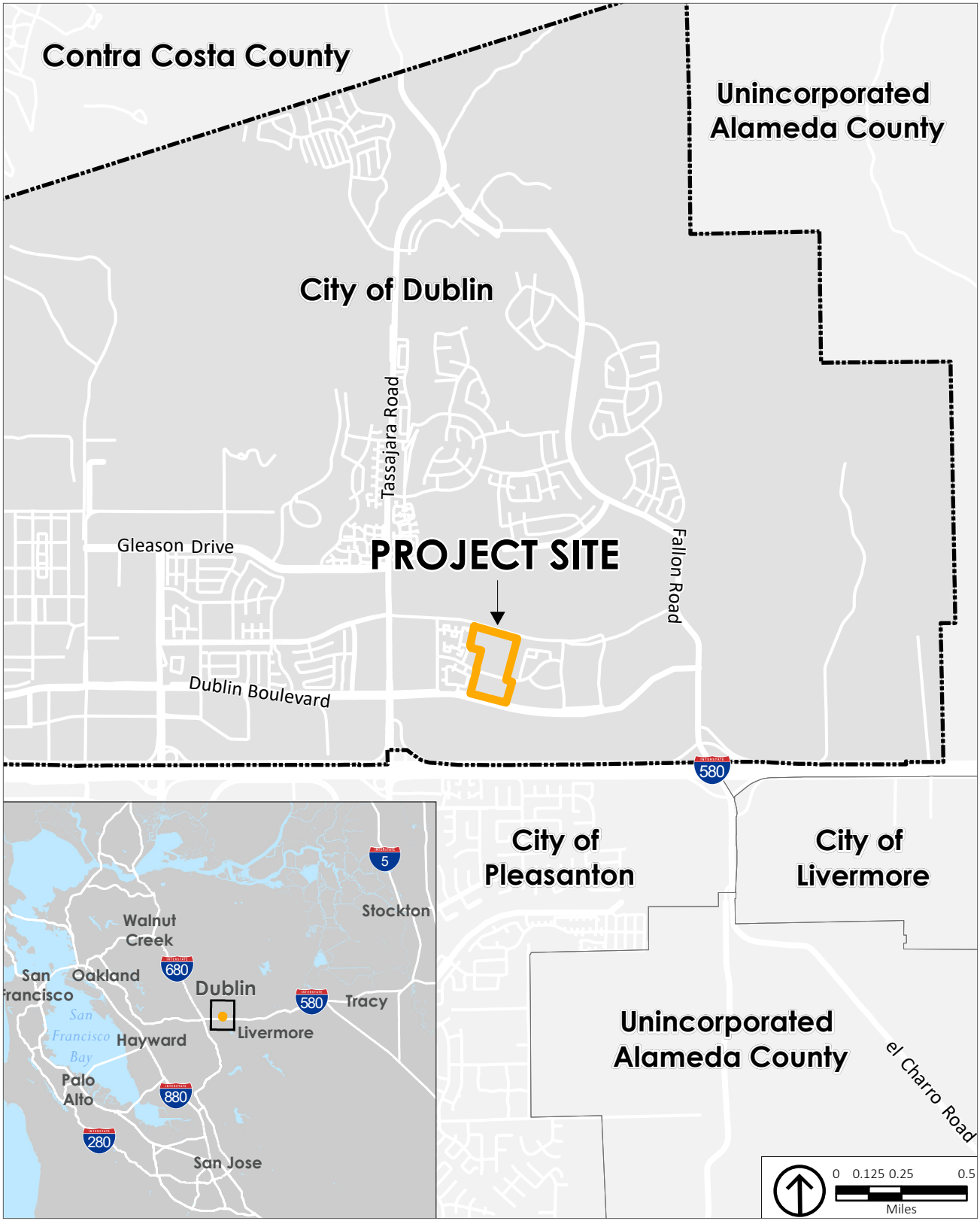
- The southwest corner of the project site is mapped within a liquefaction zone by the State of California. Further geotechnical investigation would be required during the design phase of the project for proper site-specific mitigation.

- Livermore Municipal Airport is located within two nautical miles southeast of the project site. CDE performed an initial school site evaluation that recommended a Caltrans Airport Assessment. California Department of Transportation [Caltrans] assessed the project and identified that the site is within the Airport Influence Area of Livermore Municipal Airport in the Alameda County Airport

1. Introduction

Land Use Compatibility (ALUC) Plan, which recommends that an avigation easement restricting the heights of buildings or trees be dedicated to the City of Livermore.

- A Preliminary Environmental Assessment is currently in preparation based on the historical agricultural use of the site.
- The District would need to coordinate with the City of Dublin and the Dublin San Ramon Services District to modify existing easements for water lines and emergency access on the site. The existing easements were dedicated with the assumption that the site would be used for residential land use. A school land use would require modification and/or elimination of the existing easements.



Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Regional and Vicinity Map

1. Introduction

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1. Introduction



Source: Google Earth Professional, 2018. PlaceWorks, 2018.

Project Site Boundary

0 500
Scale (Feet)

Figure 2
Project Site

1. Introduction

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2. Environmental Checklist

2.1 STATE STANDARDS FOR SCHOOL FACILITIES

The State of California's standards for school site selection are found in Title 5 of the California Code of Regulations (CCR) Section 14010, and additional codes and regulations applicable to school facilities are located in the Education, Government and Public Resources Codes. The following checklist provides a list of questions and code citations related to State-funded new school facilities.

STATE STANDARDS CHECKLIST FOR STATE-FUNDED SCHOOL FACILITIES—
SCHOOL SITE APPROVAL
(Documentation for SFPD 4.0, 4.01-4.03, School Site Approval)

Topic	Code References
Air Quality	
Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?	Ed. Code §17213(c)(2)(C); CCR Title 5 §14010(q)
Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?	Ed. Code § 17213(b); CCR Title 5 §14010(q)
Geology and Soils	
Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?	Ed. Code, §17212 and §17212.5; CCR Title 5 §14010(f)
Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?	Ed. Code §17212.5
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction, landslides, or expansive soils?	CCR, Title 5 §14010(i) School Site Selection and Approval Guide, Appendix H
Are naturally occurring asbestos minerals located at the site?	School Site Selection and Approval Guide, Appendix H
Hazards and Hazardous Materials	
Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?	Ed. Code §17213(a)(3)
Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?	CCR, Title 5 § 14010 (h)

2. Environmental Checklist

Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? *(Does not apply to school sites approved by CDE prior to January 1, 1997.)*	Ed. Code § 17215.5
Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet of a 50–133 kV line; (2) 150 feet of a 220–230 kV line; or (3) 350 feet of a 500–550 kV line?	CCR, Title 5 § 14010 (c)
Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?	Ed. Code § 17213(a)(1)
Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to §25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?	PRC § 21151.8 (a)(1)(B); Ed. Code § 17213(a)(2)
If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the schoolsite?	Ed. Code § 17210.1(a)(3)
If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?	Ed. Code § 17210.1(a)(4)
Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?	CCR, Title 5 § 14010 (t)
Is the site within 300 feet of an active oil or natural gas well?	Fire Code § 3406.3.1
Hydrology and Flooding	
Is the project site subject to flooding or tank/dam inundation or street flooding?	Ed. Code § 17212 and 17212.5; CCR, Title 5 § 14010 (g) School Site Selection and Approval Guide, Appendix H
Land Use and Planning	
Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?	Ed. Code § 17213; Gov't. Code § 65402; CCR, Title 5 § 14010 (m)
Are there easements on or adjacent to the site that would restrict access or building placement?	CCR, Title 5 § 14010(r)
Is the school site proportionate in its length to width ratio to accommodate the building layout, parking and playfields that can be safely supervised and does not exceed the allowed passing time to classes for the district?	CCR, Title 5 § 14010(j)
Is the site located within the proposed attendance area to encourage student walking and avoid extensive bussing unless bussing for ethnic diversity?	CCR, Title 5 § 14010(n)
Has the district considered environmental factors of light, wind, noise, aesthetics, and air pollution in its site selection process?	CCR, Title 5 § 14010(q)
Is the site within a designated Farmland Security Zone?	Government Code § 51296.5
Noise	
Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the educational program?	CCR, Title 5 § 14010 (e)
Public Services	
Does the site promote joint use of parks, libraries, museums, and other public services?	CCR, Title 5, § 14010 (o)
Is the site conveniently located for public services, including but not limited to fire protection, police protection, public transit and trash disposal wherever feasible?	CCR, Title 5, § 14010 (p)
Transportation/Traffic	
Are traffic and pedestrian hazards mitigated per Caltrans' School Area Pedestrian Safety manual?	CCR, Title 5 § 14010 (l)
Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?	CCR, Title 5 § 14010 (k)

Is the proposed school site within 1,500 feet of a railroad track easement?	CCR, Title 5 § 14010 (d)
Is the proposed school site within two nautical miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? *(Does not apply to school sites acquired prior to January 1, 1966.)*	Ed. Code § 17215 (a)&(b)

School building "means and includes any building used, or designed to be used, for elementary or secondary school purposes and constructed, reconstructed, altered, or added to…" (Ed. Code § 17283).

Note: Any documentation related to the California Environmental Quality Act is provided under separate cover.

2. Environmental Checklist

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3. Environmental Analysis

Section 2.1 provided a checklist of the State of California's health and safety standards for school sites. This section provides documentation and evaluation of applicable standards and mitigation measures where appropriate.

3.1 AIR QUALITY

3.1.1 Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?

No Significant Hazard. Public Resources Code Section 21151.8(b)(9) and Education Code Section 17213(d)(9) define a "freeway or other busy traffic corridors" as roadways that on an average day have traffic in excess of 50,000 vehicles in a rural area or 100,000 vehicles in an urban area or 100,000 average daily trips (ADT).

Residential, recreational and retail uses surround the project site. Streets within 500 feet of the site are designated as arterial, collector or local residential streets (Dublin General Plan 2016). The traffic volume on Central Parkway was measured in 2011 near the intersection with Chancery Lane at 3,027 ADT. The traffic volume on Dublin Boulevard near the southeast corner of the Site was measured in 2016 at 14,864 ADT.

3.1.2 Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?

No Significant Hazard. The Bay Area Air Quality Management District (BAAQMD) has developed screening analysis tools for identifying stationary and mobile sources within a quarter-mile radius of project sites that have the potential to generate hazardous air emissions. BAAQMD's screening tools provide an easy-to-use initial comparison of health risks to determine if nearby emission sources may expose an existing or proposed new receptor to concentrations above BAAQMD's thresholds of significance. According to a review of BAAQMD's screening tools, there are two permitted facilities and two mobile sources within one-quarter mile of the site. The two stationary sources have permits for diesel-fueled emergency generators at Lowe's on Grafton Street 735 feet southwest of the Site and Terraces Homeowners Association at 3448 Finnian Way 500 feet east of the Site. The two mobile sources are Interstate 580 approximately 1,300 feet south of the site and Dublin Boulevard immediately to the south.

A screening-level health risk evaluation was conducted for the Site. Since BAAQMD's screening level risk values are for residential receptors, the risk values were adjusted for school-based receptors (i.e., high school students and staff) per BAAQMD recommendations. The adjusted risk values for the two stationary and two mobile sources were then compared to carcinogenic and non-carcinogenic thresholds established by BAAQMD and the Office of Environmental Health Hazard Assessment (OEHHA).

A copy of the Health Risk Assessment (HRA) Screening is included in Appendix A (PlaceWorks 2018a). As presented in Table 4 of Appendix A, the adjusted health risk values for school-based receptors do not exceed BAAQMD's thresholds of significance for health risk. Therefore, the nearby stationary and mobile sources are not anticipated to pose an actual or potential endangerment to occupants of the proposed school, and no mitigation measures are required.

3.2 GEOLOGY AND SOILS

Based on a review of the United States Geological Survey (USGS) 7.5-minute Topographic Series, Livermore, California Quadrangle Map (USGS 2015), the property is located in the eastern portion of the Amador Valley within the Coast Ranges Geomorphic Province. The Coast Ranges Geomorphic Province is a long region of moderate relief containing many elongate ridges and narrow valleys that are approximately parallel to the coast. The Coast Ranges Geomorphic Province extends about 600 miles from the Oregon border to the Santa Ynez River and is subdivided into the ranges north of San Francisco Bay and ranges south of the bay to Santa Barbara County. The property itself sits atop alluvium (Dibblee and Minch 2006).

The geographic coordinates for the subject site are 37.4227 north Latitude and 121.5153 west Longitude. The subject site lies at an approximate elevation of 356 feet above sea level. The topography in the vicinity of the Site has a general gradient toward the southwest. It has been reported in the draft Phase I Environmental Site Assessment for the site by Terraphase Engineering, Inc. that the subsurface of the site has been described as clay with laterally discontinuous layers of gravel and sand in the capillary fringe and saturated zone.

3.2.1 Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?

No Significant Hazard. Based on a review of Dibblee and Minch (2006), the California Geological Survey Information Warehouse and the City of Dublin General Plan Environmental Resources Management: Seismic Safety and Safety Element, the project site is not on a known fault and is not within an earthquake fault zone.

3.2.2 Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?

No Significant Hazard. The site is not within or immediately adjacent (i.e., within a few hundred feet) of a fault zone (California Geological Survey [CGS] and Earthquake Zones of Required Investigation, 2018a). The nearest potentially active fault is the Pleasanton Fault located approximately 1.42-miles southwest of the site. Based on a review of the readily-available geologic literature, the site is not on a pressure ridge, and there

are no known active faults on or immediately adjacent to the site. On this basis, the potential for tectonic fault rupture at the site is considered negligible.

3.2.3 Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction, landslides, or expansive soils?

No Significant Hazard.

Liquefaction

Based on a review of the *Earthquake Zones of Required Investigation, Livermore Quadrangle* (CGS 2008a), the southwest corner of the Site is within a Liquefaction Zone. If structures are planned within this portion of the site, further investigation would be required. However, any potential liquefaction would be mitigated in accordance with the 2016 CBC. Therefore, project implementation would not result in a significant impact from liquefaction.

Landslides

The project site and vicinity are relatively flat and have a slope of less than 0.3% (USGS 2015). Therefore, landslides are not a potential hazard at the project site.

Expansive Soils

Expansive soils swell when they become wet and shrink when they dry out, resulting in the potential for cracked building foundations and in some cases, structural distress of the buildings themselves. In each case, minor to severe damage to overlying structures is possible. Based on the *2008 Seismic Hazard Zone Report for the Dublin 7.5-minute Quadrangle*, in general, there are few landslides in the Dublin area (CGS 2008b). The only area that is susceptible to landslides due to the presence of expansive clay shale is the hills west of the San Ramon Valley. Additionally, since the site is a proposed school site, CGS and DSA will ensure that the buildings are sufficiently mitigated for the condition. Therefore, the project will not expose people or the new school buildings to adverse effects associated with expansive soils.

3.2.4 Are naturally occurring asbestos minerals located at the site?

No Significant Hazard. No known naturally occurring serpentine rock or rock formations—which may contain significant quantities of asbestos—are within 10 miles of the project site (Van Gosen and Clinkenbeard 2011). Additionally, based on a review of *A General Location Guide for Ultramafic Rocks in California: Areas More Likely to Contain Naturally Occurring Asbestos* (Department of Conservation, Division of Mines and Geology 2000) and Van Gosen and Clinkenbeard (2011), the site is not located within a 10-mile radius of an area thought to contain naturally occurring asbestos. Therefore, project implementation would not result in the exposure of hazardous materials or naturally occurring hazardous materials on the school site.

3.3 HAZARDS AND HAZARDOUS MATERIALS

3.3.1 Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood? Does the proposed school site contain pressurized sewer lines and high pressure water pipelines within 1,500 feet of the proposed site?

No Significant Hazard. There are no petroleum or chemical pipelines on the site based on a review of the National Pipeline Mapping System online mapping database (NPMS 2018). Based on information from Terraphase Engineering, Inc., there are no pressurized sewer lines or water pipelines on the project site. According to the response from Pacific Gas and Electric (PG&E), one high-pressure natural gas pipeline is located to the south within 1,500 feet of the project site, on the south side of and parallel to Interstate 580. Based on the results of the Pipeline Safety Hazard Assessment, the hazard footprints of the 16-inch natural gas transmission pipeline do not reach the proposed school site, and would not pose a risk to students or staff onsite (PlaceWorks 2018b).

3.3.2 Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?

Aboveground Water or Fuel Storage Tanks

No Significant Hazard. No aboveground water or fuel storage tanks were identified within a 1,500-foot radius, based on a review of Google Earth Pro and the GeoTracker website (2018). The development of the project will not create a new hazard or exacerbate the current conditions.

Hazardous Substance Pipelines

No Significant Hazard. There are no petroleum or chemical pipelines within a 1,500-foot radius, according to the National Pipeline Mapping System (online mapping database (NPMS 2018). According to the response from PG&E, one high-pressure natural gas pipeline is located south of the project site running parallel to, and along the south side of Interstate 580. A copy of the response from PG&E is included in Appendix B. Based on the results of the Pipeline Safety Hazard Assessment, the hazard footprints of the 16-inch natural gas transmission pipeline do not reach the proposed school site, and would not pose a risk to students or staff onsite (PlaceWorks 2018b).

Sewer and Water Pipelines

No Significant Hazard. Based on information provided by Terraphase Engineering, Inc., there are water mains with diameters of 14, 15, and 20 inches along Dublin Boulevard south of the project site, a 12-inch diameter water main along Central Parkway north of the project site, and two recycled water mains along Dublin Boulevard with diameters of 12 and 20 inches in diameter. A 30-inch gravity flow sewer main is also located along Dublin Boulevard, south of the project site. A Water Pipeline Flooding Analysis is recommended to address these pipelines. A copy of the PlaceWorks request to the Dublin San Ramon Services District is included in Appendix B along with a copy of the draft Terraphase Engineering, Inc.

report in Appendix C. A water pipeline flooding analysis was conducted on the water pipelines in the Pipeline Safety Hazard Assessment which concluded that a full-flow rupture of any of the water mains would not result in flooding at the proposed school site (PlaceWorks 2018b).

3.3.3 Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? (Does not apply to school sites approved by CDE prior to January 1, 1997.)

No Significant Hazard. As shown in the aerial photograph in Figure 2, the project site is in an area characterized by suburban residential and commercial development. Properties within a quarter-mile radius of the site are generally zoned for residential and commercial. Based on a review of the City of Dublin GIS, the City of Dublin website, and a previous draft Phase I, no agricultural activities have occurred on adjoining areas since at least 2005.

3.3.4 Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet of a 50–133 kV line; (2) 150 feet of a 220–230 kV line; or (3) 350 feet of a 500–550 kV line?

No Significant Hazard. According to PG&E, the property line of the project site is not within 100 feet of a 50-133 kilovolt (kV) line, 150 feet of a 220-230 kV line, or 350 feet of a 500-550 kV line. A copy of the response from PG&E is included in Appendix B.

3.3.5 Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?

No Significant Hazard. Based on a review of the EnviroStor and GeoTracker the project site does not contain a current or former hazardous waste disposal site or solid waste disposal site (DTSC 2018; SWRCB 2018).

3.3.6 Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to §25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?

No Significant Hazard. Based on a review of the EnviroStor and GeoTracker databases, no hazardous substance release sites were identified within the project site (DTSC 2018; SWRCB 2018).

3.3.7 If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the schoolsite?

Potentially Significant Hazard. A draft Phase I Environmental Site Assessment (Phase I ESA) was prepared for the site under separate cover by Terraphase Engineering, Inc. (2017). Based on a review of historical information; the subject site had been used historically for agricultural purposes. A Preliminary

Environmental Assessment (PEA) is currently in preparation to evaluate if the former agricultural activities may have left residual pesticides in the soil.

Searches on databases concluded that the project site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

3.3.8 If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?

Potentially Significant Hazard. Based on the findings of the PEA, a determination can be made on whether a response action is necessary for the project.

3.3.9 Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?

No Significant Hazard. Based on review of the GeoTracker website, the project site is not within 2,000 feet of a significant disposal of hazardous waste (DTSC 2018; SWRCB 2018).

3.3.10 Is the site within 300 feet of an active oil or natural gas well?

No Significant Hazard. According to the Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) Well Finder, the project site is not within 300 feet of an active oil or natural gas well (DOGGR 2018). The closest oil well is located approximately 3.2-miles northeast of the subject site. The well is identified as a plugged and abandoned dry hole advanced by Trico Industries, Inc. drilled in 1967 to a depth of 5,050 feet and was abandoned in 1968.

3.4 HYDROLOGY AND FLOODING

Based on an analysis of the topography in the site vicinity, sheet flow runoff from the site during periods of intense or prolonged precipitation would be expected to flow to the southwest. According to FEMA, the closest 100-year flood plain is located 0.12 mile south of the site.

The site is in the western portion of the Livermore-Amador Valley Hydrologic Region of the Livermore Valley Groundwater Basin, which is approximately 40 miles east of San Francisco within the Diablo Range. The Livermore Valley consists of continental deposits from alluvial fans, outwash plains, and lakes from the Livermore Formation, and the Tassajara Formation. Surface bodies of water near the site include the Arroyo Mocho and Arroyo Las Positas to the south-southeast, and Tassajara Creek to the west. These surface features all drain towards the San Francisco Bay (Terraphase Engineering, 2017). Hydrogeologic investigations were not performed on the site for this investigation; therefore, it is unknown to what extent localized variations in groundwater presence and flow occur on the site.

3.4.1 Is the project site subject to flooding or tank/dam inundation or street flooding?

No Significant Hazard. According to the FEMA Map Service Center website, the site does not lie within a 100-year flood zone or within a dam inundation zone. As stated in Section 3.3.1, there are no water tanks within 1,500 feet of the site.

3.5 LAND USE AND PLANNING

3.5.1 Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?

No Significant Hazard. As shown in the aerial photograph in Figure 2, the project site is in an area characterized by suburban residential and commercial development. Properties within a quarter-mile radius of the site are generally zoned for residential and commercial. Based on a review of the City of Dublin GIS and the City of Dublin website, there are currently no proposed land use or zoning changes in the project area (City of Dublin GIS, 2018). Therefore, there is no significant hazard to the project.

3.5.2 Are there easements on or adjacent to the site that would restrict access or building placement?

No Significant Hazard. Based on the easements that exist around the proposed Finnian Way extension and around the water pipelines that exist on the site, the District, Dublin San Ramon Services District, and the City will need to coordinate on how the project will move forward with the proposed land use changing from a residential use to a school use. In addition, an avigation easement associated with the site's proximity to Livermore Municipal Airport was recommended by Caltrans. These proposed easement changes would be necessary prior to moving forward with construction of the school. Therefore, there is no significant hazard to the project.

3.5.3 Is the school site proportionate in its length to width ratio to accommodate the building layout, parking and playfields that can be safely supervised and does not exceed the allowed passing time to classes for the district?

No Significant Hazard. The school will be developed with footprint proportionality and ease of student access in mind. Therefore, there is no significant hazard to the project.

3.5.4 Has the district considered environmental factors of light, wind, noise, aesthetics, and air pollution in its site selection process?

Light and Wind

No Significant Hazard. No Significant Hazard. The project site would be exposed to standard climate conditions experienced by the City of Dublin in Alameda County, California, which is generally characterized by Mediterranean conditions. As applicable, the operation of the proposed project would consider these environmental conditions. Therefore, project implementation would not expose site occupants to adverse light or wind conditions.

Aesthetics

No Significant Hazard. No Significant Hazard. Project development would not degrade the existing visual character of the site. The project site is in an area with residential, school, and commercial land uses. The building of the proposed project would be consistent with the surrounding land uses. The character and quality of the site would not be incompatible with the nearby structures.

Air Pollution

No Significant Hazard. No Significant Hazard. According to the Bay Area Air Quality Management District (BAAQMD), there are two permitted facilities within a one-quarter mile of the site. Lowe's on Grafton Street about 744 feet southwest of the Site has a permit for an emergency generator. Terraces Homeowners Association at 3448 Finnian Way about 879 feet east of the Site has a permit for an emergency generator. Based on an Operational Health Risk Assessment prepared for the site and a comparison of hazardous air emissions from the nearby stationary sources to carcinogenic and non-carcinogenic thresholds established by BAAQMD and OEHHA, the nearby stationary sources are not anticipated to pose an actual or potential endangerment to occupants of the proposed structures, and no mitigation measures are required. A copy of the Health Risk Assessment Screening is included in Appendix A.

3.6 NOISE

3.6.1 Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the educational program?

No Significant Hazard. The project site is located about 1,250 feet to the north of the Arthur H. Breed, Jr Freeway (Interstate 580). Residential dwellings bound the site to the north, east, and west. Southwest and across Dublin Boulevard there are commercial properties. The proposed project would not exacerbate the current noise conditions at the site from traffic.

3.7 PUBLIC SERVICES

3.7.1 Does the site promote joint use of parks, libraries, museums, and other public services?

No Significant Hazard. The site could be made available for public use as the scheduling of scholastic purposes allows, following District policies, and the Civic Center Act. No impacts to nearby public facilities and services would occur as a result of the proposed project. No significant impacts would occur as a result of the proposed project.

3.7.2 Is the site conveniently located for public services, including but not limited to fire protection, police protection, public transit and trash disposal wherever feasible?

No Significant Hazard. The project site is located in a developed area. The project site will have regularly scheduled trash collection and access to public transit. There is no significant hazard. Fire Station No. 18 is approximately 3,316.27-feet to the northeast of the site. The Alameda County Sheriff's Department is located approximately 0.98-miles to the northwest of the site. The Dublin Boulevard and Grafton Street Bus Stop is located near the southwest edge of the site, and the Central Parkway and Chancery Lane Bus Stop is located near the northwest edge of the site.

3.8 TRANSPORTATION/TRAFFIC

3.8.1 Are traffic and pedestrian hazards mitigated per Caltrans' School Area Pedestrian Safety manual?

No Significant Hazard. Based on existing conditions, the future project is not expected to have any significant traffic hazards to overcome. Furthermore, the School Area Pedestrian Safety Manual will be used as a guide, and decisions related to particular traffic control devices at particular locations shall be made on the basis of an engineering and traffic survey. The school district governing board may request the appropriate city, county, or state agency to consider the installation of traffic control devices if the engineering and traffic survey determines the request to be justified. Traffic control devices include (Caltrans, 1996):

1. Warning signs and markings.
2. Variable speed limits.
3. Intersection stop signs.
4. Flashing yellow beacons.
5. Traffic signals.
6. Remove visibility obstructions.
7. School Safety Patrol.
8. Adult Crossing Guard.
9. Pedestrian separation structures.
10. Pedestrian walkways along the roadway.
11. Pedestrian walkways separated from the roadway.
12. Parking controls and curb-use zones.

3.8.2 Based on the traffic volumes mentioned in Section 3.1.1 and the existing sidewalks and crosswalks in the site vicinity, the project would not have any significantly adverse traffic or pedestrian hazards to overcome.Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?

No Significant Hazard. Based on existing conditions, the future project is not expected to have any significant traffic hazards to overcome. The site is located in an established portion of the City of Dublin that has wide, relatively flat streets with gentle curves for open viewing of oncoming traffic. Driveways would be designed to meet the requirements of the Caltrans Highway Design Manual. Future transportation facilities are subject to review and approval by the City of Dublin.

3.8.3 Is the proposed school site within 1,500 feet of a railroad track easement?

No Significant Hazard. Based on a review of Google Earth, the site is not located within 1,500 feet of a railroad track easement. The terminus of the nearest BART heavy rail line is located in the median of Interstate 580 about one-mile west-southwest of the site. In the event that BART opted to extend the line to Livermore in the future, therail track would be within 1,500 feet of the project site. However, the presence of an electric-powered train in the median of a freeway would not be likely to pose a risk to future school occupants, as pedestrian barriers already exist for the freeway, and the train would not significantly increase the amount of particulates or noise at the project site.

3.8.4 Is the proposed school site within two nautical miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? (Does not apply to school sites acquired prior to January 1, 1966.)

Potentially Significant Hazard. Based on a review of area maps and recent aerial photographs, the site is within two nautical miles of an existing airport or proposed airport runway. The nearest airport is Livermore Municipal Airport located approximately 1.75-nautical miles to the southeast. CDE performed an initial school site evaluation that recommended a Caltrans Airport Assessment. Based on the response from the Caltrans Division of Aeronautics, the school site is located outside of all California Code of Regulations Safety Zones, but within the Airport Influence Area of Livermore Municipal Airport in the Alameda County Airport Land Use Compatibility (ALUC) Plan. Caltrans identifies that the Alameda County ALUC Plan recommends an avigation easement for the site restricting the heights of structures or trees be dedicated to the City of Livermore. Additionally, Caltrans indicates that occasional noise from individual aircraft may potentially impact the site based on the location of the site in relation to flight patterns from Livermore Municipal Airport, but that the noise levels could be reduced in the buildings through acoustical design standards.A copy of the response from Caltrans is included in Appendix B.

3.9 EXEMPTIONS TO SITING STANDARDS

3.9.1 Is the district seeking any exemptions to the standards found in CCR, Title 5, § 14010(c-i), (l), (m), (q), (c), (t)?

No Significant Hazard. The District will not be seeking any exemptions to the standards found in CCR Title 5 Section 14010.

3.9.2 If so, has mitigation been identified that demonstrates that the standard may be overridden without compromising a safe and supportive school environment?

No Significant Hazard. The proposed project would comply with all CCR Title 5 standards.

4. References

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5. List of Preparers

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5. List of Preparers

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Appendix

Appendix A Health Risk Assessment Screening

Appendix

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Table 1 - Highway/Roadway Screening
Residential Health Risk Values

Highway - Screening Evaluation

70-Year Residential Exposure Scenario

Source No.	Source	Roadway Orientation	Annual Average Daily Trips	Distance	Cancer Risk (per million)	Chronic HI	Acute HI	PM2.5 ($\mu g/m^3$)	Comments
1	Interstate 580	East-West	> 100,000	1,300 ft	**23.1**	0.027	0.016	**0.37**	Highway Screening Analysis Tool
2	Dublin Boulevard	East-West	14,864	20 ft	**14.3**	0.030	0.030	0.28	Highway Screening Analysis Tool
BAAQMD Significance Threshold					10.0	1.0	1.0	0.30	For each individual source
Exceeds Threshold?					**Yes**	**No**	**No**	**Yes**	Highway 101 (link 23) exceeds threshold

Note: To adjust the screening cancer risk values from 70-year residential values to school-based values, the Dose and concentration of TACs, assuming 100% DPM, was back-calculated using the screening cancer risks values. Once the concentration of DPM was determined, the staff and student screening cancer risks were determined (Table 2).

Sources: BAAQMD Highway Screening Analysis Tool - Alameda County 6-ft elevation (2011) and BAAQMD updated Highway Risk/PM2.5 Raster Files (2018).
BAAQMD's Tools and Methodologies, 2018. Website: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools
BAAQMD Roadway Screening Calculator (2015), for surface streets.
Roadway Chronic and Acute Hazard Indexes from BAAQMD's County Surface Street Screening Tables for Alameda County, May 2011.

Table 2a - Highway/Roadway Screening
School-Based Health Risk Values
MER Concentration Calculation

BAAQMD Screening Tools for Highways/Roadways - Residences
Used to Back Calculate MER Concentration
DPM selected as surrogate contaminant

	Interstate 580 [1]	Dublin Blvd [2]
BAAQMD Screening Level Cancer Risk	**23.05**	**14.32**
MER Concentration Calculations	**0.02731**	**0.01696**

Dose Calculation Parameters	
Exposure Frequency (days/yr)	350
Inhalation Absorption Factor	1
Conversion Factor	1.0E-06
Risk Calculation Parameters	
Averaging Time (yr)	70
Per Million Conversion	1.0E+06
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	1.1

			Interstate 580	Dublin Blvd			Interstate 580	Dublin Blvd
Exposure Duration	Age Bin	Breathing Rates per year L/kg-day	Dose per year mg/kg-day	Dose per year mg/kg-day	Age Sensitivity Factor ASF per year	Fraction of Time at Home (FAH) per year	Cancer Risks per year per million	Cancer Risks per year per million
0.25	3rd Trimester	361	9.45E-06	5.87E-06	10	1.00	3.55E-01	2.20E-01
2	0<2	1090	2.85E-05	1.77E-05	10	1.00	8.56E+00	5.32E+00
14	2<16	745	1.95E-05	1.21E-05	3	1.00	1.23E+01	7.63E+00
14	16<30	335	8.77E-06	5.45E-06	1	1.00	1.84E+00	1.14E+00
		95th Percentile Residential Breathing Rates					**23.05 Total Risk**	**14.32 Total Risk**

1. Interstate 580 screening cancer risk at SE corner of project site, closest to freeway (BAAQMD, 2018). MER conc = 0.02731 ug/m3 --> 23.05 in a million per residential HRA parameters
2. Dublin Blvd screening cancer risk from Roadway Screening Calculator (BAAQMD, 2015). MER conc = 0.01696 ug/m3 --> 14.32 in a million per residential HRA parameters

Table 2b - Highway/Roadway Screening
School-Based Health Risk Values

BAAQMD Screening Tools for Highways - Adjusted for School-based Receptors
Using Back-Calculated MER Concentration
DPM selected as surrogate contaminant

	Interstate 580	Dublin Blvd
MER Concentration Calculations	**0.02731**	**0.01696**

Dose Calculation Parameters	Staff	Student (HS)
Exposure Frequency (days/yr)	250	180
Hours/Day adjustment (8hr/24hr)	0.33	0.33
Inhalation Absorption Factor	1	1
Conversion Factor	1.0E-06	1.0E-06
Breathing Rate L/kg-8-hr	230	520
Risk Calculation Parameters		
Exposure Duration	25	4
Averaging Time (yr)	70	70
Per Million Conversion	1.0E+06	1.0E+06
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	1.1	1.1

Source	Scenario	Dose per year mg/kg-day	Age Sensitivity Factor ASF per year	Cancer Risks per year per million
I-580	**Staff**	1.43E-06	1	**0.54**
	Student	2.33E-06	3	**0.42**
Dublin Blvd	**Staff**	8.91E-07	1	**0.33**
	Student	1.45E-06	3	**0.26**

Table 2c - Highway/Roadway Screening
School-Based Health Risk Values
PM2.5

BAAQMD Screening Tools for Highways - Adjusted for School-based Receptors

	Interstate 580 [1]	Dublin Blvd [2]
BAAQMD Screening Level - $PM_{2.5}$ concentration ($\mu g/m^3$)	**0.369**	**0.28**

For residential receptors present 24 hours/day, 7 days per week, 350 days per year.

School Site Adjustement	Staff	Students
Hours/Day (8-hr/24-hr)	0.33	0.33
Days/Year [3]	0.71	0.51

Source			
I-580	$PM_{2.5}$ concentration ($\mu g/m^3$)	**0.09**	**0.06**
Dublin Blvd		**0.07**	**0.05**

1. Interstate 580 screening $PM_{2.5}$ concentration at SE corner of project site, closest to freeway (BAAQMD, 2018).
2. Dublin Blvd screening $PM_{2.5}$ concentration from Roadway Screening Calculator (BAAQMD, 2015).
3. Staff present 250 days per year and Students present 180 days per year (OEHHA, 2015).

Table 3 - Stationary Source Screening
BAAQMD Permitted Sources

Stationary Source - Screening Evaluation

Screening Level Risk Values

Source No.	Source	Facility ID	Distance Multiplier	Cancer Risk (per million)	Chronic HI	Acute HI	PM2.5 ($\mu g/m^3$)	Methodology
3	Terraces HOA	18054		4.97	0.005	n/a	0.006	BAAQMD Screening Level values
	distance from Site - 500 ft		0.12	0.60	0.001		0.006	Diesel engine distance multiplier
4	Lowe's of Dublin	18395		5.19	0.008	n/a	0.007	BAAQMD Screening Level values
	distance from Site - 735 ft		0.07	0.36	0.001		0.007	Diesel engine distance multiplier
BAAQMD Significance Threshold				10.0	1.0	1.0	0.30	For each individual source
Exceeds Threhold?				**No**	**No**	n/a	**No**	

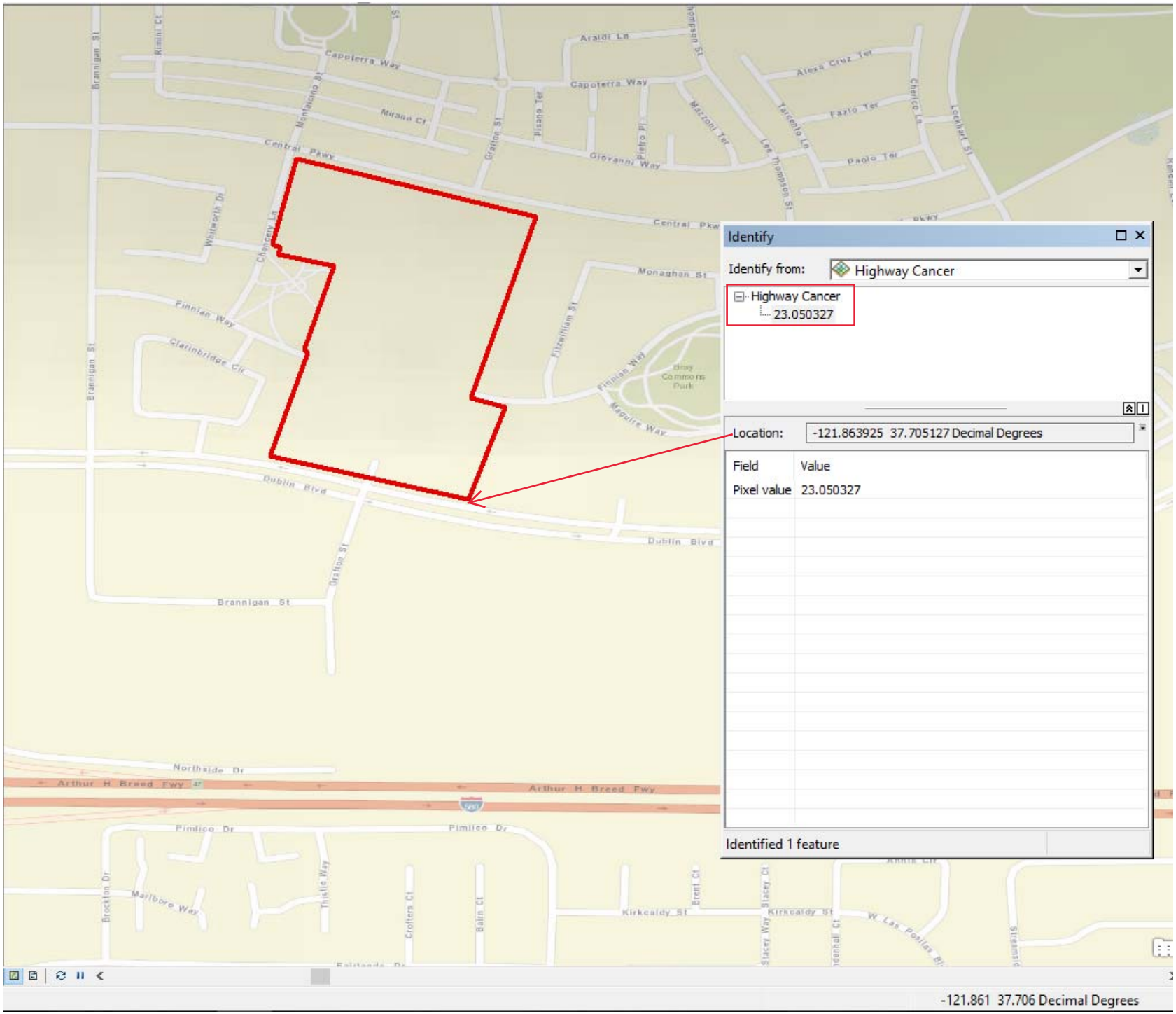
Sources: BAAQMD Stationary Source Screening Analysis Tool, Inquiry Form and Diesel Engine Distance Multiplier Tool, 2018.

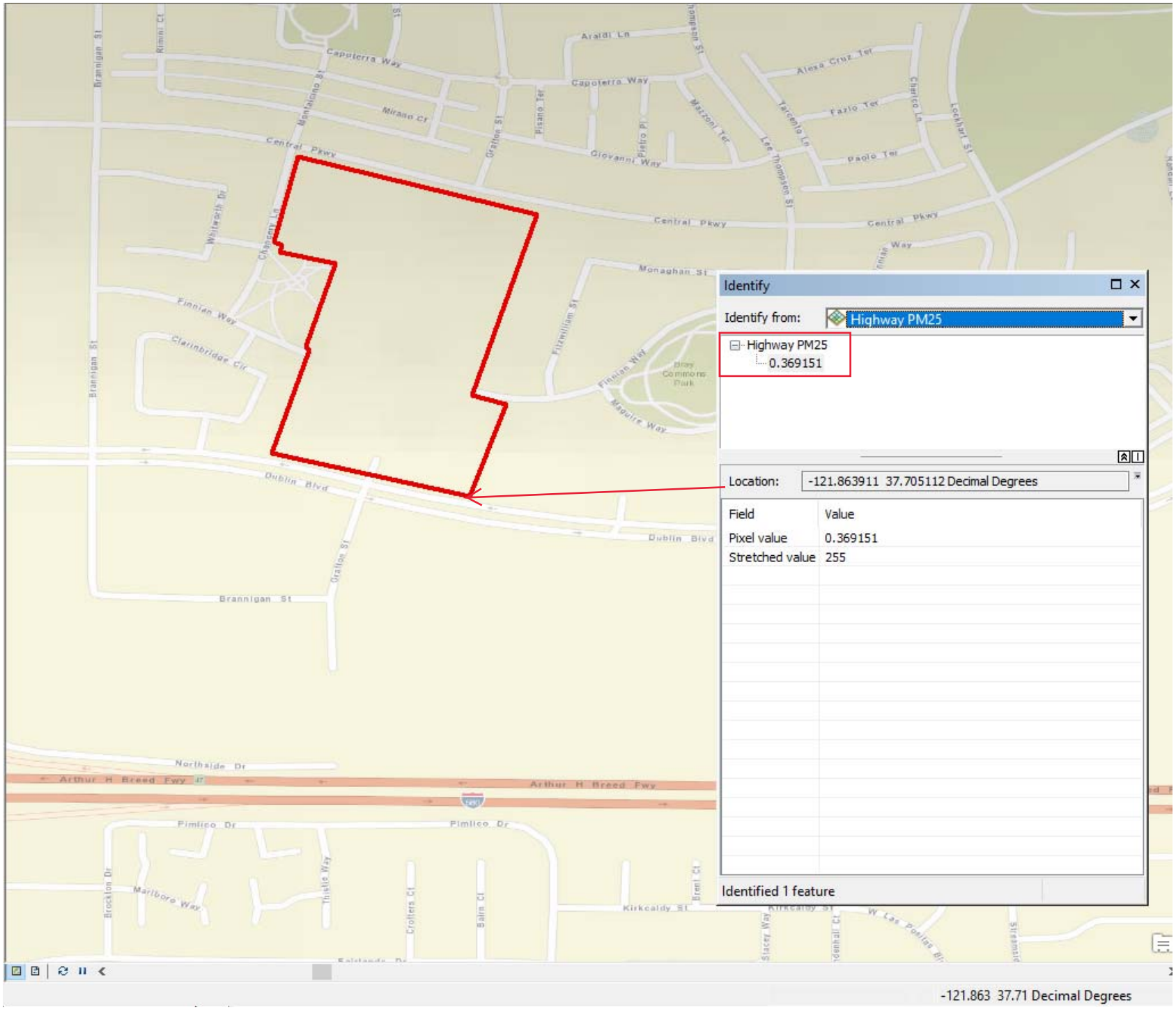
Table 4 - Summary of Health Risks

Health Risk Summary

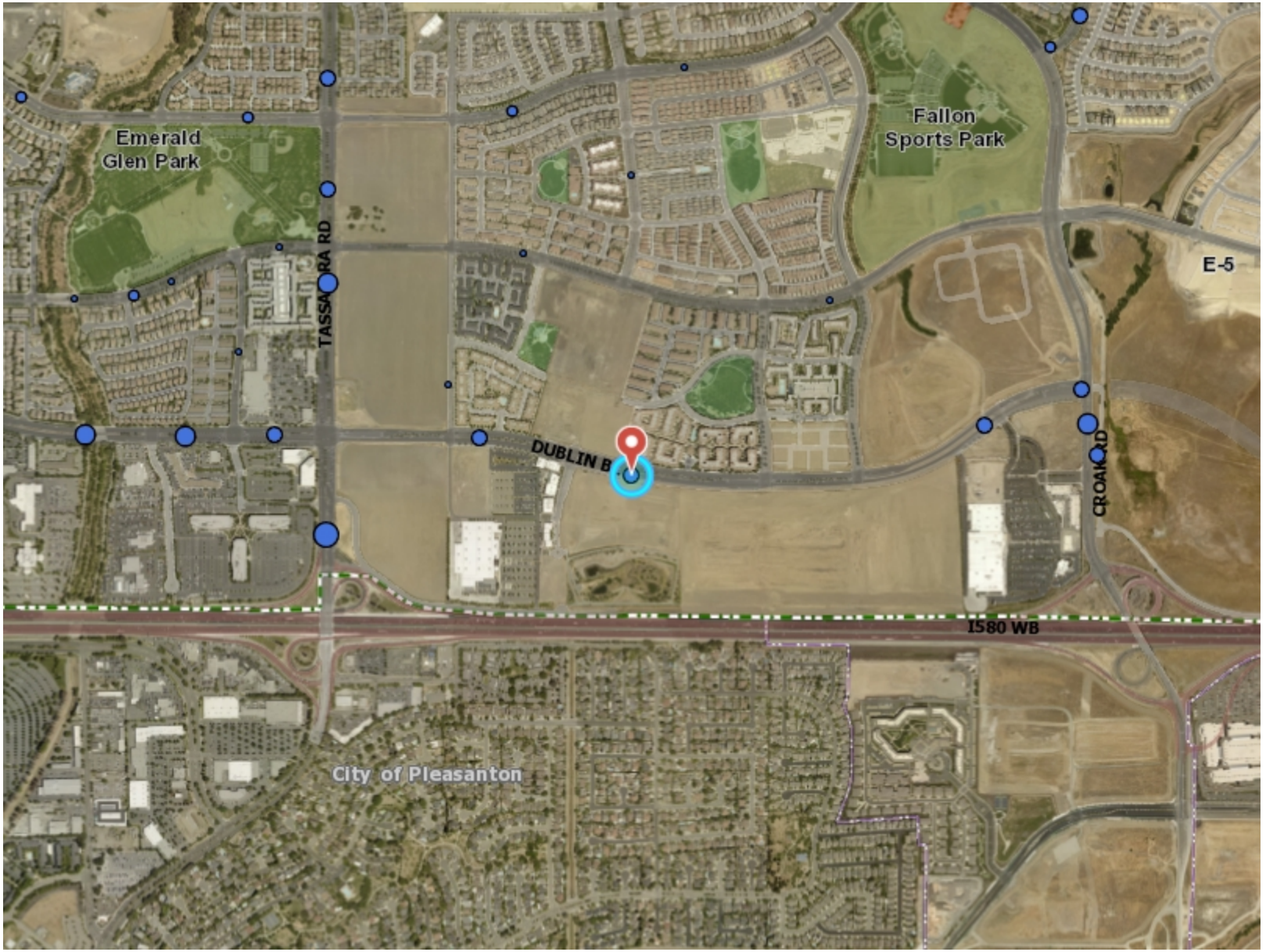
Source No.	Source	Cancer Risk - Staff (per million)	Cancer Risk - Students (per million)	Chronic Hazard Index	Acute Hazard Index	PM2.5 ($\mu g/m^3$)	Methodology
1	Interstate 580	0.54	0.42	0.027	0.016	0.09	Adjusted Highway screening risks
2	Dublin Boulevard	0.33	0.26	0.030	0.030	0.07	Adjusted roadway screening risks
3	Terraces HOA	0.60	0.60	0.001	n/a	0.006	BAAQMD Stationary Source Screening Tools, with distance multiplier for diesel ICE
4	Lowe's of Dublin	0.36	0.36	0.001	n/a	0.007	
	BAAQMD Significance Threshold	10.0	10.0	1.0	1.0	0.30	For each individual source
	Exceeds Threhold?	**No**	**No**	**No**	**No**	**No**	
	Cumulative Total	1.8	1.6	0.058	0.046	0.17	All sources
	BAAQMD Significance Threshold	100	100	10.0	10.0	0.80	
	Exceeds Threhold?	**No**	**No**	**No**	**No**	**No**	

Sources:
BAAQMD's Tools and Methodologies, 2018. Website: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools
Roadway Chronic and Acute Hazard Indexes from BAAQMD's County Surface Street Screening Tables for Alameda County, May 2011.


Identify
Identify from:
Highway Cancer
Highway Cancer
23.050327
Location:
-121.863925 37.705127 Decimal Degrees
Field
Value
Pixel value
23.050327
Identified 1 feature
Araldi Ln
Capoterra Way
Mirana Ct
Central Pkwy
Giovanni Way
Monaghan St
Finnian Way
Clarinbridge Cir
Dublin Blvd
Brannigan St
Grafton St
Northside Dr
Arthur H Breed Fwy
Pimlico Dr
Kirkcaldy St
-121.861 37.706 Decimal Degrees


Identify
Identify from:
Highway PM25
Highway PM25
0.369151
Location:
-121.863911 37.705112 Decimal Degrees
Field
Value
Pixel value
0.369151
Stretched value
255
Identified 1 feature
-121.863 37.71 Decimal Degrees
Central Pkwy
Dublin Blvd
Brannigan St
Arthur H Breed Fwy
Pimlico Dr
Northside Dr
Finnian Way
Monaghan St
Capoterra Way
Giovanni Way
Mirano Ct
Claimbridge Cir
Marlboro Way
Kirkcaldy St

CITY OF DUBLIN





Legend

Average Daily Traffic Volumes

- 138 - 4345
- 4346 - 11113
- 11114 - 20062
- 20063 - 32164
- 32165 - 49085

Notes

ADT 14,864, collected 4/27/16

2,437 0 1,219 2,437 Feet

This map is based on City of Dublin GIS Information and reflects the most current information at the time of this printing. The map is intended for reference purposes only and the City and its staff is not responsible for errors.

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1 : 14,626 1 inch : 1219 feet

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Alameda
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	20 feet
Annual Average Daily Traffic (ADT)	14,864

Results

Alameda County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.284 ($\mu g/m^3$)

Cancer Risk

14.32 (per million)

Data for Alameda County based on meteorological data collected from Pleasanton in 2005

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Alameda County

PM2.5 Concentrations and Cancer Risks Generated from Surface Streets

How to use the screening tables:

- Distance is from the edge of the nearest travel lane of a street to the facility or development
- When two or more streets are within the influence area, sum the contribution from each street

$PM_{2.5}$ CONCENTRATIONS (UG/M^3)

NORTH-SOUTH DIRECTIONAL ROADWAY

Annual Average Daily Traffic	Distance East or West of Surface Street - PM2.5 Concentration (ug/m^3)						
	10 feet	50 feet	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required						
5,000							
10,000	0.159	0.135	0.095	0.045	0.015	0.014	0.014
20,000	0.199	0.191	0.175	0.111	0.043	0.029	0.016
30,000	0.278	0.270	0.238	0.167	0.062	0.045	0.027
40,000	0.342	0.334	0.302	0.215	0.087	0.058	0.041
50,000	0.485	0.477	0.421	0.278	0.103	0.072	0.049
60,000	0.640	0.624	0.529	0.346	0.123	0.087	0.060
70,000	0.795	0.771	0.636	0.413	0.143	0.103	0.070
80,000	0.908	0.881	0.727	0.472	0.164	0.118	0.080
90,000	1.022	0.991	0.818	0.531	0.184	0.133	0.090
100,000	1.136	1.101	0.908	0.590	0.204	0.148	0.100

EAST-WEST DIRECTIONAL ROADWAY

Annual Average Daily Traffic	Distance North or South of Surface Street - PM2.5 Concentration (ug/m^3)						
	10 feet	50 feet	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required						
5,000							
10,000	0.111	0.095	0.072	0.050	0.024	0.020	0.014
20,000	0.223	0.191	0.143	0.095	0.039	0.030	0.025
30,000	0.254	0.246	0.223	0.135	0.053	0.035	0.027
40,000	0.334	0.318	0.254	0.191	0.070	0.053	0.033
50,000	0.636	0.572	0.461	0.223	0.095	0.066	0.048
60,000	0.680	0.604	0.469	0.262	0.115	0.081	0.056
70,000	0.723	0.636	0.477	0.302	0.135	0.095	0.065
80,000	0.827	0.727	0.545	0.345	0.154	0.109	0.074
90,000	0.930	0.818	0.613	0.388	0.174	0.123	0.084
100,000	1.033	0.908	0.681	0.431	0.193	0.136	0.093

LIFETIME CANCER RISK

NORTH-SOUTH DIRECTIONAL ROADWAY

Annual Average Daily Traffic	Distance East or West of Surface Street - Cancer Risk (per million)						
	10 feet	50 feet	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required						
5,000							
10,000	4.60	3.83	2.87	1.26	0.61	0.49	0.38
20,000	5.01	4.63	4.06	2.77	1.15	0.88	0.61
30,000	6.56	6.33	5.79	3.86	1.50	1.12	0.77
40,000	8.11	8.06	7.33	5.39	2.08	1.54	1.08
50,000	11.58	11.42	8.93	6.93	2.62	1.92	1.38
60,000	15.25	14.97	11.99	8.30	3.14	2.29	1.63
70,000	18.91	18.52	15.06	9.66	3.66	2.65	1.88
80,000	21.62	21.17	17.21	11.04	4.18	3.03	2.15
90,000	24.32	23.81	19.36	12.42	4.70	3.41	2.42
100,000	27.02	26.46	21.51	13.80	5.22	3.79	2.69

EAST-WEST DIRECTIONAL ROADWAY

Annual Average Daily Traffic	Distance North or South of Surface Street - Cancer Risk (per million)						
	10 feet	50 feet	100 feet	200 feet	500 feet	700 feet	1,000 feet
1,000	No analysis required						
5,000							
10,000	2.70	2.39	1.92	1.46	0.84	0.65	0.53
20,000	5.47	4.63	3.47	2.65	1.33	1.07	0.80
30,000	6.17	5.79	5.40	3.46	1.53	1.11	0.88
40,000	8.10	8.01	6.17	4.63	2.03	1.53	1.11
50,000	15.06	12.78	10.45	5.40	2.68	2.03	1.42
60,000	15.75	13.92	11.38	6.55	3.20	2.39	1.68
70,000	16.44	15.06	12.31	7.70	3.72	2.76	1.95
80,000	18.79	17.21	14.07	8.80	4.25	3.15	2.23
90,000	21.14	19.36	15.83	9.90	4.79	3.55	2.51
100,000	23.49	21.51	17.59	11.00	5.32	3.94	2.79

- Screening tables based on meteorological data collected from Pleasanton in 2005.
- The maximum acute and chronic hazard index for the distances and AADT shown in the table will be less than 0.03.
- Cancer risk were estimated based on exposure from 2014 through 2084. PM2.5 concentrations were based on emissions in 2014.

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**6/29/2018**
Contact Name	Danielle Clendening
Affiliation	PlaceWorks
Phone	909.989.4449
Email	dbclendening@placeworks.com
Project Name	Promenade School Site
Address	Vacant Lot at the southeast corner of Central Parkway and Chancery Lane
City	Dublin
County	Alameda
Type (residential, commercial, mixed use, industrial, etc.)	Vacant undeveloped lot
Project Size (# of units or building square feet)	23-acres

Comments: Please provide emission rate of health risk values for stationary sources within 1,320 feet of site. See attached map.

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B *blue* section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

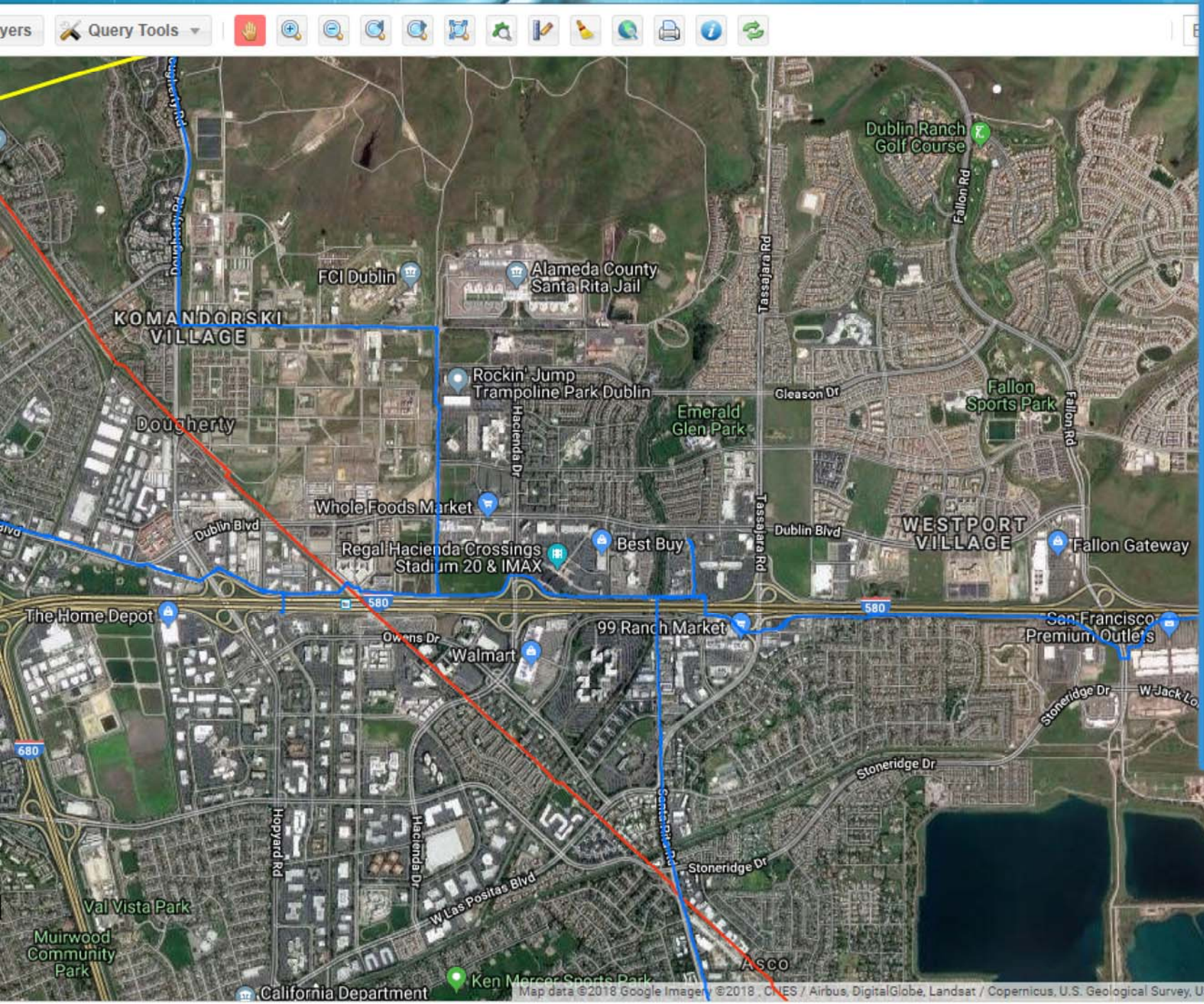
Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
289	Terraces Homeowner's Association	3448 Finnian Way	18054	4.97	0.00478	0.006399	1	Generator	98	Updated to include OEHHA Factor, Use Diesel IC Engine Multiplier for more accurate screening
175	Lowe's of Dublin, CA #2273	Grantton Street and Northside Drive	18395	5.185	0.0084	0.0066	1	Generator	98	Updated to include OEHHA Factor, Use Diesel IC Engine Multiplier for more accurate screening

Appendix B Agency Information

Appendix

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Public Viewer



Zoom Level: 14 of 19 (1:24,000) Closest Zoom for Pipelines | 37.692534, -121.856036 | COUNTY : Alamed

HMSA. All rights reserved.

Mike Watson

From: Liu, Steven <S3Lg@pge.com>
Sent: Friday, June 29, 2018 1:54 PM
To: Danielle Clendening
Subject: RE: Pipeline Information Request for a school site in Dublin California
Attachments: Dublin School Site Map.pdf; Dublin School Site Questionnaire.xlsx

Hi Danielle,

Please find attached the school site map and questionnaire for the requested site.

-steve

From: Danielle Clendening [mailto:dbclendening@placeworks.com]
Sent: Friday, June 22, 2018 10:16 AM
To: pipelinerequest@pge.com
Cc: Liu, Steven <S3Lg@pge.com>
Subject: Pipeline Information Request for a school site in Dublin California

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

Dublin Unified School District, in compliance with CCR Title V Section 14010 (h), has contracted the services of PlaceWorks to complete safety hazard assessments related to high pressure (over 80 psig) natural gas pipelines located within a 1,500-foot radius of the site. The potential school site is a 21.7-acre parcel located south of Central Parkway, east of Chancery Lane, and north of Dublin Boulevard, Dublin, California.

This letter requests the location and diameter of all high pressure natural gas pipelines operated by Pacific Gas and Electric located within a 1,500-foot radius of each of the site. I have attached a map that shows the site highlighted in red and an approximately 1,500-foot radius around the site in yellow.

Thank you so much for your help, and please contact me if you have any questions or need more information.

DANIELLE CLENDENING
Intern

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764
909.989.4449 | dbclendening@placeworks.com | placeworks.com

PLACEWORKS

Questionnaire For Natural Gas Pipeline Risk Analysis Study

Subject Property:		Central Pkwy and Chancery Ln Dublin, CA 94568
1	Pipeline Reference (identification, line no., etc.):	2408-05
	1a. Type: (Distribution, Gathering or Transmission):	Distribution Feeder Main
2	Date of Installation (Year):	1970
3	Maximum Allowable Operating Pressure (psig):	497
	3a. Normal Operation Pressure (MOP)	497
4	Diameter (inches):	16
5	Construction / Wall Thickness (steel, plastic/inches):	Steel / .219
6	Corrosion Prevention (cathodic protection, tape, etc.):	Cathodic
7	% of Specified Minimum Yield Strength (MAOP):	34.91
8	Classification (Present) (1,2,3 or 4)	3
9	Inspection/Testing Results (method, date, etc.):	Per CPUC 112E
10	History of Incidents:	N/A
11	Pipeline Location Map within 1,500 feet of subject Property:	Attached

1	Pipeline Reference (identification, line no., etc.):	2408-05
	1a. Type: (Distribution, Gathering or Transmission):	Distribution Feeder Main
2	Date of Installation (Year):	1970
3	Maximum Allowable Operating Pressure (psig):	497
	3a. Normal Operation Pressure (MOP)	497

4	Diameter (inches):	16
5	Construction / Wall Thickness (steel, plastic/inches):	Steel / .312
6	Corrosion Prevention (cathodic protection, tape, etc.):	Cathodic
7	% of Specified Minimum Yield Strength (MAOP):	60.68
8	Classification (Present) (1,2,3 or 4)	3
9	Inspection/Testing Results (method, date, etc.):	Per CPUC 112E
10	History of Incidents:	N/A
11	Pipeline Location Map within 1,500 feet of subject Property:	Attached

QUESTIONNAIRE COMPLETED BY:

NAME:	Steven Liu	SIGNATURE:	s3lg@pge.com
TITLE	Gas Technical Specialist	DATE:	6/29/2018
COMPANY	PG&E		

Mike Watson

From: Allen, Michael <MJAm@pge.com>
Sent: Monday, June 25, 2018 6:34 PM
To: Danielle Clendening
Subject: RE: Powerline Information Request for a school site in Dublin California

Hi Danielle,

There are no PG&E electric transmission lines within one mile of the Dublin site you have identified.
Let me know if there are any further questions.

Mike Allen
Senior GIS Analyst
Pacific Gas and Electric Company
415-973-6083

From: Danielle Clendening [mailto:dbclendening@placeworks.com]
Sent: Friday, June 22, 2018 10:17 AM
To: Allen, Michael <MJAm@pge.com>
Cc: MCH3@pge.com <IMCEAINVALID-MCH3+40pge+2Ecom@prod.exchangelabs.com>
Subject: Powerline Information Request for a school site in Dublin California

*****CAUTION**: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****
Dear Mike Allen and Michael Herz,

Dublin Unified School District, in compliance with CCR Title V Section 14010 (h), have contracted the services of PlaceWorks to complete a safety hazard assessment related to powerlines. The location of the potential school site is a 21.7-acre parcel located south of Central Parkway, east of Chancery Lane, and north of Dublin Boulevard, Dublin, California.

I have attached a map to this email that shows the parcel filled in with red.

Given the following parameters, could you help me determine if the site is located near power transmission or distribution lines:

The property line of the site shall be at least the following distance from the edge of respective power line easements:

(1) 100 feet for 50-133 kV line.
(2) 150 feet for 220-230 kV line.
(3) 350 feet for 500-550 kV line.

Thank you so much for all your help. Please contact me if you have any questions or need more information.

DANIELLE CLENDENING

Intern

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764
909.989.4449 | dbclendening@placeworks.com | placeworks.com



Mike Watson

From: Areana Flores <aflores@baaqmd.gov>
Sent: Monday, July 02, 2018 10:11 AM
To: Danielle Clendening
Cc: Mike Watson
Subject: RE: SSIF for a School Site in Dublin CA
Attachments: SSIF_DublinSchoolSite_af.xlsx; Copy of RollupPermittedSourceRiskBY2014 _allsources.xlsx; Diesel IC Engine Multiplier Tool.xlsx; emissions_18395_2017.txt; emissions_18054_2017.txt

Hi Danielle,

Attached you will find your request for:

1. Promenade School Site, Dublin

A couple things to note:

2. We have updated our data to include the OEHHA factor and more accurate location of permitted sources (2014 data attached)

3. Any missing or zero values in the "Cancer Risk" column signify a cancer risk level of NONE.

4. Attached you will find emissions data for sites 18054 and 18395 for the year 2017. You can use this to further your analysis with the most recent data.

5. For major roads with >30,000 AADT (annual average daily traffic) and/or rail lines near your sensitive receptor we recommend it be considered in your local pollutant analysis. Below is a link to raster files with cancer risk and PM2.5 associated with these roads. They show the modeled values for each source (high = highway, majstr = major streets, and rail = rail) in 20 x 20 meter grid cells. The raster files incorporate AADT for that highway using EMFAC 2014 data for fleet mix and includes the OEHHA factor. Let me know if you are able to download and view on ArcMap and if you need help understanding its use.

https://www.dropbox.com/s/n8a6j6e307fg94l/Transportation%20Rasters.zip?dl=0

If you have questions, please feel free to reach out at 415-749-4616 or by email.

Thanks and have a wonderful day,

Areana Flores | Environmental Planner
Bay Area Air Quality Management District
375 Beale St, Suite 600 | San Francisco, CA 94105
Phone: 415.749.4616 | aflores@baaqmd.gov

From: Danielle Clendening <dbclendening@placeworks.com>
Sent: Friday, June 29, 2018 1:35 PM
To: Areana Flores <aflores@baaqmd.gov>
Cc: Mike Watson <mwatson@placeworks.com>
Subject: SSIF for a School Site in Dublin CA

Dear Areana Flores,

PlaceWorks is working on a Geologic and Environmental Health Assessment on behalf of the Dublin Unified School District for a 23-acre site located at the southeast corner of Central Parkway and Chancery Lane Dublin, California.

Could you please provide emission rate of health risk values for stationary sources withing 1,320-ft of the site (see attached map).

Attached to this email is the SSIF Form for the proposed school site and a map that has the site highlighted in red with an approximatley 1,320-ft radius around the site in yellow.

Thank you so much for your help, and please contact me if you have any questions or need more information.

DANIELLE CLENDENING
Intern

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764
909.989.4449 | dbclendening@placeworks.com | placeworks.com

PLACEWORKS

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S. #40
1120 N STREET
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 654-4959
FAX (916) 653-9531
TTY 711
www.dot.ca.gov

Livermore Municipal Airport
Alameda County School File
Alameda County

Making Conservation a California Way of Life.

August 22, 2018

Mr. John Gordon, Field Consultant
School Facilities Planning Division
California Department of Education
1430 N Street, Suite 1201
Sacramento, CA 95814-5901

Dear Mr. Gordon:

In response to your request of July 9, 2018, and Section 17215 of the California Education Code (EC), the California Department of Transportation (Caltrans), Division of Aeronautics, has analyzed the proposed Promenade High School site. The proposed school site is located north of Dublin Boulevard, south of Central Parkway, and east of Chancery Lane in Dublin near the Livermore Municipal Airport (Airport). The proposed school site is located approximately 10,775 feet northwest of the approach end of Runway 7L.

Pursuant to EC section 17215, our analysis was conducted in accordance with the Title 21, California Code of Regulations (CCR) section 3570. Caltrans also considered the Alameda County Airport Land Use Compatibility Plan (ALUCP), the California Airport Land Use Planning Handbook (Handbook), a Caltrans flight to determine where the proposed school site is located relative to aircraft flight paths and aircraft generated noise, our files, and other publications relating to aircraft operations at the Airport. The Alameda County Airport Land Use Commission and the Airport's management were given an opportunity to comment, and their comments were considered.

The Livermore Municipal Airport is designated by the Federal Aviation Administration (FAA) as a Reliever Airport that serves to relieve the three most congested Bay Area air carrier airports (Oakland, San Francisco, and San Jose). The Airport is the twelfth busiest airport in California with approximately 150,000 operations per year with two parallel runways designed to accommodate nearly all types of general aviation aircraft. Runway 7L/25R is 5,253 feet long, and Runway 7R/25L is 2,699 feet long. The proposed school site location is closest to Runway 7L/25R.

The CCR runway criteria was applied to the existing Runway 7L/25R, and it was found that the proposed school site is located outside of all CCR Safety Zones. According to the ALUCP the proposed school site falls inside Safety Zone 7, identified as the Airport Influence Area (AIA). The ALUCP guidance states that an avigation easement, restricting the heights of structures or trees, should be dedicated to the city of Livermore as a condition for any discretionary local approval for any property within the AIA.

Additionally, the ALUCP provides a list of potential flight hazards associated with land uses that should be avoided in the AIA, unless the uses are consistent with FAA rules, regulations, and guidelines. Specific characteristics to be avoided are: glare or distracting lights that could be

mistaken for airport lights, sources of dust, heat, steam, smoke that may impair pilot vision, sources of steam or other emissions that may cause thermal plumes that generate turbulence within the flight paths, sources of electrical interference with aircraft communication or navigation, and features that create an increased attraction for wildlife, such as certain recreational or agricultural uses that attract large flocks of birds.

Airport management provided written comments and concerns about the proposed school site stating in part: "The proposed school site is approximately two miles from the Airport and close to the extended centerline for Runway 25R/7L. This, and the school's location under the Airport traffic pattern, may result in regular aircraft overflights at relatively low altitude. Some staff members and students may find the noise generated by the aircraft to be objectionable."

On August 8, 2018, Caltrans conducted a flight inspection of the proposed school site. Our flight evaluation revealed the proposed site will be subject to periodic over-flights from general aviation aircraft and corporate jet aircraft departing from and arriving at the Airport from the northwest at an altitude of approximately 1,000 to 1,500 feet above the ground level. Inspection of the traffic pattern for Runway 7L/25R demonstrated that the proposed school is less than one quarter mile from the crosswind leg to the downwind leg of the traffic pattern for Runway 25R. As such, it may be exposed to individual aircraft noise events that could reach a level that could be disruptive.

Although the proposed school site is outside the 55 decibel Community Noise Equivalent Level aircraft noise contour, the potential exists for persons at this site to be annoyed by individual aircraft noise events. Therefore, if this site is selected, we recommend that the school include provisions for buildings to have air circulation or air conditioning, so that all windows and doors can remain closed. The school should also include acoustical treatment in the design and construction of any buildings for use by students, faculty, or administrators to reduce individual irritation from aircraft noise or disruption to instruction.

In conclusion, the school site is within the AIA according to the ALUCP. As such, the potential flight hazards (described above), associated with land use in the AIA should be avoided. Additionally, an avigation easement restricting the heights of structures or trees should be dedicated to the city of Livermore. While there is generally a low risk of an accident occurring at the proposed site, the potential consequences of any accident could be severe. Caltrans cannot guarantee the safety of this or any other site. However, based upon our evaluation of existing conditions and planned development, Caltrans has no objections to the proposed school site. If this proposed site is approved, the site must be occupied by August 20, 2023, or another site evaluation by Caltrans is required prior to occupation.

This Caltrans recommendation is furnished pursuant to EC section 17215. This recommendation does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any federal, State, or local government body, nor does it constitute Caltrans approval relative to the California Public Utilities Code (PUC), the CCR, and other State statutory or regulatory codes.

Additionally, PUC sections 21670 through 21679.5 establish a mandated process to implement airport land use laws throughout the State. Pertinent portions of PUC section 21670(a) state that it is "in the public interest to provide for the orderly development of each public use airport in this state and . . . to prevent the creation of new noise and safety problems." These sections require the creation of ALUCs within the counties, set forth the commissions' powers and duties, and call for the adoption of land use measures around the vicinity of public-use airports. Section 21670(f) specifically states that school districts are included among the local agencies that are subject to airport land use laws and other requirements of the PUC. School site acquisitions pursuant to EC section 17215 must comply with the above PUC sections.

Sincerely,

Original Signed by

DONALD E. HAUG
Aviation Safety Officer

bc: Jean Finney, Deputy District Director, District 4

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National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth
- Regulatory Floodway *Zone AE, AO, AH, VE, AR*

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/28/2018 at 2:06:52 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix F:

Hazardous Resources Report: Phase I ESA, Phase II Investigation Report, Preliminary Environmental Assessment, Caltrans Letter, and PSHA

PRIVILEGED & CONFIDENTIAL
ATTORNEY-CLIENT COMMUNICATION
ATTORNEY WORK PRODUCT

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROMENADE SITE
DUBLIN BOULEVARD AND CHANCERY LANE
DUBLIN, CALIFORNIA 94568

Prepared for

Fagen Friedman and Fulfrost LLP
70 Washington Street, Suite 205
Oakland, California 94607

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

March 20, 2017

Project Number 0205.004.001

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terraphase engineering

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A Phase I ESA Owner Questionnaire and Alameda County Assessor, City of Dublin Building Department, and Alameda County Recorder Documents
B EDR Environmental Lien and AUL Search
C EDR Radius Map™ Report with GeoCheck
D EDR Vapor Encroachment Screen
E Aerial Photo Decade Package
F EDR Historical Topo Map Report
G EDR-City Directory Abstract
H Certified Sanborn® Map Report (Unmapped Property)
I EDR Building Permit Report

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ACRONYMS AND ABBREVIATIONS

ACDEH	Alameda County Department of Environmental Health
APN	Assessor Parcel Number
ABAG	Association of Bay Area Governments
AST	aboveground storage tank
ASTM	American Society for Testing and Materials International
AUL	Activity and Land Use Limitation
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Berlogar Geotech	Berlogar Geotechnical Consultants
Berlogar Stevens	Berlogar Stevens & Associates
bgs	below ground surface
Caltrans	California Department of Transportation
CDCDOGGR	California Department of Conservation, Division of Oil, Gas and Geothermal Resources
CDE	California Department of Education
CDPH	California Department of Public Health
CFR	Code of Federal Regulations
CGOES	California Governor's Office of Emergency Services
CGS	California Geological Survey
CREC	controlled recognized environmental condition
CUPA	Certified Unified Program Agency
DSRSD	Dublin San Ramon Services District
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EDR	Environmental Data Resources, Inc.
EDR Report	The EDR Radius Map™ with Geocheck® report
EPA	Environmental Protection Agency
ESA	environmental site assessment
ESLs	Environmental Screening Levels
F3Law	Fagen Friedman & Fulfrost LLP
FEMA	Federal Emergency Management Agency
HERO	Human and Ecological Risk Office

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HREC	historical recognized environmental condition
LOP	Local Oversight Program
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram
NPMS	National Pipeline Mapping System
PCBs	polychlorinated biphenyls
PEA	Preliminary Endangerment Assessment
PG&E	Pacific Gas & Electric
PHMSA	Pipeline and Hazardous Materials Safety Administration
pCi/L	picocuries per liter
PVC	polyvinyl chloride
REC	recognized environmental condition
RWQCB	San Francisco Bay Regional Water Quality Control Board
the Site	the Promenade site, located on the north side of Dublin Boulevard and east side of Chancery Lane, Dublin, California
SLIC	Spills Leaks and Investigation Cleanup
the Subject Property	the Promenade site
SVOCs	semivolatile organic compounds
SWRCB	State Water Resources Control Board
Terraphase	Terraphase Engineering Inc.
TPH	total petroleum hydrocarbon
UST	underground storage tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	volatile organic compounds

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SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

This report is intended to meet the requirements of American Society for Testing and Materials International (ASTM) Standard Practice E1527-13 and has been prepared by the undersigned environmental professional. The environmental assessment described herein was conducted by the undersigned employees of Terraphase Engineering Inc.

The assessment consisted solely of the activities described in the Introduction of this report, and was performed in accordance with the ASTM Designation E1527-13 guidelines for Phase I Environmental Site Assessments and the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable. The assessment was conducted in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, professional geologists, and environmental scientists.

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Laurie Israel
Associate Environmental Scientist

Andrew Lojo
Principal Geologist

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EXECUTIVE SUMMARY

Terraphase Engineering Inc. (Terraphase) has performed a Phase I Environmental Site Assessment (ESA) of the Promenade site ("the Subject Property" or "the Site"; Figures 1 and 2). The Subject Property is undeveloped land bounded to the north by Central Parkway, bounded to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane, in Dublin, Alameda County, California. The ESA was prepared on behalf of the Fagan Friedman and Fulfrost LLP (F3Law), in accordance with F3Law's authorization of Terraphase's proposal dated December 9, 2016. Per the Alameda County Assessor (2017), the Subject Property is assigned Assessor's Parcel Numbers (APNs) 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005, 985-0078-006, and 985-0078-007. Per the deed information provided by Environmental Data Resources, Inc. (EDR) in the Environmental Lien and Activity and Land Use Limitation (AUL) Search report (EDR 2016a; Appendix B), all six parcels are owned by Grafton Station LLC, a California Domestic Limited Liability Company. The Subject Property is proposed to be developed into a school site.

The Phase I ESA was performed in conformance with the scope and limitations of American Society for Testing and Materials International (ASTM) Standard Practice E1527-13 and California Department of Education (CDE) and Department of Toxic Substances Control (DTSC) school siting guidelines (DTSC 2001; CDE 2016). Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report.

Findings

The Subject Property was used for agricultural purposes, reportedly hay production and grazing and possibly row crop cultivation, from approximately 1939 to the mid-1990s. No structures or corrals were historically present on the Subject Property. The Subject Property was planned to be part of the surrounding residential construction between 2005 and 2009. Fill material was imported and utilities were installed and preliminary grading and development was conducted, but the proposed residential development ended in 2009, and no other use or development has been conducted since 2009.

Grading, soil stockpiling, and construction equipment staging occurred on the Subject Property from 2005 until 2009. Soil sampling and analytical testing was previously conducted by Berlogar Geotechnical Consultants (Berlogar Geotech) in 2008 and 2009. Berlogar concluded that isolated areas of low concentrations of diesel (TPHd) and motor oil range (TPHmo) petroleum hydrocarbons were present, as well as minor concentrations of organochlorine pesticides. The prior soil sampling was not sufficient to adequately characterize the imported fill material or prior agricultural soil below it for potential use of the site as a school. Potential build-out of the Subject Property will require geotechnical and additional environmental soil testing.

Terraphase identified the following RECs during this Phase I ESA:

- The Site has been historically undeveloped land, and although predominantly used as grazing land, there is a potential for agricultural chemicals to be present in shallow soil at the Site.

- Fill material was imported to the Site from undocumented sources prior to construction activities in 2005. Prior soil sampling of the fill is insufficient to characterize the material for residential/school use.

Terraphase did not identify any historical RECs (HRECs), or controlled RECs (CRECs) during this Phase I ESA. A Phase I ESA questionnaire was not returned by the User, which constitutes a data gap. The lack of the User questionnaire is not considered to be a significant data gap.

Recommendations

This Phase I ESA presents Terraphase's interpretation of the information with respect to RECs at the Site. Following ASTM E1527-05 and 2017 CDE and DTSC school reporting guidelines. Terraphase concludes that further investigation through a Preliminary Endangerment Assessment (PEA), including sampling or testing, to determine if a release of hazardous material has occurred and, if so, the extent of the release is needed to assess the Site. Terraphase makes the following recommendations:

- In accordance with DTSC Interim Guidance for Sampling Agricultural Properties, (Third Revision) (DTSC 2008), the Site was historically used for row crops; therefore, the potential for the presence of pesticides at the Site exists. It is unlikely that the Site was ever irrigated. DTSC guidance (DTSC 2008) indicates that for sites that were dry-land farmed one sample should be collected from each quadrant of the Site. The samples should be analyzed for organochlorine pesticides (U.S. EPA Method 8081B), arsenic, and asbestos. Care will be needed in the field to assess where the fill/native soil surface lies so that samples of the native soil are collected.
- While Berlogar Geotech conducted extensive studies of the fill material brought to the Site, and conducted additional sampling for diesel range petroleum hydrocarbons in other areas of the Site, the presence of pesticides and PCBs in the underlying native soils does not appear to have been addressed.
- Conduct a specific geological study at the Site to comply with the CGS Note 48 requirements.
- Conduct a pipeline risk assessment for large-diameter water and natural gas pipelines in the vicinity of the Site.
- Conduct a separate noise study at the Site to verify that the noise complies with state regulations.
- Prepare a letter outlining the proposed school site and the location of the Livermore Municipal Airport (within two nautical miles) and submit it to the California Department of Education for processing.
- Due to the Site's proximity to the proposed BART track extension (within 1,500 feet), Terraphase recommends obtaining a letter signed by a California professional civil engineer indicating that the potential BART tracks do not pose a significant threat to the Site.

- Conduct a ¼ mile survey around the proposed school site location. This survey should include a reconnaissance around the site to visually assess whether any buildings have placards indicating the presence of hazardous materials, drums, or unpermitted exhaust stacks. If the survey identifies any hazardous materials within ¼ mile of the school site, appropriate mitigation measures should also be recommended.

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1.0 INTRODUCTION

At the request of the Fagen Friedman and Fulfrost LLP (F3Law), Terraphase Engineering Inc. (Terraphase) has completed this Phase I Environmental Site Assessment (ESA) for the Promenade site which is vacant land bounded to the north by Central Parkway, bounded to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane, in Dublin, Alameda County, California ("the Subject Property" or "the Site"), on behalf of F3Law and in accordance with F3Law's authorization of Terraphase's proposal dated December 9, 2016. Per the Alameda County Assessor, the Subject Property is listed under Assessor's Parcel Numbers (APNs) 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005, 985-0078-006, and 985-0078-007. All six parcels are owned by Grafton Station LLC, a California Domestic Limited Liability Company, per the Deed recorded on May 7, 2013. The Subject Property was previously agricultural land, predominantly used for grazing. A housing project was pursued at the Site from 2005-2009 and utilities were installed and fill material brought onto the Site. The developers did not complete the project. The Subject Property is proposed to be developed into a school site. A Site Location map is provided as Figure 1 and a Site Map showing Site details is provided as Figure 2.

This Phase I ESA includes information gathered from federal, state, and local agencies; review of historical documents; a reconnaissance visit; interviews; and a review of previously conducted environmental studies. The qualifications of the environmental professional who prepared this report are included in Section 11.

1.1 Purpose

The purpose of a Phase I ESA is to evaluate the potential for environmental contamination on the Subject Property, and to evaluate if contamination could potentially occur in the future because of activities or conditions on or near the Subject Property. The Phase I ESA was conducted in accordance with the processes prescribed in the American Society for Testing and Materials International (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM Designation E1527-13; ASTM 2013) and CDE and DTSC school siting guidelines (DTSC 2001; CDE 2016). Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report.

This Phase I ESA identifies recognized environmental conditions (RECs) and environmental concerns at the Subject Property. As defined by ASTM, a REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include "de minimis" conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

1.2 Phase I ESA Scope of Services

The following services were included in this Phase I ESA:

- review of historical sources of information, such as aerial photographs, Sanborn fire insurance maps, and land use records;
- review of previously conducted environmental studies;
- review of government records, including regulatory reports for both the Subject Property and adjoining properties;
- review of an environmental database search;
- review of local regulatory agencies, including the local fire department and other local government entities that have jurisdiction over hazardous waste management, permitting, and site investigations;
- reconnaissance level visual inspection of the Subject Property, including observations of adjoining properties and general land uses, with photographs to document current conditions;
- review the Subject Property to look for evidence of the release(s) of hazardous materials and petroleum products and to assess the potential for on-site releases of hazardous materials and petroleum products resulting from current and historical land use activities and nearby operations; and
- preparation of a report that documents our research, observations, and the results of the environmental inquiry, which specifically identifies any areas that will require invasive site investigation, including a summary of conclusions. In accordance with the 2017 California Department of Education School Facilities, General Education Code Provisions, Terraphase will also evaluate the following safety factors: (1) proximity to airports, § 17215; (2) proximity to high-voltage power transmission lines; (3) presence of toxic and hazardous substances; (4) hazardous air emissions and facilities within a quarter mile, § 17213(b); (5) other health hazards, § 17213(a); (6) proximity to railroads, See CCR, Title 5, Section 14010(d); (7) proximity to high-pressure natural gas lines, gasoline lines, pressurized sewer lines, or high-pressure water pipelines, § 17213; (8) proximity to propane tanks; (9) noise; (10) proximity to major roadways; (11) results of geological studies and soils analyses, § 17212 and 17212.5; (12) condition of traffic and school bus safety; (13) safe routes to school; and (14) safety issues for joint-use projects.
- The presence of potentially toxic or hazardous substances on or in the vicinity of a prospective school site is another concern relating to the safety of students, staff, and the public. During site evaluation, Terraphase shall give special consideration to the following hazards: (1) landfill areas on or adjacent to the site; (2) proximity of the site to current or former dump areas, chemical plants, oil fields, refineries, fuel storage facilities, nuclear generating plants, abandoned farms and dairies, and

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agricultural areas where pesticides and fertilizer have been heavily used; and (3) naturally occurring hazardous materials, such as asbestos, oil, and gas.

1.2.1 Non-Scope Services

As defined pursuant to Section 13.1.5 of the ASTM Standard Practice, the following list includes several non-scope considerations. Non-scope considerations are considered beyond the scope of standard practice and no assessment of such non-scope considerations is required as defined by ASTM Standard Practice.

No implication is intended as to the relative importance of such non-scope considerations and the list below is not intended to be all inclusive:

- Testing of building materials for presence of asbestos-containing material
- Biological agents
- Cultural and historical resources
- Ecological resources
- Endangered species
- Health and safety
- Indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment
- Industrial hygiene
- Testing of building materials for presence of lead-based paint
- Lead in drinking water
- Methane gas
- Mold
- Testing for presence of radon
- Regulatory compliance
- Wetlands
- Compliance with activity and use limitations

1.2.2 Significant Assumptions

This Phase I ESA provides appropriate inquiry into the previous ownership and use of the Subject Property consistent with good commercial and customary practice to minimize liability. Terraphase also assumes that the information provided by Environmental Data Resources, Inc. (EDR), the regulatory database provider, and regulatory agencies is true and reliable.

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1.2.3 Limitations and Exceptions

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by Terraphase and F3Law. This report was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry as practiced in California. To the extent that Terraphase relied upon any information prepared by other parties not under contract to Terraphase, no representation as to the accuracy or completeness of such information is made. Only F3Law may make use of and rely upon the information in this report.

This information can only be utilized for a period not to exceed 180 days in accordance with ASTM's "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" ASTM Designation E1527-13, and/or the Code of Federal Regulations (CFR) 40CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule," dated November 1, 2005, and amended December 30, 2013. After 180 days, the report must be updated in accordance with ASTM Standards and federal regulations.

The findings presented in this report apply solely to conditions existing at the time of the assessment. It must be recognized, however, that a Phase I ESA is intended for the purpose of evaluating the potential for contamination through limited research and investigative activities, and in no way represents a conclusive or complete characterization. Conditions in other parts of the Subject Property may vary from those at the locations where data were collected.

Terraphase's interpretation of investigation results is related to the availability of the data and the extent of the investigation activities; 100% confidence in Phase I ESA conclusions cannot reasonably be achieved. Therefore, Terraphase does not provide any guarantees, certifications, or warranties (express or implied) that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and all applicable laws, codes, regulations, or standards.

1.2.4 User Reliance

This document was prepared for the use of F3Law. No other party should rely on the information contained herein without the prior written consent of Terraphase and F3Law.

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2.0 SUBJECT PROPERTY DESCRIPTION

2.1 Subject Property and Vicinity General Description

The Subject Property is six parcels, APNs 985-0078-002 through 985-0078-007, comprising 25.37 acres of vacant land with underground utility improvements bounded to the north by Central Parkway, bounded to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane in Dublin, Alameda County, California. The Subject Property is owned by Grafton Station LLC. Per the Alameda County Assessor Use Code 3000, the Site is described as vacant commercial land. The previous use codes 1000 – vacant residential land and 7300 – condo-single residential housing unit, indicate that the parcels were once part of a housing development project. Per the City of Dublin Zoning Land Use, the Site is zoned as "PD" a planned development, and general land use as "NC" neighborhood commercial.

The Subject Property is surrounded by residential communities to the north (across Central Parkway), west (adjoining and across Chancery Lane), and east (adjoining), Devany Square park to the west, and vacant land to the southeast (across Dublin Boulevard). The Grafton Street retail center is located to the south-southwest of the Subject Property (Figure 2).

2.2 Site Geology and Hydrogeology

Based on the EDR GeoCheck® Physical Setting Source Summary, the average elevation of the Site is approximately 356 feet above mean sea level and the topography slopes gently to the southwest. The EDR Radius Map™ with Geocheck® report (EDR 2016b; "the EDR Report") is provided in Appendix C.

The City of Dublin is located within the Coast Ranges Geomorphic Province of California, an area characterized by a series of northwestern trending ridges and valleys dominated by the San Andreas Fault System. The East Bay Hills, the western extent of the Diablo Range, are formed from compressional forces between the Calaveras fault to the east and the Hayward fault to the west. The Calaveras fault zone separates the highly folded Upper Cretaceous Great Valley sequence to the west of the fault and Plio-Pleistocene Livermore gravels on the east side of the fault. Most of the bedrock exposed in the hills consists of Cretaceous marine sedimentary rocks, parts of which belong to the Great Valley Sequence. The Cretaceous units exposed in the Dublin area are composed of varying amounts of graywacke, sandstone, siltstone, shale, and conglomerate. These units are unconformably overlain by Miocene age marine sedimentary rocks that include shales and sandstones. Based on geological information from a site within the vicinity of the Subject Property (SWRCB 2017: Geotracker, Jordan Ranch 2010), the subsurface contains clay with some laterally discontinuous layers of sand and gravel in the capillary fringe and saturated zone. Geologic maps of the area indicate that the northwestern portion of the property is underlain by alluvium from the Pleistocene (Qpa) consisting of sand, silt, and gravel. The southeastern portion of the Subject Property is underlain by alluvium from the Holocene (Qha) consisting of gravel, sand, silt, and clay. The EDR GeoCheck® - Physical Setting Source Summary provided information on dominant soil composition in the general area of the Site. The soil type identified was

Clear Lake clay, with very slow infiltration rates, and a high-water table. Depth to groundwater was encountered at depths ranging from 17 to 27 feet below ground surface (bgs; SWRCB 2017: Geotracker, Jordan Ranch 2010).

Per the California Geological Survey's Fault Activity Map of California, the Calaveras Fault is the nearest active fault and located approximately 3.5 miles east of the Subject Property (CGS 2010). The Site is specifically located in the western portion of the Livermore-Amador Valley Hydrologic Region, within the Livermore Valley Groundwater Basin. The Livermore Valley Groundwater Basin lies approximately 40 miles east of San Francisco within a structural trough of the Diablo Range. The entire floor of the Livermore Valley is underlain by continental deposits from alluvial fans, outwash plains, and lakes that include valley-fill materials, the Livermore Formation, and the Tassajara Formation. Surficial water bodies in the vicinity of the Subject Property include Arroyo Mocho and Arroyo Las Positas (to the south-southeast), and Tassajara Creek to the west. All streams converge on the west side of the basin to form Arroyo de la Laguna, which flows south and joins Alameda Creek in Sunol Valley, and ultimately draining to the San Francisco Bay (DWR 2006). The regional groundwater flow direction is reportedly to the south. The Livermore Valley Groundwater Basin has deep aquifers that are used for drinking and agricultural water under management of the Zone 7 Water Agency. The Site is located outside the 100- and 500-year flood plain areas. The flood plain areas are illustrated on the Overview Map of the EDR Report included in Appendix C.

Berlogar Geotechnical Consultants reported that groundwater was present between 16.5 and 18 feet bgs at the time of their geotechnical investigation (Berlogar Geotech 2008). Groundwater likely flows with downward sloping topography toward the large lakes (former sand and gravel quarries) located to the south-southeast of the Site.

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3.0 CLIENT/USER PROVIDED INFORMATION

This section describes certain information provided to Terraphase by the Client (i.e., "the User" of this Phase I ESA). A User questionnaire was not completed by the Client.

3.1 Title Record

The Environmental Lien and Activity and Land Use Limitation (AUL) Search report provided by EDR (EDR 2016a) indicated that the last transfer of parcels with APNs 985-0078-002 through 985-0078-007, was recorded on May 7, 2013, when the property was transferred from James and Mei F. Tong to Grafton Station LLC, the current owner.

3.1.1 Alameda County Assessor's and Recorder's Office Records

Information obtained from the Alameda County Assessor's office, concurred with the parcel information described above. Files from the records reviewed are provided in Appendix A.

3.2 Environmental Liens and Activity and Use Limitations

The User did not return the questionnaire. It is unknown if the User has any knowledge of environmental liens or AULs associated with the Subject Property. A review of the EDR Environmental Lien and AUL Search report did not indicate any environmental liens or AULs associated with the Subject Property.

3.3 Valuation Reduction for Environmental Liens

The User did not return a questionnaire. It is unknown if the User has knowledge that indicates a value reduction of Subject Property due to environmental liens.

3.3.1 Specialized Knowledge and Commonly Known or Reasonably Ascertainable Information

The User did not return a questionnaire. It is unknown if the User has any specialized knowledge or information regarding the Subject Property.

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4.0 AGENCY RECORDS REVIEW

4.1 Standard Environmental Record Sources

The regulatory agency database report discussed in this section, provided by EDR, was reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the property. The EDR Report, including a description of all regulatory databases and associated acronyms, is included in Appendix C.

Terraphase reviewed applicable and reasonably ascertainable federal, state, and local environmental-related databases as part of this Phase I ESA. Of the databases searched in accordance with the ASTM Practice E1527-13, EDR identified 69 listings within the ASTM-prescribed search radii. The records for these listings were reviewed to help identify RECs and environmental concerns in connection with the Subject Property. As per ASTM Standard E 1527-13, due to the urban industrial setting, density, and large number of sites reported within the search area, the entirety of the information within the minimum search distance cannot be feasibly reviewed for its potential impact on the Subject Property. Therefore, in accordance with Section 8.1.2.1 of the ASTM Standard, the minimum search distances were adjusted and an assessment of impact has been limited to discuss the sites which, based on their location and classification, appear to have a potential to impact the Subject Property via groundwater migration. The search distances were adjusted to include only adjacent sites and sites with a documented release which are located within a ¼-mile radius of the Subject Site. Specific information about each listing is listed Appendix C.

4.1.1 Subject Property

The Subject Property was not listed on any of the databases searched by EDR.

4.1.2 Nearby Listed Properties

Of the databases searched in accordance with the ASTM Practice E1527-13, the following additional listings were found within the ASTM-prescribed search radii. A list of the government records searched, including the definition of the acronyms used, is provided in the EDR Report.

- **Arrivare – Central Parkway and Grafton Street (48 feet north-northeast of Subject Property)**
  The site is listed on the EDR National Pollutant Discharge Elimination System database for construction that was terminated. Based on the lack of information regarding hazardous materials, this site is not considered a REC or environmental concern for the Subject Property.

- **City West Structures Inc – 3553 Finnian Way (67 feet west of Subject Property)**
  The site is listed on the EDR HAZNET database for a transport, storage, and disposal facility in 2005 for hydrocarbon solvents. Based on the lack of information regarding a release to soil or groundwater, and cross gradient location, this site is not considered a REC or environmental concern for the Subject Property.

- **Terraces Home Owner's Association – 3448 Finnian Way (187 feet east-southeast of Subject Property)**
  The site is listed on the EDR EMI and FINDS databases for the Bay Area Air Quality Management District (BAAQMD) in 2010-2014. Based on this site's cross-gradient location and the lack of information regarding a release to soil or groundwater, this site is not considered a REC or environmental concern for the Subject Property.

- **Toll Bros Inc – 3448 Finnian Way (187 feet east-southeast of the Subject Property)**
  The site is listed on the EDR HAZMAT database for disposal of wastes at the landfill for unspecified organic liquid mixture in 2005, and treatment/incineration of contaminated soil from site clean-up in 2005. Based on removal of the contaminant source and the downgradient location, this site is not considered a REC or environmental concern for the Subject Property.

Two "unmappable" (or "orphan") listings were identified within the database report. Unmappable sites are listings that could not be plotted with confidence, but are potentially in the general area of the property based on the partial street address, city, or zip code. These sites were ALCO East County Hall of Justice and Santa Rita Property, which are too distant, not related to, or do not pose a concern to the Subject Property.

4.2 Vapor Encroachment Screening

ASTM Standard E2600-10 Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions was used as guidance for conducting a VES for the Subject Property. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern that may migrate as vapors onto a property because of contaminated soil and groundwater on or near the Subject Property.

Soil vapor is one of the pathways of contamination to the Subject Property, along with groundwater and soil. ASTM E1527-13 requires that vapor migration be treated no differently than contaminated groundwater. The soil-vapor contaminant pathway needs to be considered in evaluation of RECs or other environmental concerns. The estimated groundwater flow direction is to the southwest.

In accordance with ASTM E2600-10 (Tier 1; Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions), there are no potential petroleum hydrocarbon sources (active leaking underground storage tank [LUST] cases) for vapor intrusion within 1/10 mile of the Subject Property or volatile organic compounds (VOCs) sources (active Spills Leaks and Investigation Cleanup [SLIC] cases) within ⅓ mile. There were no properties identified with the potential to cause a VEC at the Subject Property (Appendix D, EDR 2016c).

4.3 Additional Environmental Record Sources

In addition to EDR review, Terraphase contacted additional local, county, state, and federal environmental record sources, as described below.

4.3.1 Property Tax Files

The EDR Property Tax Report indicated that the Subject Property consists of six parcels comprising 25.37 acres, identified as APN 985-0078-002 through 985-0078-007 (EDR 2016h). The City of Dublin online GIS Portal parcel viewer (https://gis.dublin.ca.gov/Html5Viewer/) provided information on each parcel, including addresses, hazards, Federal Emergency Management Agency (FEMA) flood, and land use. The parcel reports are included in Appendix A. Per EDR's Environmental Lien and AUL Search Report, the Subject Property is currently owned by Grafton Station LLC.

The County of Alameda Assessors and Recorders Office online search provided information on the history of the parcels for Promenade, and is summarized below:

- **APNs # 985-0078-002, 985-0078-003, 985-0078-004, 985-0078-005, 985-0078-006, and 985-0078-007**: Grantor – James and Mei F. Tong and Grantee – Grafton Station LLC recorded May 7, 2013 (Grant Deed 2013160396). Six parcels associated with the Grafton Station LLC parcel: 985-0078-002 through 985-0078-007, and seven parcels associated with James and Mei F. Tong: 985-0078-002 through 985-0078-007, and *985-009-009-2*, all listed as vacant commercial land use (3000). A Memorandum of Agreement was signed on February 20, 2012, between James Tong and Mei Fong Tong (Seller) and KB HOME South Bay Inc., a California corporation (buyer) recorded on February 24, 2012 (MA 2012061653). A Quitclaim Deed was recorded on May 2, 2013, between James Tong and Mei Fong Tong and KB HOME South Bay Inc., a California corporation (Quitclaim Deed 2013153929).

- **APN # 985-009-009-2**: Grantor – DR Acquisition II LLC c/o Charter Properties and Grantee - James & Mei F Tong recorded November 6, 2009 (Grant Deed recorded February 23, 2006 as 2006068092). Seven parcels associated with James and Mei F. Tong: 985-0078-002 through 985-0078-007, and 985-009-009-2, and nine parcels associated with DR Acquisition II LLC c/o Charter Properties: 985-009-004-3, *985-009-008*, 985-009-009, 985-009-009-2, *985-009-010*, *985-009-011*, *985-009-012*, *985-009-014*, and 985-048-001, all listed as vacant commercial land use (3000).

- **APNs # 985-009-008, 985-009-010, 985-009-011, and 985-009-012**: Grantor – DR Acquisition II LLC c/o Charter Properties and Grantee – Toll Dublin LLC c/o Jon Paynter recorded February 16, 2001 (Grant Deed 2001060794). The use code for the 1,020 parcels associated with Toll Dublin LLC c/o Jon Paynter are for vacant residential land zoned four units or less (1000) that indicates the land was subdivided into individual parcels for multi-tenant houses.

- **APN # 985-009-014**: Owner – DR Acquisition II LLC c/o Charter Properties recorded August 17, 2000 (Grant Deed 2000247986). Nine parcels associated with this owner: *985-009-004-3*, 985-009-008, 985-009-009, 985-009-009-2, 985-009-010, 985-009-011, 985-009-012, 985-009-014, and 985-048-001, all listed as use code for vacant residential land zoned four units or less (1000).

- **APN # 985-009-004-3**: Grantor – Lin Chang S & Hong Y & Hong L c/o Charter Properties and Grantee - DR Acquisition II LLC c/o Charter Properties recorded August 17, 2000 (Grant Deed 2000247986). Nine parcels associated with DR Acquisition II LLC c/o Charter Properties: 985-009-004-3, 985-009-008, 985-009-009, 985-009-009-2, 985-009-010, 985-009-011, 985-009-012, 985-009-014, and 985-

048-001, and three parcels associated with Lin Chang S & Hong Y & Hong L c/o Charter Properties: 985-009-004-1, 985-009-004-3, and *985-009-005-1*, all listed as use code for vacant residential land zoned four units or less (1000).

- **APN # 985-009-005-1**: Owner – Lin Chang S &Hong Y & Hong L recorded April 10, 2000. Three parcels associated with this owner: 985-009-004-1, 985-009-004-3, and 985-009-005-1, all listed as use code for rural property in transition to a higher use (5600).

4.3.2 Local Regulatory Records

4.3.2.1 City of Dublin Building and Planning Departments

Terraphase contacted the City of Dublin Building and Planning Departments on January 5, 2017, to review documents or records pertaining to the Subject Property. Several addresses were found online from the City of Dublin Parcel Report for four of the six parcels that comprise the Site. The addresses related to the Promenade Site include:

- (APN # 985-0078-004): 3553 Finnian Way (mailing address for Terraces at Dublin Ranch Villages Owners Association), **3644 Central Parkway**, 3646 Central Parkway, **4449 Chancery Lane,** and 4451 Chancery Lane;
- (APN # 985-0078-005): **3501 Finnian Way**;
- (APN # 985-0078-006): 3501 Dublin Boulevard; and
- (APN # 985-0078-007): 4205 Grafton Street, 4239 Grafton Street, 4243 Grafton Street, 4247 Grafton Street, 4251 Grafton Street, 4255 Grafton Street, 4259 Grafton Street, 4263 Grafton Street, 4267 Grafton Street, **3448 Finnian Way**, and 3460 Finnian Way.

It is believed that the majority of these addresses were created for the housing development that was previously proposed at the Subject Property. Five addresses for the four parcels with Building Department files are discussed below.

- **3644 Central Pkwy** – a temporary power pole was installed at the Subject Property in August and October 2005 and again in August 2006; building permits for installation of eight site signs for Toll Brothers in September 2006; all for residential construction under the ownership/developer Toll Brothers, Inc.
- **4449 Chancery Lane** – installation of kiosk sign at Dublin Boulevard and Tassajara Road for Dublin Ranch Villages in February 2003; installation of land use signs for Area G Dublin Ranch Villages were submitted in March 2003; building plans were submitted in July 2007 for Sorrento, Trevi Village 2, floor truss calculations and plans (this is not related to the Promenade, rather a residential development north of the Subject Property); all for residential construction under the ownership/developer Toll Brothers Inc.

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- **3448 Finnian Way** – the Terraces west parking structure shoring permit was filed in August 2004; in July 2004, the west building temporary shoring and earth retention plan review was prepared for the Toll Brothers; the west building super pad was checked for elevation on September 2004 (grading plans by MacKay & Somps dated July 2004); the shoring for the west parking garage was inspected by Construction Testing Services in September 2004; in April 2008, Berlogar Geotech provided an opinion on geotechnical aspects of construction of the West Terraces at Dublin Ranch per reports from April 1999 and October 2003; and a report from PB&A Structural Engineers Inc. was prepared and titled *Engineering Calculations – Temporary Soil nailed Shoring System – Terraces at Dublin Ranch Villages* in June 2004; drawings for the temporary soil nail wall shoring for the Terraces at Dublin Ranch was submitted in October 2004; all for residential construction under the ownership/developer Toll Brothers Inc.

- **3501 Dublin Blvd** – The Dublin Ranch Area G corporation/sales yards (sales trailers and locations) and sales office layout drawings were submitted to the building department for approval in December 2001 under the ownership of James Tong/DR Acquisition II (corner of Grafton and Dublin Blvd) for Toll Brothers Inc.; The Dublin Ranch Area G permit for a modular building (modular temporary sales trailer with exterior pediment) was submitted to the building department in December 2001 for the Toll Brothers residential development; in October 2004 temporary shoring and earth retention system for H-2 (as built) Terraces at Dublin Ranch Villages Area G were prepared by PB&A Inc. for Toll Brothers; all for residential construction under the ownership/developer Toll Brothers Inc.

The files for the addresses researched indicated preliminary drawings and permits for temporary trailers and equipment were filed for the Subject Property in 2006.

4.3.3 County Regulatory Records

4.3.3.1 Alameda County Department of Environmental Health Hazardous Materials/CUPA

On January 5, 2017, Terraphase visited the Alameda County Department of Environmental Health (ACDEH) Certified Unified Program Agency (CUPA) and requested records pertaining to related to hazardous waste generators, Hazardous Materials Business Plans, underground storage tanks (USTs), tiered permitting (including Fire Department records), and aboveground storage tank (AST) programs for the Subject Property APNs and addresses. No documents were identified in the system for the Subject Property.

4.3.3.2 Alameda County Department of Environmental Health LOP/SLIC/LUST

On January 4, 2017, Terraphase researched the online ACDEH SLIC, Local Oversight Program (LOP), and LUST regulatory database (http://www.co.alameda.ca.us/aceh/lop/index.htm), to review records pertaining to petroleum product storage, usage, release, USTs, ASTs, and/or leaking underground fuel tanks for the Subject Property APNs and addresses. No documents were identified in the system for the Subject Property.

4.3.4 State Regulatory Records

4.3.4.1 Department of Toxic Substances Control

Terraphase reviewed the DTSC's EnviroStor database,[1] which houses information on permits and corrective action at hazardous waste facilities, as well as site cleanup projects, for relevant records related to the Subject Property and/or adjoining properties. The Subject Property and immediately adjacent properties were not identified in the database search results.

4.3.4.2 State Water Resources Control Board

Terraphase reviewed the GeoTracker database,[2] the State Water Resources Control Board (SWRCB) data management system for sites that impact groundwater or have the potential to impact groundwater. The Subject Property and adjacent properties were not identified in the database search results.

4.3.4.3 Division of Oil, Gas, and Geothermal Resources Files

Oil and gas wells were not observed within the Subject Property during our reconnaissance. A review of the California Division of Oil, Gas, and Geothermal Resources website for oil and gas fields in California and Alaska (CDCDOGGR 2017) indicated that there are no oil or gas wells located on or within 0.5 mile of the Subject Property (Section 4, Township 3 South, and Range 1 East).

4.3.5 Federal Regulatory Records

4.3.5.1 National Pipeline Mapping System

Terraphase reviewed the National Pipeline Mapping System (NPMS) public viewer website[3] for gas transmission pipelines and hazardous liquid trunk lines on or close to the Subject Property. Per the information on the NPMS, a natural gas transmission pipeline operated by Pacific Gas & Electric (PG&E) Company is located approximately 1/3 mile south of the Subject Property. No spills or incidents were reported by NPMS for the Subject Property (NPMS 2017).

4.3.5.2 U.S. Environmental Protection Agency

Review of the United States Environmental Protection Agency (EPA) Envirofacts website[4] revealed that the Subject Property is not listed in the searched databases. These sources of information, as well as interviews conducted, previous environmental reports, and Site observations (discussed in Sections 5, 6, and 7, respectively) were found to be sufficient for Terraphase to evaluate for the existence of RECs, historical RECs (HRECs), controlled RECs (CRECs), and/or de minimis conditions as part of this Phase I ESA.

[1] www.envirostor.dtsc.ca.gov/public
[2] http://geotracker.swrcb.ca.gov/
[3] https://www.npms.phmsa.dot.gov/PublicViewer/
[4] http://www.epa.gov/envirofw/

5.0 INTERVIEWS

5.1 Interview with Current Owner Representatives

On January 9, 2017, an interview with the current owner's representative, Mr. James Tong with Grafton Street LLC. was conducted during the Subject Property reconnaissance visit. Mr. Tong said that he owned the property for 17 years. Historically, the property has been used for agricultural purposes, including hay production and grazing. Mr. Tong noted that no corrals, barns, or other structures related to agriculture were located on the property during his ownership. Mr. Tong reported that from 2005 to 2009, Toll Brothers set up a temporary sales office and construction trailers in the southern and northwestern portion of the Subject Site for onsite and adjacent residential construction projects. However, no fueling or maintenance activities were conducted on the Subject Property. Clearance soil sampling was conducted by Toll Brothers after the office trailers were removed from the property. Mr. Tong also identified the existence of the Berlogar Stevens & Associates (Berlogar Stevens) Phase I ESA dated December 21, 2016 (See Section 6.4). No RECS or environmental concerns were identified. Mr. Tong indicated that he has no knowledge of the following:

- any environmental records or specialized knowledge associated with the Subject Property
- environmental liens or AULs associated with the Subject Property
- chemical uses or releases associated with the Subject Property
- contamination and/or environmental cleanups associated with the Subject Property.

A questionnaire completed by Mr. Tong is provided in Appendix A.

5.2 Interview with Former Owner Representative

Interviews with the Subject Property owners prior to Mr. Tong were not conducted.

5.3 Interviews with Regulatory Agency Representatives

Terraphase contacted local, county, and state agencies via telephone, electronic mail, letter, or in person to inquire as to whether they possessed relevant records regarding the Site, as discussed in Section 4.3.

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6.0 HISTORICAL REVIEW

A variety of sources were reviewed to develop the history of the Site and adjacent properties to assess for environmental conditions at the Site. These resources included the following:

- aerial photographs, provided by EDR, and dated 1939, 1940, 1949, 1958, 1966, 1968, 1979, 1982, 1993, 1998, 2005, 2006, 2009, 2010, and 2012 (EDR 2016d);
- topographic maps, USGS Pleasanton, California, 15-Minute Quadrangle, dated 1906, and 1941; and USGS Livermore and West Dublin, California, 7.5-Minute Quadrangles, dated 1953, 1961, 1968, 1973, 1980, and 1959, 1973, 1980, 1995, 1996, and 2012, respectively (EDR 2016e); and
- city directories, provided by EDR, dated 1975, 1980, 1985, 1989, 1992, 1995, 1999, 2003, 2008, and 2013 (EDR 2016f).

Historical aerial photographs, topographic maps, and city directories were reviewed for the years listed above. City directory listings are described where significant findings were present or where they correspond with other historical documents. Historically and/or environmentally significant findings from the maps and photographs are summarized below. Copies of historical aerial photographs, topographic maps, and city directories are provided in Appendices E, F, and G, respectively.

Although requested by Terraphase, no Certified Sanborn® fire insurance maps or building permit records were available for the Subject Property. EDR's certification of no coverage (EDR 2016g) is provided in Appendix H and the building permit report (EDR 2016i) is included in Appendix I.

6.1 Aerial Photographs

1939 – 1968 Photographs – The Subject Property appears to be undeveloped or agricultural land, with the adjoining area to the northwest showing a few structures. The road for Highway 580 is shown to the south of the Subject Property. Undeveloped or agricultural land surrounds the property to the north, south, west, and east. By the 1949 photograph, the western portion of the Subject Property appears to have a small drainage stream going through it, and a dense set of structures is located further to the northwest, possibly for agriculture. Hay baling appears to be taking place on the property in the 1940 aerial photograph.

1979 – 1998 Photographs – The Subject Property appears to be agricultural land, with more development of streets in all directions. The road footprint for Highway 580 appears to be in current configuration to the south, and residential development shown south of Highway 580. By 1998, the structures to the northwest are gone, and Dublin Boulevard appears as an improved roadway.

2005 Photograph – In 2005 the Subject Property contains multiple trailers and appears to have been graded for development; a front entry structure is shown along Dublin Boulevard within a landscaped parking area. Additional trailers are shown along the Central Parkway and Chancery Lane portion of the Subject Property. Residential structures are developed on adjoining properties to the west and east;

undeveloped land still exists to the north and south. Devany Square (to the west along Finnian Way and Chancery Lane) is being developed. In 2006, the Subject Property appears similar to the 2005 photo; however, there are fewer trailers and less equipment on the Site. Grading and development to the north along Central Parkway is visible with no development of property to the south across Dublin Boulevard.

2009 Photograph - In 2009, all trailers and equipment that were previously on the Site have been removed, and the Subject Property appears to be vacant. Devany Square is completed (adjoining property to the west), new residential houses are visible across Central Parkway to the north, and a commercial shopping center is shown to the south-southwest, across Dublin Boulevard (Grafton Station).

2010 and 2012 Photographs - The Subject Property is in its current configuration and is vacant, undeveloped land.

2016 Google Earth satellite image - The Subject Property is vacant land surrounded to the east, north, and west by residential properties and a park (to the west), and to the south by a commercial shopping center (Grafton Station).

6.2 USGS Topographic Maps

1906 and 1941 Historical Topographic Maps – The Subject Property and the general vicinity is mostly undeveloped land in an area located east of Tassajara Creek, in Santa Rita. There is little development in the surrounding area.

1953, 1961, 1968, and 1973 Historical Topographic Maps – A general increase in urban development to the distant west and southwest of the Subject Property was observed. The Parks Air Force Base, Santa Rita Rehabilitation Center, and main hospital are shown to the west of the Site (across Tassajara Road) in the topographic maps from 1953 to 1973. Highway 580 is labeled Highway 50 (two lanes each direction) until 1973, when it is shown with the current highway number.

1980 Historical Topographic Map - Highway 580 is shown in its current configuration, and the Camp Parks Base is no longer identified. There is continued urban development south of Highway 580 and along Tassajara Road to the west.

2012 Historical Topographic Map - The Subject Property is surrounded by the current configuration of streets.

6.3 City Directories

The Subject Property has several proposed addresses; however, it has never been developed. One address associated with the Subject Property was identified as the following:

- 3448 Finnian Way: “Toll Brothers Inc” (2008)

Adjacent listings included individual residences on Finnian Way and both residential and commercial properties on Dublin Boulevard.

6.4 Prior Environmental Assessments

- *Phase I Environmental Site Assessment, Parcel Map 9717, APNs 985-78-2, 985-78-3, 985-78-4, 985-78-5, 985-78-6, and 985-78-7, Dublin Boulevard and Grafton Street, Dublin, California*, prepared by Berlogar Stevens, dated December 21, 2016.

  This Phase I ESA was performed on the 25.37-acre Site identified as Parcel Map 9717, comprising six separate parcels APNs 985-78-2, 985-78-3, 985-78-4, 985-78-5, 985-78-6, and 985-78-7, that is located on the north side of the intersection of Dublin Boulevard and Grafton Street, extending from Dublin Boulevard north to Central Parkway, in Dublin, California. Some previous grading, soil stockpiling, and construction equipment staging occurred on the property from approximately 2005 to 2009. The Site was undeveloped at the time of Berlogar Stevens's visit, with only vegetation and perimeter fencing.

  It was reported that during previous 2008-2009 soil sampling and analytical testing conducted by Berlogar Geotech, the imported soil fill was sampled on multiple occasions and analytical tests were performed to ascertain potential contaminant presence. Those results showed that analytes tested for were not detected in the soil samples and metals were present at levels attributed to natural occurrence. However, the presence of asphalt debris at the Site was suspected to be the source of low-level total petroleum hydrocarbon (TPH) detections.

  As part of the Phase I ESA, additional soil sampling and analysis for general soil quality was performed in the area of the 2008-2009 sample locations and at four locations areas along the eastern side of the Site that were not previously sampled. Soil analytical test results indicated some low-level detections of diesel range petroleum hydrocarbons, motor oil range petroleum hydrocarbons, CAM17 heavy metals, and organochlorine pesticides that were all below current Environmental Screening Levels (ESLs) for both commercial and residential land use for the San Francisco Bay Area (Berlogar Stevens 2016). The concentration of arsenic detected in the soil samples was above the current ESLs, however arsenic concentrations were considered to be present at background levels concentrations due to the minerology of the geologic units in the project area. No RECs or other indications of hazardous material contamination were identified at the Site, and no further investigation was recommended.

- *Analytical Soil Sampling and Testing, Promenade, Area G of Dublin Ranch, Grafton Street and Central Parkway, Dublin, California*, prepared by Berlogar Geotech, dated October 16, 2008.

  In 2008, Berlogar Geotech collected soil samples using a hand auger or drilling rig at several locations on the Subject Property within the 17-acre area between Central Parkway and Dublin Boulevard at the intersection with Grafton Street to assess the environmental quality of soil. The work was conducted for the Toll Brothers. At the Grafton North (June 20, 2008) location, 13 soil

samples were collected from 11 locations with a hand auger from the upper 2 feet in the northeast corner of the Site, analytical results indicated that the soil did not contain diesel range petroleum hydrocarbons above low levels representative of naturally occurring organics. At the Grafton South (July 3, 2008) location, four soil samples were collected with a hand auger from 0 to 1 foot below grade in the southwest corner of the Site. Analytical results indicated that the soil was not contaminated. At the Promenade (September 15 and 22, 2009) location, 32 samples were collected using a drilling rig from 0 to 1 foot below grade within a 150-foot grid. Analytical results indicated three samples contained VOCs above the San Francisco Bay Regional Water Quality Control Board (RWQCB) ESL, and three composite samples contained diesel and motor oil range petroleum hydrocarbons above the ESL. Subsequent to these detections, additional soil samples were collected from the Promenade in this area (October 9 and 12, 2009). Four shallow soil samples were collected with a hand auger at depths of 0.5 to 2.0 feet below grade and analyzed for various VOCs, semi-volatile organic compounds (SVOCs), nonhalogenated organics (TPH diesel and motor oil range organics), organochlorine pesticides, chlorinated herbicides, organophosphorus pesticides, polychlorinated biphenyls (PCBs), and CAM 17 metals. Analytical results indicated that most constituents were not detectable, including herbicides, pesticides, PCB, and TPH as gasoline. However, VOCs and SVOCs were detected and Berlogar Geotech concluded that surficial soil in the Promenade Site contains isolated areas with minor concentrations of diesel and motor oil range petroleum hydrocarbons that could be derived from "the demolition and spreading of asphalt, concrete, and leaks from vehicles and construction equipment". They also concluded that the existing soil at this Site could be used as commercial or industrial fill.

- *Analytical Testing of Existing Surface Soil, Grafton Center, Dublin Boulevard East of Landsdowne Street, Dublin, California*, prepared by Berlogar Geotechnical Consultant (Berlogar Geotech), dated July 15, 2008.

  Berlogar Geotech collected samples from a soil stockpile located in the northeastern area of the Subject Property to determine if any contamination was present. The soil was derived from grading activities conducted on the adjacent residential and commercial development. The stockpile averaged about 2 feet, and ranged from about 1-foot thick at the southern end to about 4-feet thick in the northwest corner. The area was reportedly open range land prior to this development. On June 20, 2008, thirteen bulk samples were obtained at random locations from soil stockpile from depths of 0.5 to 2 feet across the stockpile. The samples were analyzed for VOCs, SVOCs, nonhalogenated organics (diesel range petroleum hydrocarbons), organochlorine pesticides, PCBs, and CAM 17 metals. Although some analytes were detected, only arsenic was present at a concentration above all the agency screening levels, and vanadium was above the RWQCB remediation goal. Berlogar Geotech concluded that the concentrations of arsenic, chromium, and vanadium are typical of the background concentrations in Bay Area soils. They also concluded that the stockpiled soil at this Site is not considered to be contaminated and can be utilized as fill at most sites; however, the receiver of the soil should make the final determination as to the acceptance of this soil.

7.0 OTHER ENVIRONMENTAL CONDITIONS

Additional research was conducted to evaluate the potential hazards associated with the proposed school site location. The additional research guidelines were taken from DTSC and CDE guidance. The scope of work did not include testing of electrical equipment for the potential presence of PCBs, asbestos, or lead-based paints.

7.1 Power Lines

State regulations require that "*The property line of the site … shall be at least the following distance from the edge of respective power line easements: 1. 100 feet for 50-133 kV line; 2. 150 feet for 220-230 kV line; and 3. 350 feet for 500-550 kV line*."

According to the Alameda County Assessor's Office Parcel Viewer Website, and the overview map provided in the EDR Report, the Subject Property is not within the specified distances from a high-voltage power line easement and no overhead power lines or transmission lines were observed during the Site reconnaissance. Terraphase also reviewed voltage and powerline location information provided by PG&E and confirmed that no power lines above the voltage and distance guidelines are present.

7.2 Railroad Tracks

State regulations require that additional special studies be conducted if the proposed school site is within 1,500 feet of a railroad track easement. The closest railroad tracks are tracks associated with the Bay Area Rapid Transit (BART) line and are located approximately 5,300 feet to the southwest of the Subject Property, along Highway 580. However, BART intends to extend the rail line along Highway 580 to Livermore, which would bring the tracks within 1,500 feet of the school site. It is our opinion that, a non-freight commuter rail line poses little to no risk to adjacent properties and none to a site more than 1,000 feet from the tracks. BART provides sufficient safeguards and safety barriers, such as fencing, to protect pedestrians from any accidental access/crossing of the lines or contact with the electric third rail.

7.3 Traffic Noise and Major Roadways

The California Code of Regulations, Title 5, Section 14010(e), states: "*The site shall not be adjacent to a road or freeway that any site-related traffic and sound level studies have determined will have safety problems or sound levels which adversely affect the educational program*." CDE considers noise levels above 70 decibels to be distracting (CDE 2016). The Subject Property is located approximately 1,250 feet north of Highway 580, which has a traffic flow of 204,456 annual average daily trips as estimated in the 2010 Interstate 580 East Corridor System Management Plan, Volume 1, prepared by the California Department of Transportation (Caltrans), May 7, 2010. The City of Dublin General Plan, 2011 Existing Noise Exposure Contours map estimates the Subject Property will be exposed to between 60 and 65 decibels, which is projected to increase to between 60 and 70 decibels by the year 2035. Per the special route restrictions on the Caltrans website, there are no limitations on cargo hauling on the section of

Highway 580 near the Subject Property, therefore dangerous cargos are likely transported on Highway 580 every day.

Dublin Boulevard, which is located adjacent south of the Subject Property, is classified as an arterial road, meaning that it accommodates between 25,000 and 100,000 annual average daily trips (Alameda 2017, Dublin 2013). Terraphase recommends that a separate noise study be conducted at the Subject Property to verify that the noise complies with state regulations.

7.4 Flood/Dam Inundation

Terraphase contacted the California Governor's Office of Emergency Services (CGOES) on January 23, 2017, and requested current dam failure flood hazard inundation information. Ms. Lori Newquist, the Emergency Services Coordinator with the CGOES Mitigation Planning Division, responded with maps depicting dam failure inundation limits and flood arrival times for areas in and around the City of Dublin, including the Subject Property location. Terraphase cross-referenced the maps provided by the CGOES with historical topographic maps and determined that, although the southeastern corner of the Subject Property almost contacts the limits of inundation depicted on the CGOES maps, the Subject Property is not located within a dam failure inundation hazard area.

In addition, according to the Dublin General Plan, which is based on information from the FEMA Federal Flood Insurance Rate Maps of the area, the Subject Property is not within a 500- or 100-year flood plain.

7.5 High-Pressure Water Pipelines, Reservoirs, and Water Storage Tanks

No large water storage tanks or reservoirs were identified on or within 1,500 feet of the Site during the historical review or Site reconnaissance.

Terraphase contacted the Dublin San Ramon Services District (DSRSD) to identify water pipelines greater than 12 inches in diameter within 1,500 feet of the Subject Property. Based on information provided by Bonifacio Duenas at the DSRSD, several water mains, recycled water mains, and sewer mains with diameters of 12 inches in diameter and greater are present within 1,500 feet of the Site Subject Property. There are water mains of 14, 15, and 20 inches in diameter running along Dublin Boulevard adjacent to the South of the Subject Property, and there is a 12-inch diameter water main along Central Parkway adjacent to the North. A 12-inch diameter recycled water main runs along Central Parkway and two recycled water mains of 12 and 20 inches in diameter, respectively, run along Dublin Boulevard. A 30-inch diameter sewer main also runs along Dublin Boulevard, south of the Subject Property.

The presence of the pipelines in the vicinity of the school will require that a pipeline risk assessment for the Site be prepared which will assess the risks posed by a rupture or leak of the pipelines and propose mitigation measures if appropriate to mitigate the risks.

7.6 Propane Tanks

Propane tanks were not observed at the Site or on adjacent properties during the Site reconnaissance.

7.7 Geohazards

According to the Association of Bay Area Governments Resilience Program Liquefaction Susceptibility Map, the Subject Property is located in a zone of moderate susceptibility to liquefaction hazards (ABAG 2017a: http://gis.abag.ca.gov/website/Hazards/?hlyr=apZones). The California Geological Survey (CGS) (2008a, 2008b) maps the site as being in a liquefaction hazard zone.

7.8 Air Quality/Hazardous Facilities Within ½ Mile

Terraphase contacted the BAAQMD to identify sources of hazardous air emissions located within ½ mile of the Site. The BAAQMD informed Terraphase that two permitted facilities were located within ½ mile of the Subject Property. One permitted facility (Facility # 18054) is the Terraces Home Owner's Association, located 0.16 miles east of the Subject Property at 3448 Finnian Way, and is permitted for emissions associated with a standby generator. The second permitted facility (Facility # 19395) is the Lowes of Dublin, California, #2273, located 0.19 miles south of the Subject Property at Grafton Street and Northside Drive, and is also permitted for emissions related to a standby generator. The specific toxic pollutant information provided by the BAAQMD for each facility is included in Table 1. Any actual or potential health risks posed by the non-emergency operation of the standby engines can be mitigated by having the engine owner or operator agree to maintenance and reliability testing of such engines during non-school hour.

The City of Dublin Land Use Map (http://www.ci.dublin.ca.us/DocumentCenter/View/14514) does not indicate that any of the land located within ¼ mile of the Site will be used for industrial purposes.

7.9 Potentially Asbestos-Containing Material

Terraphase reviewed geologic maps of the area prepared by the CGS for the presence of ultramafic rocks, which are most likely to contain naturally occurring asbestos, near the Subject Property vicinity, within the Subject Property's watershed, or within 10 miles of the Subject Property. No ultramafic rock formations were mapped in the vicinity of the Subject Property or watersheds that would impact the Subject Property (CGS 2000). Therefore, it is unlikely that the Subject Property is affected by naturally occurring asbestos, unless it was brought in with the import fill.

7.10 Airport Runways

State regulations require that special procedures be followed if the proposed school site is located within 2 nautical miles of an airport runway. The southeastern corner of the Subject Property, which is nearest to the Livermore Municipal Airport Runway, is located approximately 1.75 nautical miles northwest of Livermore Municipal Airport Runway, as measured on Google Earth®. The Livermore Municipal Airport Runway is the nearest airport runway to the Subject Property. As the Site is within 2 nautical miles of an airport, the Caltrans Aeronautics Program, Office of Airports will need to be consulted regarding the suitability of the Site for school purposes. Regulations concerning the school site's proximity to runways are contained in Education Code Section 17215 [as amended by Assembly

Bill 747, Chapter 837, Statutes of 1999; see CCR, Title 5, Section 14011(k)]. Terraphase recommends that a letter outlining the proposed school site and the location of the Livermore Municipal Airport be prepared and submitted to the CDE for processing.

7.11 Pipelines

Terraphase reviewed the NPMS public viewer website for gas transmission pipelines and hazardous liquid trunk lines on or close to the Subject Property. According to the information on the NPMS, one natural gas transmission pipeline owned by PG&E (operator ID 15007, pipeline ID 22308.32, system name 2408-05) is located along the south side of Highway 580 approximately 1,450 feet south of the southern boundary of the Subject Property, (Pipeline and Hazardous Materials Safety Administration [PHMSA] online: https://pvnpms.phmsa.dot.gov/PublicViewer/#).

The presence of the pipeline in the vicinity of the school will require that a pipeline risk assessment for the Site be prepared which will assess the risks posed by the pipelines and propose mitigation measures if appropriate to mitigate the risks.

7.12 Other Naturally Occurring Materials

7.12.1 Metals and Metalloids

Background concentrations of arsenic in California can typically range up to 11.0 milligrams per kilogram (mg/kg) and it is likely, based on previous sampling at the Site, that naturally occurring arsenic levels in soils at the Site exceed the U.S. EPA Residential Screening Level, as modified by the Human and Ecological Risk Office (HERO) Note 3 (DTSC 2016) for arsenic of 0.11 mg/kg.

7.12.2 Hydrogen Sulfide

No evidence of potential sources of hydrogen sulfide (e.g., sewage sludge, liquid manure, sulfur hot springs, or natural gas) was noted during the Site reconnaissance or during the sources review for this Phase I ESA.

7.12.3 Radon

Sections 307 and 309 of the Indoor Radon Abatement Act of 1988 directed the U.S. EPA to list and identify areas of the U.S. with the potential for elevated indoor radon levels. U.S. EPA's Map of Radon Zones (EPA-402-R-93-071) assigns each of the 3,141 counties in the U.S. to one of three zones based on radon potential:

- Zone 1 counties have a predicted average indoor radon screening level greater than 4 picocuries per liter (pCi/L).
- Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L.
- Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L.

The Geocheck Physical Setting Source Map Findings for radon, based on such factors as indoor radon measurements, geology, aerial radioactivity, and soil permeability, the U.S. EPA has designated Alameda County as Zone 2, with moderate radon concentrations at average levels between 2 pCi/L and 4 pCi/L. Radon concentrations at, or above, 4 pCi/L are considered to be of environmental concern to California EPA and U.S. EPA.

The California Department of Public Health's (CDPH's) Radon Program provides a list of radon test results from throughout the state which are sorted by zip code. According to the database, 27 tests were conducted at sites in the same zip code as the Subject Property, only one of which had results that exceeded 4 pCi/L, with a radon concentration of 5.5 pCi/L (CDPH 2016). Therefore, it is unlikely that radon is a significant hazard for the Subject Property. Radon testing was not performed at the Subject Property and was beyond the scope of work for this Phase I ESA.

7.13 Agricultural Use

As discussed in Section 6, it appears that the Site has historically been used for agricultural purposes, reportedly for grazing and growing hay, and possibly for row crops from approximately 1939 to the mid-1990s.

7.14 Mines

The Subject Property does not appear to have been used as a mine; therefore, it is not expected that the Site would contain abandoned or inactive mine waste.

7.15 Former Government Ownership

The Site was not listed as a Formerly Used Defense Site (FUDS) in the EDR Report. The Parks Reserve Forces Training Area is located in Dublin (formerly Camp Parks) and historically encompassed a larger area of Dublin than the current boundaries. A review of historical boundaries of the military installation indicate they did not extend east of Tassajara Road[5], and no evidence of historical military ownership or use of the Site was identified during the review of publicly available information for this Phase I ESA. Therefore, there is a low likelihood that munitions or explosives of concern are present at the Site.

7.16 Current or Past Residential Use

Based on the historical aerial photographs, it does not appear the Site has ever been developed for residential purposes. Plans were prepared for a multi-family residential development with retail shops, but the developer did not complete the project due to an economic downturn.

7.17 Lead Based Paint

The Subject Property has been historically undeveloped, except for usage as a temporary staging area for equipment, materials, and temporary offices/trailers and during construction and development of

[5] http://www.militarymuseum.org/FleetCity.html

surrounding parcels, as depicted in the 2005 and 2006 aerial photos. Based on the lack of permanent structural development, there is a low likelihood that lead-based paint was ever used at the Subject Property.

7.18 Easements

Terraphase examined property deed information for the Subject Property provided in the EDR Environmental Lien and AUL Search (Appendix B). There are no easements recorded in the deed information provided by EDR.

7.19 Petroleum Deposits

No evidence of petroleum deposits or use at the Site was observed during the Site reconnaissance or during review of the sources referenced for this Assessment. In addition, there is no evidence of the presence of oil fields, oil and gas wells, oil production areas, natural gas production areas, oil or natural gas reserves, storage tanks and dispensing systems, or sources of methane or hydrogen sulfide. In addition, Terraphase reviewed the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (CDCDOGGR) Online Mapping System database for oil and gas well locations within 1 mile of the Site. There were no wells interpreted to be located within a 1-mile radius of the Site.

7.20 Fill Material and Debris

A previous study on the soil fill at the Site was performed by Berlogar Geotech in 2008-2009. Several areas of imported soil fill were identified over a large portion of the Subject Property. These soil fill areas appeared to vary up to several feet thick depending upon location. The fill areas contained varying amounts of gravel, broken asphaltic concrete, concrete, geotextile fabric, and plastic pipe. The soil was apparently generated and imported from nearby construction activities around the subject property. The imported soil appears to have been placed for anticipated future site use, including use for pads for construction trailers, gravel for access roads, and rough grading of areas for construction materials and equipment storage during construction of the surrounding residential projects. The results of analytical testing performed on samples of soil fill are described on Figure 3 – Historical Soil Results and are discussed in Section 6.4. However, imported fill material was not adequately sampled and analyzed for residential/school use. Terraphase can provide a workplan for additional soil fill analysis if requested.

7.21 Illegal Drug Manufacturing

No evidence of illegal drug manufacturing was noted on the Site during the Site reconnaissance. A review of the National Clandestine Laboratory Register (https://www.dea.gov/clan-lab/ca.pdf) maintained by the United States Department of Justice did not identify any onsite facilities at the Site, or within the City of Dublin.

7.22 Surface Drainage

Because no “releases” or “naturally occurring” hazardous materials have been documented at the Site, an evaluation of surface drainage pathways was considered to be beyond the scope of work for this Assessment and is not provided herein.

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8.0 SUBJECT PROPERTY RECONNAISSANCE

8.1 Methodology and Limiting Conditions

On January 9, 2017, Ms. Melissa McAssey and Ms. Laurie Israel of Terraphase conducted a reconnaissance visit of the Subject Property to assess current land-use activities and environmental conditions. The Site reconnaissance visit was documented with notes and photographs. Observations made during the reconnaissance visits are discussed below and a photograph log is provided following the figures. The focus of the reconnaissance is to identify conditions that have the potential to cause adverse environmental impacts.

As part of the reconnaissance, Terraphase searched for evidence of the presence, use, or storage of hazardous substances, including but not limited to the following:

- areas of disturbed or discolored soil;
- suspect equipment and/or building materials which may contain hazardous substances;
- areas of distressed vegetation;
- wastewater discharge areas;
- evidence of storage tanks/septic systems;
- waste management/disposal areas;
- lagoons, pits, or sumps;
- surface water management areas; and
- stained surfaces, etc.

8.2 Site Reconnaissance Observations

8.2.1 Current Use of the Property and General Observations

The Subject Property is currently vacant land with utility improvements. The entrance to the Site is located at Grafton Street and Dublin Boulevard, and has barricades before the cyclone fence (Photograph 1). The southeastern corner of the Subject Property contained ponding of rainwater due to poor grading (Photographs 2 and 3). Additional ponding of rainwater was observed on the northwestern side of the Site, near the intersection of Central Parkway and Chancery Way (Photograph 7). Devany Square Park is located along the western side of the Site off Chancery Lane and Finnian Way (Photograph 8). Several aboveground and underground transformers (owned by PG&E) were observed along the perimeter of the Site (Photograph 9). A concrete pad was identified in the southwest corner of the Site with two polyvinyl chloride (PVC) piezometer pipes and one large open PVC pipe; the purpose of this setup was not identified (Photograph 12). Several concrete-capped manholes for storm water and sanitary sewer, and smaller concrete encased water boxes (some marked “recycled water”) are located along the perimeter of the Site (Photographs 10, 13, 14, 15, 18 and 19). Several small surface depressions and fenced drainage areas were observed (Photograph 16). Most of these are in the vicinity of a temporary road that is assumed to be within the proposed alignment of Finnian Way (eastern locations Photograph 4; western locations Photograph 19). Some debris (paper, broken plastic, wood) is

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scattered on the property, including a small fire extinguisher and a large concrete circular section (Photograph 20) in the northeastern and northwestern parts of the Subject Property, respectively. The Site is bound to the east, north, and west with multi-family residential adjoining properties, and to the south by a commercial shopping center and undeveloped lot. The perimeter of the Subject Property contains cyclone fencing, with additional fencing between the northern and southern extents of the Site.

8.2.2 Subject Property Interior and Exterior Observations

No buildings exist at the Site. Only exterior observations were made.

Element	Observation
Current or former USTs	None observed.
Current or former ASTs and silos	None observed.
Polychlorinated biphenyl (PCB)-containing equipment	None observed.
Hazardous materials and/or petroleum product use/storage	None observed.
Hazardous waste	None observed.
Drums or other containers	None observed.
Non-hazardous solid waste	Some trash and debris were observed, including a fire extinguisher and concrete ring.
Wastewater	None observed.
Floor drains, sumps, and drywells	None observed.
Odors	None observed.
Stains, pitting, or corrosion (interior areas)	None observed.
Stained or corroded exterior surfaces	None observed.
Pools of liquid	Pools of rainwater were observed along the eastern and western boundaries.
Pits, ponds, or lagoons	None observed.
Stressed vegetation	None observed.
Storm water	None observed.
Onsite water wells	None observed.
Septic systems	None observed.
Other petroleum product transmission/storage	None observed.

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8.2.3 Adjoining Property Observations

During the reconnaissance, Terraphase observed the adjoining properties from public roadways and the Subject Property. The purpose of these observations was to identify obvious uses or conditions at the adjoining properties likely indicative of a REC at the Subject Property.

The Subject Property is in a densely populated residential area, and is surrounded to the north, west, and east by multi-family houses (apartments and/or condominiums). The Subject Property is bound to the west by Devany Square park, to the south-southwest by Dublin Boulevard and a commercial shopping center – Grafton Station, and to the southeast by an undeveloped lot.

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9.0 FINDINGS AND CONCLUSIONS

Terraphase has performed a Phase I ESA of the Subject Property in conformance with the scope and limitations of ASTM Practice E1527-13. Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report. The Subject Property was used for agricultural row crops, and grazing, from approximately 1939 to the mid-1990s. The Subject Property appears to have been used in relation to the surrounding residential construction between 2005 and 2009. Utilities were installed (water, sewer, and storm water lines) and preliminary grading and development planned, but the proposed residential development activities ended in 2009. No other use or development appears to have occurred since 2009.

Grading, soil stockpiling, and construction equipment staging occurred on the Subject Property from 2005 until 2009. The Site was graded for a housing development and several office trailers and storage structures were stored onsite. The Dublin Ranch Area G corporation/sales yards (sales trailers and locations) were situated at 3501 Dublin Boulevard, near the southern portion of the Site (at Grafton Street).

A Phase I ESA that included additional soil sampling was performed in 2016 by Berlogar Stevens and Associates for Grafton Station LLC, courtesy of Charter Properties, Inc., to determine if prior use as a construction staging area caused environmental impairment to the Subject Property, and to evaluate if contaminants of concern were present in soil. This work included collection and analysis of shallow soil samples, all collected from between 0.5 and 2 feet bgs across the Subject Property. In 2008 and 2009, soil sampling and analytical testing of the upper two feet of imported fill soil was conducted by Berlogar Geotechnical Consultants (Berlogar Geotech), who concluded that soil at the Site was not contaminated with volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), herbicides, pesticides, polychlorinated biphenyls (PCBs), and gasoline range petroleum hydrocarbons (TPHg). However, isolated areas of low concentrations of diesel (TPHd) and motor oil range (TPHmo) petroleum hydrocarbons were detected that were concluded to likely be from demolition activities including the spreading of asphalt and leaks from vehicles and construction equipment. The soil was deemed useful as commercial or industrial fill. From the 2016 shallow soil sample analyses, Berlogar Geotech concluded that detectable concentrations of TPHd and TPHmo ranged from 1.1 to 75 milligrams per kilogram, which were below the current ESLs for residential and commercial land use. Samples along the eastern portion of the Site contained low level detectable concentrations of organochlorine pesticides and CAM 17 Metals. The reported concentrations were below current ESLs for residential and commercial land use with the exception of arsenic, chromium, and vanadium which Berlogar Geotech further concluded were typical of soils in the Bay Area.

9.1 RECs

A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a

release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Terraphase identified the following RECs during this Phase I ESA:

- The Site has been historically undeveloped agricultural land, and although predominantly used as grazing land, row crops are visible in historical aerial photographs indicating a potential for agricultural chemicals to be present in shallow soil at the Site, beneath the layer of fill material imported to the Site.
- Fill material was imported to the Site from undocumented sources prior to construction activities in 2005. Prior soil sampling of the fill is insufficient to characterize the material for residential/school use.

9.2 Controlled RECs

Terraphase identified no CRECs during this Phase I ESA.

9.3 Historical RECs

Terraphase identified no HRECs during this Phase I ESA.

9.4 De Minimis Conditions

Terraphase did not identify any de minimis conditions during this Phase I ESA.

9.5 Data Gaps

A data gap is a lack or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. One data gap was identified: The Phase I ESA questionnaire was not returned by the User. The lack of the User questionnaire is not considered to be a significant data gap.

9.6 Deviations and Non-Scope Services

In performance of this Phase I ESA, Terraphase has identified no exceptions or deviations from the ASTM E1527-13 standard of practice.

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10.0 RECOMMENDATIONS

This Phase I ESA presents Terraphase's interpretation of the information with respect to RECs at the Site, following ASTM E1527-05 and 2017 CDE and DTSC school reporting guidelines. The Phase I ESA concludes that further investigation through a Preliminary Endangerment Assessment (PEA) is needed. The Phase I ESA also demonstrates that the potential release at the Site of hazardous materials may pose a threat to public health or the environment. Therefore, Terraphase makes the following recommendations:

- The Site may have historically been used for hay and row crops; therefore, the potential for the presence of pesticides at the Site exists in the soil beneath the imported fill in accordance with *DTSC Interim Guidance for Sampling Agricultural Properties (Third Revision)* (DTSC 2008). Although the guidance document states that it is not applicable to former agricultural sites that have received fill, the guidance document is still used as a basis for assessing the soil beneath the fill material. Based on this guidance, sampling the shallow native soil for organochlorine pesticides (U.S. EPA Method 8081B) and arsenic is recommended. Care will be needed in the field to assess where the fill/native soil surface lies so that samples of the native soil are collected.

- While Berlogar Geotech conducted extensive studies of the fill material brought to the Site, and conducted additional sampling for diesel range petroleum hydrocarbons in other areas of the Site, the presence of pesticides and arsenic in the underlying native soils does not appear to have been addressed. In addition, a review of the sampling results indicated that the previous sampling at the Site of the imported fill material was not adequate for residential/school use. Therefore, additional sampling of the fill at the Subject Property is recommended.

In addition, the following recommendations are made based on CDE school siting guidelines:

- Conduct a specific geological study at the Site to comply with the CGS Note 48 requirements.

- Conduct a pipeline risk assessment for large-diameter water and natural gas pipelines in the vicinity of the Site.

- Conduct a separate noise study at the Site to verify that the noise complies with state regulations or if mitigation measures will be required.

- Prepare a letter outlining the proposed school site and the location of the Livermore Municipal Airport (within two nautical miles) and submit it to the California Department of Education for processing.

- Due to the Site's proximity to the proposed BART track extension (within 1,500 feet), Terraphase recommends obtaining a letter signed by a California professional civil engineer indicating that the potential BART tracks do not pose a significant threat to the Site.

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- Conduct a ¼ mile survey around the proposed school site location. This survey should include a reconnaissance around the site to visually assess whether any buildings have placards indicating the presence of hazardous materials, drums, or unpermitted exhaust stacks. If the survey identifies any hazardous materials within ¼ mile of the school site, appropriate mitigation measures should also be recommended.

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12.0 QUALIFICATIONS OF STAFF

Laurie Israel

Laurie Israel is an Associate Environmental Scientist with over 26 years of experience in the environmental consulting industry. Ms. Israel has been the Project Manager for over 500 Phase I ESAs on a variety of industrial, municipal and agricultural properties. She is an experienced Project Manager for Phase II site investigations for contaminated soil, soil vapor, groundwater, and surface water. Her experience with Phase I ESAs has included a variety of sites, including residential subdivisions, school sites, commercial properties, auto sales and service properties, agricultural and preservation sites, apartment complexes, FUDS, and sites for the El Dorado Country Transportation Division.

Ms. Israel meets the requirements of an "Environmental Professional" as described in EPA's All Appropriate Inquiries Rule.

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PHASE II INVESTIGATION REPORT
THE NEW 2ND COMPREHENSIVE HIGH SCHOOL
DUBLIN BOULEVARD AND CHANCERY LANE
DUBLIN, CALIFORNIA 94568

Prepared for

Dublin Unified School District
7471 Larkdale Avenue
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Prepared by

Terraphase Engineering Inc.
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December 2019

Project Number 0098.003

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1 Site Location
2 Site Map
3 Conceptual Site Model
4 Sample Compositing Strategy
5 Arsenic and Lead Concentrations
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APPENDIX

A Soil Sampling Locations from Previous Site Assessments
B Boring Logs
C Laboratory Analytical Reports
D Historical Sample Results

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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
BGC	Berlogar Geotechnical Consultants
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
COC	chain-of-custody
COPCs	contaminants of potential concern
CSM	conceptual site model
the District	Dublin Unified School District
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
DTSC-SL	Department of Toxic Substances Control Human and Ecological Risk Office Modified Screening Levels
Enthalpy	Enthalpy Analytical
EPA	United States Environmental Protection Agency
EPC	exposure point concentration
ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
Forensic	Forensic Analytical Laboratories
HI	hazard index
HQ	hazard quotient
HERO	Human and Ecological Risk Office
mg/kg	milligrams per kilogram
NC	neighborhood commercial
OCPs	organochlorine pesticides
PAHs	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PD	planned development
PEA	Preliminary Endangerment Assessment
Phase II Report	Phase II Investigation Report
REC	Recognized Environmental Concern

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RSL	Regional Screening Level
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
the Site	the former Promenade site located at the intersection of Dublin Boulevard and Chancery Lane in Dublin, California
SVOC	semivolatile organic compound
Terraphase	Terraphase Engineering Inc.
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-g	total petroleum hydrocarbons quantified as gasoline
TPH-mo	total petroleum hydrocarbons quantified as motor oil
USCS	Unified Soil Classification System
VOC	volatile organic compound

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1.0 INTRODUCTION

On behalf of the Dublin Unified School District ("the District"), Terraphase Engineering Inc. (Terraphase) has prepared this Phase II Investigation Report ("Phase II Report") for the former Promenade site located at the intersection of Dublin Boulevard and Chancery Lane in Dublin, California ("the Site"). The former Promenade site consists of approximately 24 acres of former agricultural land bounded to the north by Central Parkway, to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane (Figure 1). The District is nearing completion of negotiations to acquire the Site to construct the "New 2nd Comprehensive High School". The new school will provide 94 classrooms and have a capacity of 2,585 students.

Terraphase completed Phase I and II due diligence investigations of the Site on behalf of the District in 2018 and 2019.

This Phase II Report was prepared by Terraphase for submittal to the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) as part two of a Preliminary Endangerment Assessment (PEA) equivalent. Part one of the PEA equivalent, a Phase I Environmental Site Assessment (ESA) Report, was submitted to the DTSC with an Environmental Oversight Program Application Agreement application on November 8, 2019.

1.1 Purpose and Objectives

The Phase II Report is intended to identify whether a release or threatened release of hazardous substances exists at the Site and to evaluate the potential risk to human health and/or the environment.

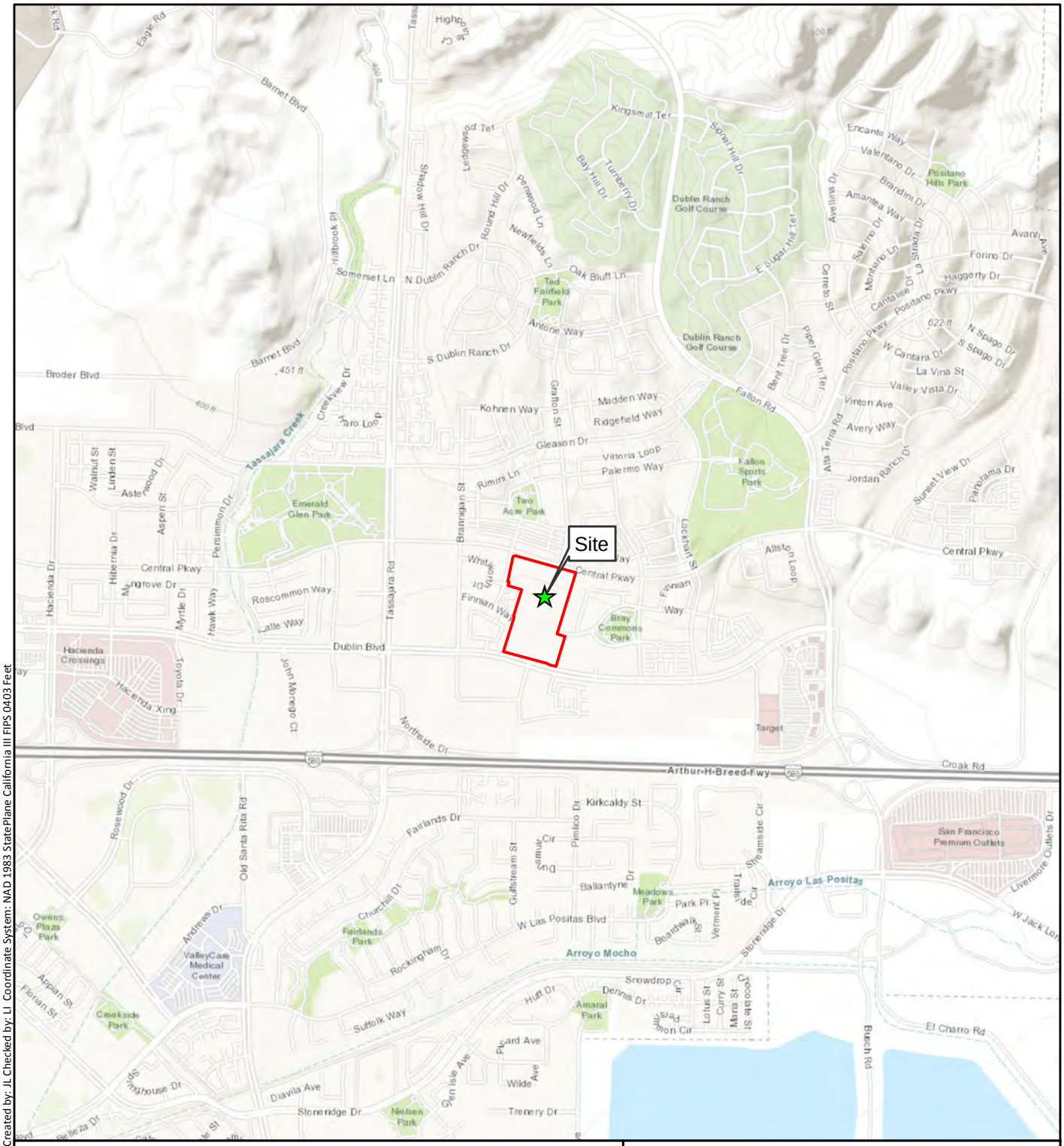
The overall objectives of the Phase II include the following:

- Evaluate historical information regarding the past use, storage, disposal, or release of hazardous wastes and/or substances at the Site;
- Conduct a field sampling and analysis program to characterize the nature, concentration, and extent of any hazardous wastes and/or substances present at the Site; and
- Estimate the potential threat to public health and/or the environment posed by identified hazardous constituents at the Site using a residential land use scenario.

Using information developed during the Phase II and conservative human health risk evaluation, DTSC can make an informed decision regarding potential risks, if any, posed by the Site. Possible decisions that the DTSC can make include the following:

- The requirement for further assessment through the remedial investigation and feasibility study process if the Site is found to be significantly affected by hazardous substances;
- The need to perform a removal action for areas where localized impacts by hazardous substance(s) and/or release(s) are found; or

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0 700 1,400 2,100 2,800 Feet

1 inch = 2,000 feet

N

Legend

Site Location

Base Map: USGS Dublin/Livermore 7.5 Minute Quadrangles

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CLIENT: Dublin Unified School District

PROJECT: Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Site Location

FIGURE 1

File: K:\GIS\Prj\0098 DUSD\MXDs\Site Locus.mxd 8/7/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

- Issuance of a "No Further Action" letter if the Site is found not to be affected or if risks to human health and the environment are found to be within acceptable levels based on the conservative screening-level risk assessment.

1.2 Scope of Work

The scope of the Phase II investigation is intended to address Recognized Environmental Conditions (RECs) identified in the Phase I ESA prepared for the Site by Terraphase dated April 29, 2019 (Terraphase 2019). The following RECs were identified in the Phase I ESA:

- Fill material was previously imported to the Site. Based on information reviewed (and presented in Section 2.0), it appears that the soil may have been imported from the surrounding area as part of development activities in the area that occurred prior to 2005. While Berlogar Geotechnical Consultants (BGC) and Berlogar Stevens (herein referred to as BGC) conducted sampling of the fill material brought to the Site, most of the soil samples were composited prior to analysis. Additionally, BGC did not collect samples of the fill for asbestos analysis.

- The Site was historically used for row crops; therefore, there is a potential for agricultural chemicals to be present in shallow native soil, beneath the layer of fill material imported to the Site. It is unlikely that the Site was ever irrigated. The underlying native soils were not assessed for organochlorine pesticides (OCPs) by BGC when fill samples were collected.

Based on the findings of the Phase I ESA, additional investigation of the Site was recommended to address the above RECs, as follows:

- Per DTSC Interim Guidance for Sampling Agricultural Properties, Third Revision (DTSC 2008), for sites that were dry-land farmed, one soil sample should be collected from each quadrant of the Site within the native soil. The samples should be analyzed for OCPs, lead, and arsenic.

- Soil samples of the import fill should be further assessed for total petroleum hydrocarbons (TPH), metals, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and asbestos.

To meet the above objectives and address the RECs identified in the Phase I, Terraphase performed the following work:

- Advancement of 16 soil borings to depths ranging from 5 feet below ground surface (bgs) to 12 feet bgs, and collection of the following soil samples for analysis of the contaminants of potential concern (COPCs) identified at the Site:

  - 16 discrete samples from native soil, approximately 1.5 to 5 feet bgs, for analysis of OCPs, lead, and arsenic;

  - 1 discrete sample from native soil, approximately 1.5 feet bgs, for analysis of metals, PCBs, TPH, SVOCs, polycyclic aromatic hydrocarbons (PAHs), and asbestos;

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- 15 discrete samples from imported fill, approximately 0.5 to 1.5 feet bgs, for analysis of metals, PCBs, TPH, SVOCs, PAHs, and asbestos;
- 4 four-point composite samples from the imported fill, approximately 0.5 to 1.5 feet bgs for analysis of OCPs, metals, PCBs, TPH, SVOCs, and PAHs; and
- 4 four-point composite soil samples from the native soil, approximately 1.5 to 5 feet bgs for analysis of OCPs and metals.

- Obtained analytical laboratory data from the soil samples of sufficient quality and detection limits to allow comparison to applicable residential screening levels for the Site. The applicable screening levels are presented in Section 4.6.
- Estimated the potential threat to public health and/or the environment posed by known hazardous constituents at the Site using a conservative unrestricted land use scenario.

1.3 Significant Assumptions

This report provides appropriate inquiry into the previous ownership and use of the Site consistent with good commercial and customary practice in an effort to minimize liability. Terraphase also assumes that the information provided by the District, previous landowners, the regulatory database provider, and regulatory agencies is true and reliable.

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2.0 SITE DESCRIPTION

The Site is approximately 24 acres in size and is located on the corner of Dublin Boulevard and Chancery Lane. The property is identified with six separate Assessor's Parcel Numbers (APNs): APNs 985-78-2, 985-78-3, 985-78-4, 985-78-5, 985-78-6, and 985-78-7.

The Site was previously agricultural land, predominantly used for grazing. A housing project was started at the Site from 2005 to 2009. Utilities were installed and fill material was brought onto the Site, but the developers did not complete the project. A Site Map showing Site features is provided as Figure 2.

The Site is currently vacant commercial land and is owned by Grafton Station, LLC. Previous use codes indicate that the parcels were once part of a housing development project. Per the City of Dublin Zoning Land Use, the Site is zoned as a planned development (PD) and general land use as neighborhood commercial (NC).

The Site is surrounded by residential communities to the north (across Central Parkway), west (adjoining and across Chancery Lane), and east (adjoining), Devany Square park to the west, and vacant land to the southeast (across Dublin Boulevard). The Grafton Street retail center is located to the south-southwest of the Site (Figure 2).

The Site will be developed into a school containing approximately 94 classrooms with a capacity for 2,585 students.

2.1 Site Geology and Hydrogeology

According to information obtained in the Phase I ESA report (Terraphase 2019), the topography of the Site is relatively flat with a slight downward slope to the southwest. The elevation of the Site is approximately 356 feet above mean sea level.

The Site is located within the San Ramon Valley, a northwest-trending depression extending north from the western terminus of the Amador Valley structural basin which nearly bisects the Diablo Range of the Coast Range Geomorphic Province. The local topography consists of northwest-trending ridges and valleys dominated by the San Andreas Fault System where the ridges are typically composed of resistant sandstones or marine volcanics, and the valley areas are relatively deep alluvial deposits.

During the 2018 Phase II investigation at the Site, Terraphase observed black clayey sands and clays with organic material below the fill material at the Site up to 9.5 feet bgs. According to information provided in a PEA conducted for the nearby Dublin High School Campus, located approximately 3.4 miles to the northwest of the Site, the Site is underlain by alluvium deposited from the surrounding highlands during the Holocene (5,000 to 7,000 years before the present) to late Pleistocene (11,000 to 70,000 years before the present). The alluvium underlying the site consists of unconsolidated, permeable sand and silt generally extending 20 to 30 feet deep deposited over older, weakly-consolidated irregularly interbedded clay, silt, sand, and gravel. Permeability decreases in the older, more consolidated sediments compared to the surficial site soil (LFR 2008).

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Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

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CLIENT: Dublin Unified School District

PROJECT: Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, CA

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Site Map

FIGURE 2

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Per the California Geological Survey's Fault Activity Map of California, the northwest-trending Calaveras Fault, which lies at the western edge of the San Ramon and Amador Valleys, is the nearest active fault and located approximately 3.5 miles west of the Site (CGS 2010). The Site does not lie within an Alquist-Priolo Special Studies Zone for known active faulting.

The nearest significant surface-water body is Tassajara Creek which is located approximately 0.8 mile west of the Site. The Site is located outside the 100- and 500-year flood plain areas.

According to LFR's 2008 PEA investigation report prepared for the nearby Dublin High School, groundwater may vary in depth as a result of seasonal variations and municipal withdrawal (LFR 2008). In an updated conceptual site model (CSM) prepared by ENGEO for a site approximately 0.2 mile northeast from the site, groundwater was present in thin, perched, laterally discontinuous lenses (ENGEO 2013). BGC reported that groundwater was present between 16.5 and 18 feet bgs on the Site at the time of their geotechnical investigation (BGC 2008). According to ENGEO's 2013 CSM, regional groundwater is expected to flow south-southwest considering the surface topography for the region, as interpreted from the Livermore Quadrangle map (ENGEO 2013).

2.2 Prior Site Assessments

Several investigations were conducted at the Site from 2008 to 2016 by BGC on behalf of the Toll Brothers. The results of previous analytical testing performed by BGC on samples of imported fill material were detailed in the Phase I ESA (Terraphase 2019) and are summarized below. Appendix A contains a Site Map showing the locations of the previous soil sampling locations. Analytical results from the previous Site assessments were compared to screening levels identified as the DTSC's Human and Ecological Risk Office (HERO) Modified Screening Levels (DTSC-SLs) provided in the DTSC HERO Note 3 (2018) for residential soil screening levels. These data were reviewed again however, as described in Section 6.0 using 2019 screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011).

In 2009, BGC collected numerous soil/fill samples across the Site at depths of 0 to 1-foot bgs. Discrete samples were submitted for laboratory analysis of volatile organic compounds (VOCs), SVOCs, TPH-g, TPH-d, TPH-mo, OCPs, PCBs, and metals. Again, with the exception of arsenic, analytes were not detected above the screening levels defined above. In general, the detection limits were below the screening levels, with the exception of several SVOCs, which are detailed on Table 6 of the Phase I ESA (Terraphase 2019). Low levels of TPH-d and TPH-mo were detected in the soil samples (Table 2 of the Phase I ESA; Terraphase 2019), which BGC attributed to asphalt being present in the samples submitted for analysis. In October 2009, select locations from the September 2009 sampling were resampled and analyzed for TPH-d and TPH-mo. TPH-d and TPH-mo were not detected in the soil samples above the screening levels defined above (Table 2 of the Phase I ESA; Terraphase 2019).

In December 2016, BGC completed a Phase I ESA for the Site, and as part of the Phase I, soil sampling and analysis for general soil quality was performed. Samples were collected and submitted for analysis of VOCs, TPH-d, TPH-mo, OCPs, PCBs, metals, and SVOCs (Appendix A).

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With the exception of arsenic, analytical results were consistent with previous investigations and were not detected above the screening levels defined above. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011). In general, the detection limits were below the screening levels defined above, with the exception of several SVOCs, which are detailed on Table 6 of the Phase I ESA (Terraphase 2019).

The BGC Phase I did not identify any RECs or other indications of hazardous material contamination at the Site, and no further investigation was recommended.

2.3 Information Provided by the Current Owner Representative

Mr. James Tong with Grafton Street, LLC, the current owner's representative, was interviewed by Terraphase on March 14, 2019. Mr. Tong stated that he owned the property for 17 years. Historically, the property has been used for agricultural purposes, including hay production and grazing. Mr. Tong noted that no corrals, barns, or other structures related to agriculture were located on the property during his ownership. Mr. Tong reported that from 2005 to 2009, Toll Brothers set up a temporary sales office and construction trailers in the southern and northwestern portions of the Site for onsite and adjacent residential construction projects. However, no fueling or maintenance activities were conducted onsite. Clearance soil sampling, which was performed by BGC on behalf of the Toll Brothers, was conducted after the office trailers were removed from the property and is detailed in Section 2.2.

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3.0 CURRENT ENVIRONMENTAL SETTING

3.1 Conceptual Site Model

A CSM depicting the potential sources of contamination, transport mechanisms, exposure routes, and receptors is depicted on Figure 3. The current CSM identifies the potential sources of contamination discussed in Section 2.0. Potential exposure routes to the identified receptors include ingestion, inhalation, and/or direct contact with affected soil.

3.2 Factors Related to Soil Pathways

The Site is relatively flat with a slight downward slope to the southwest. The elevation of the Site is approximately 356 feet above mean sea level.

As detailed in Section 2.1, the Site is located in the Coast Ranges Geomorphic Province of California, an area characterized by a series of northwestern trending ridges and valleys dominated by the San Andreas Fault System.

The Site is currently fenced and vacant. The nearest current sensitive receptors to the Site are the local residences surrounding the Site. The possible routes of exposure for the surface soil pathway would be dermal contact and incidental soil ingestion.

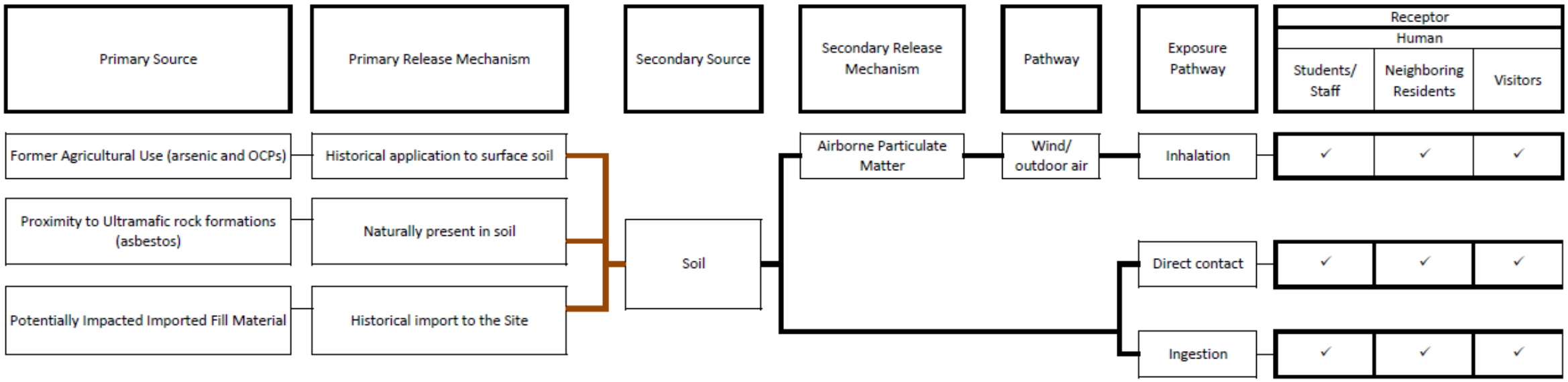
3.3 Factors Related to Water Pathways

Currently, residual concentrations of COPCs are likely to be limited to shallow soil. Because the COPCs identified at the Site are related to surface soil releases, the potential for COPCs to impact groundwater at the Site is considered to be minimal. In addition, groundwater is not used as a drinking water source at the Site and no surface water features were identified at the Site. Therefore, no exposure pathways related to water were currently identified at the Site.

3.4 Factors Related to Air Pathways

Inhalation of chemically impacted dust that is not currently covered by pavement or landscaping is a potential exposure pathway.

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The New 2nd Comprehensive High School, Dublin, CA

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Conceptual Site Model

FIGURE 3

4.0 SAMPLING ACTIVITIES

The following subsections describe the activities completed at the Site by Terraphase as part of the Phase II Investigation conducted in May 2018. The sampling locations are shown on Figures 4, 5, and 6. Soil samples collected as part of the Phase II investigation were submitted for laboratory analysis to Enthalpy Analytical (Enthalpy) in Berkeley, California, with the exception of soil samples analyzed for asbestos which were submitted to Forensic Analytical Laboratories (Forensic) located in Hayward, California.

4.1 Sampling Activities

A total of sixteen soil borings (SB-1 through SB-16) were advanced by Gregg Drilling, Inc., a California-licensed (C-57) driller under the supervision of Terraphase field personnel, for the collection of both imported fill samples and native soil samples. Borings SB-1 through SB-11 were advanced to a total depth of 5 feet bgs using a hand auger. SB-12 through SB-16 were advanced to 5 feet bgs using a hand auger and to total depths ranging from 6.5 feet bgs to 12 feet bgs using a direct-push rig equipped with a dual-tube sampling system (Appendix B).

Samples were collected from the 16 borings for both imported fill and native soil using a hand auger or dual-tube sampler. In addition to retaining discrete samples, the following discrete import fill and discrete native soil samples were composited for laboratory analysis (Figure 4):

<u>Import Fill Samples</u>

- Samples SB-2-0.5-F, SB-3-0.5-F and SB-4-1.5-F were composited as COMP-2-4-F;
- Samples SB-5-0.5-F, SB-6-1.5-F, SB-7-1.5-F and SB-8-1.5-F were composited as COMP-5-8-F;
- Samples SB-9-1.5-F, SB-10-1.5-F, SB-11-1.5-F and SB-12-1.5-F were composited as COMP-9-12-F; and
- Samples SB-13-1.5-F, SB-14-1.5-F, SB-15-1.5-F and SB-16-1.5-F were composited as COMP-13-16-F.

<u>Native Soil Samples</u>

- Samples SB-1-1.5-N, SB-2-1.5-N, SB-3-1.5-N and SB-4-5-N were composited as COMP-1-4-N;
- Samples SB-5-1.5-N, SB-6-5-N, SB-7-5-N and SB-8-5-N were composited as COMP-5-8-N;
- Samples SB-9-5-N, SB-10-5-N, SB-11-5-N and SB-12-5-N were composited as COMP-9-12-N; and
- Samples SB-13-5-N, SB-14-5-N, SB-15-5-N and SB-16-5-N were composited as COMP-13-16-N.

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Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

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CLIENT: Dublin Unified School District	Sample Compositing Strategy
PROJECT: Phase II Investigation Report The New 2nd Comprehensive High School, Dublin, CA	
PROJECT NUMBER: 0098.003.002	FIGURE 4

File: K:\GIS\Prj\0098 DUSD\MXDs\Fig4_Sample Compositing Strategy.mxd 12/18/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

At each boring location, soils were described by a Terraphase field geologist under the supervision of a Terraphase California-licensed Professional Geologist, in general accordance with the visual-manual procedures of the ASTM International Standard D2488 for guidance (ASTM International 2009) which is based on the Unified Soil Classification System (USCS). Borings logs are included in Appendix B. The soil samples were placed in laboratory-supplied glass jars.

4.1.1 Imported Fill Material Sampling

During the Phase II Investigation, the samples collected from the imported fill, from depths of approximately 0.5 to 1.5 feet bgs, were analyzed for the following:

- 4 four-point composite samples for analysis of OCPs by U.S. EPA Method 8081A; and
- 4 four-point composite samples and 15 discrete samples for analysis of metals by U.S. EPA Method 6010, PCBs by U.S. EPA Method 8082, TPH-d and TPH-mo by U.S. EPA Method 8015, SVOCs by U.S. EPA Method 8270, PAHs by U.S. EPA Method 8270C, and asbestos using the California Air Resources Board 435 polarized light microscopy 400 point count Method.

4.1.2 Native Soil Sampling

During the Phase II Investigation, the samples collected from the native soil, from depths of approximately 1.5 to 5 feet bgs, were analyzed for the following:

- 4 four-point composite soil samples for analysis of OCPs by U.S. EPA Method 8081A and metals by U.S. EPA Method 6010;
- 16 discrete samples for analysis of OCPs by U.S. EPA Method 8081A, lead and arsenic by U.S. EPA Method 6010; and
- 1 discrete sample for analysis of metals by U.S. EPA Method 6010, PCBs by U.S. EPA Method 8082, TPH-d and TPH-mo by U.S. EPA Method 8015, SVOCs by U.S. EPA Method 8270, PAHs by U.S. EPA Method 8270C, and asbestos using the California Air Resources Board 435 polarized light microscopy 400 point count Method.

4.2 Surveying

Terraphase located each sampling location using a Trimble GeoXH handheld global positioning system unit which has an approximate horizontal accuracy of +/- 30 centimeters during the field activities. Sampling locations are shown in Figures 5 and 6.

4.3 Decontamination Procedures

Equipment that came in contact with potentially contaminated soil was decontaminated and rinsed with distilled water before and between use at each sampling location. Disposable equipment intended for one-time use was packaged for appropriate disposal and was not

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Legend

- Boring Locations (TEI 5/2018)
- Boring Locations (Berlogar 12/2016)
- Property Boundary

Notes:
1. All concentrations in milligrams per kilogram (mg/kg)
2. Depth shown in feet below ground surface (bgs)
3. SB-01 through SB-16 samples collected by Terraphase (TEI) Engineering on May 29 and 30, 2018
4. Shallow samples were collected from imported fill materia and deeper samples were collected from native soil, except for SB-01 which had only a native soil sample collected.
5. **Blue text** indicates exceedance of DTSC HHRA Note 3 Residential Soil DTSC-Screening Levels, April 2019

Abbreviations:
NA: Not available
As: Arsenic
Pb: Lead

DTSC Screening Levels:
Arsenic: 0.11 mg/kg
Lead: 80 mg/kg

Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Dublin Unified School District

PROJECT: Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Arsenic and Lead Concentrations

FIGURE 5

File: K:\GIS\Prj\0098 DUSD\MXDs\PEA Figures\Figure 4 - Arsenic and Lead Concentrations.mxd 12/2/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Legend

- Boring Locations (TEI 5/2018)
- Boring Locations (Berlogar 12/2016)
- Property Boundary

Notes:
1. All concentrations in milligrams per kilogram (mg/kg)
2. Depth shown in feet below ground surface (bgs)
3. SB-01 through SB-16 samples collected by Terraphase Engineering on May 29 and 30, 2018

Abbreviations:
TPH: Total Petroleum Hydrocarbons
ORO: TPH-Motor Oil
DRO: TPH-Diesel
SFRWQCB: San Francisco Regional Water Quality Control Board

SFRWQCB Tier 1 Environmental Screening Levels (January 2019):
TPH as Diesel: 260 mg/kg
TPH as Motor Oil: 1,600 mg/kg

Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

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CLIENT: Dublin Unified School District

PROJECT: Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Total Petroleum Hydrocarbons as Diesel and Motor Oil Concentrations

FIGURE 6

File: K:\GIS\Prj\0098 DUSD\MXDs\PEA Figures\Figure 5 - TPH-D & TPH-MO Concentrations.mxd 12/2/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

decontaminated or reused. Non-disposable sampling devices used were decontaminated using the following procedures:

- Laboratory-grade detergent and tap water wash, in a 5-gallon plastic bucket, using a brush;
- Initial tap water rinse, in a 5-gallon plastic bucket; and
- Final deionized water rinse, in a 5-gallon plastic bucket.

At the completion of sampling activities, the rinse water was containerized in a Department of Transportation-approved 55-gallon steel drum with the drilling cuttings. The rinse water consisted of water, non-phosphate detergent, and a small amount of surface soil.

4.4 Investigation-Derived Waste Disposal

The investigation-derived waste was transported by American Integrated Services Inc. to the Potrero Hills Landfill located in Suisun, California, and disposed of as non-hazardous waste.

4.5 Sample Handling

Following sample collection, sample labels with unique identifiers were affixed to each sample container. Each sample was placed in a resealable plastic bag to keep the sample container and the label dry. All glass sample containers were protected with foam cushioning material and bubble wrap to prevent breakage.

Samples were packed securely in a cooler with a laboratory-supplied temperature blank. Wet ice (double-bagged in resealable bags) was added to the cooler in sufficient quantity to keep the samples cooled to at least 4 degrees Celsius, for the duration of the shipment to the laboratory.

A chain-of-custody (COC) record accompanied the sample shipment for laboratory analysis. The COCs recorded the contents of each shipment and maintained the custodial integrity of the samples. Information contained on the COC record included the sampler's name; date and project number of the sampling event; sample number; date and time of sample collection; sample type; number of containers associated with each sample; analyses requested; and the names, dates, and times of custody.

Completed COCs were provided with the samples and copies were included in the final analytical reports (Appendix C). No discrepancies were noted by the analytical laboratory.

Samples were received within the acceptable temperature range upon arrival at the laboratory. Samples were received in good condition and were analyzed within the proper holding times for the analyses requested.

4.6 Screening Levels

The applicable screening levels used to evaluate the Terraphase Phase II data include DTSC's HERO Modified Screening Levels (DTSC-SLs) provided in DTSC's HERO Note 3 for residential soil (DTSC 2019) or the EPA's RSLs for residential soil developed by the EPA for analytes that do not

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have a DTSC-SL developed (EPA 2019). In addition, the SFRWQCB Tier 1 ESLs for residential soil were used as screening levels for TPH-d and TPH-mo (SFRWQCB 2019).

The residential DTSC-SL of 0.11 milligrams per kilogram (mg/kg) for arsenic is considered low and technically infeasible. Metals are naturally occurring and ubiquitous in soils and other geological materials of the San Francisco Bay Area. Multiple studies have been conducted to document background concentrations of arsenic in Bay Area soils.

The background concentration for Bay Area soils has been established as 11 mg/kg, which is the proposed upper estimate for background arsenic (99th percentile) within undifferentiated flatland soils of the Bay Area, in accordance with the 2011 *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region* (Duverge 2011). The Terraphase Phase II soil data were evaluated using this accepted value for arsenic.

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5.0 DISCUSSION OF SOIL SAMPLING RESULTS

The following sections describe the results of the Phase II investigation activities performed by Terraphase at the Site. Certified analytical laboratory reports and COC documentation are provided in Appendix C and analytical data are provided in Tables 1 through 16. Screening levels used in the discussion below were previously presented in Section 4.6.

5.1 Imported Fill Material Sampling Results

The analytical results for the imported fill material soil samples are summarized below and compared to their respective screening levels. The screening levels are presented in detail in the corresponding tables.

5.1.1 OCPs

Four 4-point composite samples from imported fill were analyzed for OCPs (Table 8). No OCPs were detected above their respective reporting limits. The reporting limits were at/or below the screening levels discussed in Section 4.6.

5.1.2 Metals

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for metals (Tables 2 and 9). Antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, vanadium, and/or zinc were detected above laboratory reporting limits at concentrations below the applicable screening levels.

5.1.3 Arsenic

Each of the 15 discrete samples and 4 composite samples analyzed for arsenic had concentrations above the reporting limit, ranging from 4.7 mg/kg to 6.5 mg/kg (Tables 2 and 9). However, all concentrations of arsenic in the discrete and composite fill samples were less than the established background concentration in Bay Area soils of 11 mg/kg (Duverge 2011).

5.1.4 PCBs

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for PCBs (Tables 3 and 10). Aroclor 1260 was detected in three of the discrete samples at concentrations ranging from 0.00078 mg/kg to 0.0012 mg/kg (Table 3), which are below the applicable screening level. No other PCBs were detected in the discrete or composite soil samples collected.

5.1.5 TPH

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for TPH-d and TPH-mo (Tables 4 and 11). Although concentrations of TPH-d (ranging from 3.3 mg/kg to 17 mg/kg) and TPH-mo (ranging from 22 mg/kg to 210 mg/kg) were detected in all soil samples, no concentrations detected were above the applicable ESLs of 260 mg/kg and 1,600 mg/kg, respectively.

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5.1.6 PAHs

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for PAHs (Tables 6 and 13). No concentrations of PAHs were detected above laboratory reporting limits in any of the samples analyzed. However, the reporting limits for the following PAHs were higher than their respective screening levels, as shown on Tables 6 and 13.

- Benz(a)anthracene;
- Benzo(a)pyrene;
- Benzo(b)fluoranthene;
- Dibenz(a,h)anthracene; and
- Indeno(1,2,3-c,d)pyrene.

5.1.7 SVOCs

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for SVOCs (Tables 5 and 12). Bis(2-ethylhexyl)phthalate and 4-methylphenol were each detected in one discrete sample at concentrations of 0.015 mg/kg and 0.02 mg/kg, respectively, which are below the applicable screening criteria. No other SVOCs were detected at or above their respective reporting limits. However, the reporting limits for the following SVOCs were higher than their respective screening levels, as shown on Tables 5 and 12.

- 2,4-Dinitrotoluene;
- 2,6-Dinitrotoluene;
- 3,3-Dichlorobenzidine;
- 4,6-Dinitro-2-methylphenol;
- 4-Chloroaniline
- Bis(2-chloroethyl)ether;
- Hexachlorobenzene;
- Hexachlorocyclopentadiene;
- Hexachloroethane
- Nitrobenzene
- N-Nitrosodimethylamine;
- N-Nitrosodi-n-propylamine; and
- Pentachlorophenol.

5.1.8 Asbestos

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for asbestos. As shown on Tables 7 and 14 asbestos was not detected at or above the reporting limit of 0.25% in the fill samples.

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5.1.9 Imported Fill Sampling Results Summary

Based on review of the analytical data, the imported fill material at the Site contains low concentrations of TPH-d, TPH-mo, metals, PCBs, and SVOCs. However, the detected COPC concentrations are below applicable screening levels, indicating that previous uses of the Site and/or the fill material have not resulted in impacts that adversely affect current site conditions.

5.2 Native Soil Sampling Results

The analytical results for the native soil samples are summarized below and compared to their respective screening levels. The screening levels are presented in detail in the corresponding tables.

5.2.1 OCPs

Discrete samples of native soil from 16 locations and four 4-point composite samples of native soil were analyzed for OCPs (Tables 1 and 8). Of the sixteen discrete samples, there was one detection of chlordane (trans) (gamma) at a concentration of 0.00014 mg/kg, and six detections of endrin aldehyde at concentrations ranging from 0.00042 to 0.0012 mg/kg, all of which are below their respective screening levels. No other OCPs were detected at or above their respective reporting limits or screening levels in the discrete or composite samples.

5.2.2 Metals

Discrete samples of native soil from 16 locations were analyzed for lead, as well as four 4-point composite samples (Tables 2 and 9). Additionally, one discrete sample and four 4-point composite samples were analyzed for metals. Each of the 16 discrete samples and 4 composite samples analyzed for lead had concentrations above the reporting limit, ranging from 7.5 mg/kg to 11 mg/kg. However, all concentrations of lead in the discrete native soil samples were less than the screening level of 80 mg/kg.

In the one discrete native soil sample and four composite samples analyzed for additional metals, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, mercury, molybdenum, nickel, vanadium, and/or zinc were detected above laboratory reporting limits. However, no metal concentrations were above the applicable screening levels (Tables 2 and 9).

5.2.3 Arsenic

Each of the 16 discrete samples and 4 composite samples analyzed for arsenic had concentrations above the reporting limit, ranging from 2.3 mg/kg to 7.1 mg/kg. However, all concentrations of arsenic in the discrete native soil samples were less than the established background concentration for Bay Area soils of 11 mg/kg (Duverge 2011; Table 2).

5.2.4 PCBs

One discrete native soil sample was analyzed for PCBs. No concentrations of PCBs were detected above laboratory reporting limits in the sample (Table 3).

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5.2.5 TPH

One discrete native soil sample was analyzed for TPH-d and TPH-mo (Table 4). TPH-d and TPH-mo were detected above the laboratory reporting limits at concentrations of 1.6 mg/kg and 12 mg/kg, respectively. Both concentrations are below SFRWQCB ESLs for TPH-d and TPH-mo of 260 mg/kg and 1,600 mg/kg, respectively.

5.2.6 PAHs

One discrete native soil sample was analyzed for PAHs. No concentrations of PAHs were detected above laboratory reporting limits in the sample (Table 6). However, the reporting limit for dibenz(a,h)-anthracene was higher than the respective screening level, as shown on Table 6.

5.2.7 SVOCs

One discrete native soil sample was analyzed for SVOCs. No concentrations of SVOCs were detected above laboratory reporting limits in the sample (Table 5). However, the reporting limits for the following SVOCs were higher than their respective screening levels, as shown on Table 5.

- 3,3-Dichlorobenzidine;
- Bis(2-chloroethyl)ether;
- Hexachlorobenzene;
- N-nitrosodi-n-propylamine; and
- N-nitrosodimethylamine.

5.2.8 Asbestos

One discrete native soil sample was analyzed for asbestos. As shown on Table 7 asbestos was not detected at or above the reporting limit of 0.25% in the native soil samples.

5.2.9 Native Soil Sampling Results Summary

Based on a review of the data collected, the native soil at the Site does not contain COPCs at concentrations exceeding risk-based screening criteria. OCPs were not detected above screening criteria, and arsenic concentrations were consistent with background concentrations for Bay Area soils, suggesting that previous agricultural activities at the Site did not significantly impact the site soils.

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6.0 HUMAN HEALTH SCREENING EVALUATION

6.1 Soil Exposure Pathways

As discussed in the preceding sections, the Site is proposed for development of a school. The receptor population for this future use would include school children, staff, and visitors. However, potential future land use of the Site was assumed to be residential which, given the exposure time frame assumption (24 hours per day; 350 days per year; for 26 years) is a significantly more conservative assumption than 4-year occupancy during high school years use. It should be noted that the Site is not currently used for residential purposes, and the District does not intend at any time for the property to be used for residential purposes.

COPCs detected in soil at the Site during previous investigations and/or the Phase II conducted in 2018 include metals, OCPs, PCBs, TPH, VOCs, and SVOCs. Under the hypothetical future unrestricted use scenario, the potential exposure scenarios for these chemicals in soil are through direct contact (i.e., incidental ingestion of and dermal contact with surface soil) and inhalation of soil-derived windborne particulates.

6.2 Exposure Concentrations and Chemicals in Soil

The COPCs in soil considered for the human health screening evaluation and risk/hazard characterization conservatively included any chemical detected in at least one soil sample collected from the Site during previous investigations and/or this Phase II Investigation, with the exception of arsenic. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011). Results from previous investigation are included in Appendix D.

Table 15 presents the list of chemicals detected in onsite fill and/or native soil and identifies which of those chemicals were included as COPCs for the human health screening evaluation and risk/hazard characterization. The maximum detected concentration of each COPC was conservatively used as the exposure point concentration (EPC).

6.3 Screening Levels

As discussed in Section 4.6, the screening levels in soil were generally identified as the DTSC-SLs provided in DTSC's HERO Note 3 for residential soil (DTSC 2019) or the EPA's RSLs for residential soil developed by the EPA for COPCs that do not have a DTSC-SL developed (EPA 2019). The SFRWQCB Tier 1 ESLs for residential soil were used as screening levels for TPH-d, and TPH-mo (SFRWQCB 2019). Human health risks from lead in soil at the Site were evaluated using default residential soil screening level of 80 mg/kg derived by DTSC using DTSC's Lead Risk Assessment Spreadsheet.

6.4 Toxicity Values

The screening levels described in Section 5.3 were utilized to perform the human health screening evaluation and risk/hazard characterization for COPCs; therefore, the selection and compilation of specific toxicity values was not necessary.

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6.5 Soil Risk/Hazard Characterization Summary

A risk/hazard screening evaluation was performed for the Site. In doing so, estimated cumulative cancer risks associated with potential human exposure to COPCs in soil at the Site were compared to the cumulative risk management goal of 1 in 1 million (i.e., 1 x 10^{-6}) for supporting decisions regarding the Site. Similarly, the estimated noncancer hazard index (HI) associated with potential human exposure to COPCs in soil at the Site was compared to the noncancer HI risk management goal of 1.0. In order to evaluate potential human exposures to lead in soil, concentrations detected were compared to DTSC's generic residential screening level of 80 mg/kg.

Overall, the risks from COPCs were evaluated and then combined to obtain an upper-bound estimate of cumulative cancer risk and noncancer HI for the Site. To streamline the risk calculations, single-chemical cancer risks and noncancer hazard quotients (HQs) were calculated by comparing the EPC to the carcinogenic and non-carcinogenic-based screening levels for each COPC as follows:

For a carcinogenic chemical:

$$\frac{EPC}{Cancer - Based\ Screening\ Level} x\ 10^{-6} = Chemical\ Cancer\ Risk$$

For a non-carcinogenic chemical:

$$\frac{EPC}{Noncancer - Based\ Screening\ Level} = Hazard\ Quotient$$

The single-chemical cancer risks and noncancer HQs were then summed to obtain cumulative cancer risks and noncancer HIs, respectively.

Lead in soil was evaluated separately by comparing to DTSC's generic default screening level as discussed below.

6.6 Cumulative Risk Screening Summary

As shown on Table 16, the estimated upper-bound cumulative cancer risk for exposure to COPCs in soil at the Site is 1.8 x 10^{-6}, which is slightly above the cumulative cancer risk management goal of 1.0 x 10^{-6}. The estimated upper-bound noncancer HI for exposure to COPCs in soil is 0.9 which is below the noncancer HI risk management goal of 1.0.

6.6.1 Lead in Soil Risk Screening Summary

The EPC for lead was conservatively defined as the maximum detected concentrations in the Phase II soil samples, or 11 mg/kg. This EPC is below the screening level of 80 mg/kg.

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6.7 Uncertainty Analysis

Potential future land use of the Site was assumed to be residential regardless of the actual proposed use. Because the planned future use of the Site is a school, the assumption of an unrestricted land use likely overestimates the risks for the intended future use of the Site.

Due to limitation of available scientific data and in the amount and type of site investigation data collected, every risk assessment will have some degree of uncertainty. Uncertainties in exposure parameter assumptions are related to the general lack of quantitative studies describing important aspects of human behavior such as incidental soil ingestion rates (particularly adults), length of time spent at one residence, time spent outdoors, etc. In general, this uncertainty has been dealt with by erring on the conservative side and using upper-bound exposure assumptions that will tend to overestimate the exposure occurring to most individuals.

Incorporating slightly less conservative exposure parameters into the assessment would reduce the predicted carcinogenic risk considerably. In addition, the predicted risks and hazards are based on the maximum COPC concentrations detected in the soil samples that were collected during this Phase II. This significantly conservative assumption results in an overestimation of health risks.

Important uncertainties in toxicity criteria include: 1) the complete absence of reference doses or colony-stimulating factors for some chemicals, 2) the lack of an adequate toxicological basis for some toxicity criteria, 3) the uncertainty associated with applying oral route toxicity criteria to the inhalation route or dermal route, and 4) the complete lack of toxicity criteria for the dermal route. The general lack of toxicity criteria based on a solid database of underlying toxicological data results in a reduced ability to accurately quantify both non-cancer and cancer risks. This may result in both under- and over-estimation of health risks.

In addition, although PAHs and SVOCs (except for one detection each of bis-[2-ethylhexylphthalate and 4-methylphenol) were not detected in soil samples above the reporting limits, the reporting limits for several SVOCs and PAHs exceeded the screening criteria as summarized in Section 5.0. Given that PAHs and SVOCs were not detected in the majority of soil samples collected from the Site at concentrations exceeding the reporting limits, and the reporting limits were below the screening criteria in those samples, it is unlikely that PAHs and/or SVOCs are present in soil at the Site at concentrations exceeding screening criteria; therefore, PAHs and SVOCs were not included in the risk estimate calculations, except for bis(2-ethylhexyl)phthalate and 4-methylphenol.

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7.0 ECOLOGICAL SCREENING EVALUATION

The Site will be developed into a future school site. Proposed redevelopment activities would not maintain any potential wildlife habitat on the Site. Therefore, an ecological screening evaluation was not completed for the Site given its intended future use.

7.1 Biological Characterization

The Site is currently vacant and undeveloped and is proposed for development for use as a school. The existing site conditions and proposed development activities would not maintain any potential wildlife habitat on the Site.

7.2 Ecological Pathway Assessment

Because the Site would not have significant numbers of wildlife based on proposed development activities, no assessment of potential exposure to sensitive ecological receptors is necessary.

7.3 Ecological Screening Evaluation Summary

An ecological screening evaluation was not conducted for the Site given its current condition and intended future use.

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8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

During the Terraphase Phase II investigation, soil sampling was performed based on RECs identified in the Phase I ESA (Terraphase 2019). These REC's were developed after review of extensive soil sampling conduct at the site on behalf of the former owner by BGC, and was intended to supplement and confirm their results. Shallow native soil samples and import fill samples were collected from approximately evenly spaced areas across the Site and analyzed for OCPs, metals, PCBs, TPH, SVOCs, PAHs, and asbestos. As summarized in Tables 1 through 14, COPCs were not detected in native soil or imported fill at levels exceeding conservative risk-based screening values for residential land use, with the exception of arsenic. However, all detections of arsenic in native soil and imported fill were below the established background concentration for arsenic in Bay Area soils of 11 mg/kg (Duverge 2011).

The risk/hazard characterization assumes potential human exposure under the very conservative residential use scenario. Based on the results of previous and Phase II investigations, and associated preliminary human health screening, the estimated upper-bound cumulative cancer risk for exposure to COPCs in soil at the Site is 1.8×10^{-6}, which is only slightly above the cumulative cancer risk management goal of 1.0×10^{-6}. The estimated upper-bound noncancer HI for exposure to COPCs in soil is 0.9 which is below the noncancer HI risk management goal of 1.0. Therefore, the upper-bound risk and HI estimates for residential exposure to soil would not pose an unacceptable risk to human health, especially given the significantly lower exposure time frame assumptions used in the residential exposure evaluation (24 hours per day; 350 days per year; for 26 years).

8.2 Data Gaps

A data gap is a lack or inability to obtain information required despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required. No significant data gaps were identified.

8.3 Recommendations

Based on the results of previous investigations as well as the Phase II investigation, no further action is recommended for the Site. Terraphase recommends that the DTSC consider the issuance of a "No Further Action" determination for the Site.

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N

0 100

1"=100'

EXPLANATION

	PARCEL BOUNDARIES
S-32	SAMPLE LOCATION (12/16)
1E/W6	SAMPLE LOCATION (6 THROUGH 9 9/15/09, 1A THROUGH 5F 9/22/09, Z1, Z2, X, Y AND W 10/9/09, Z3 10/12/09)
4	SAMPLE LOCATION (7/3/08)
A, B, C, D	SAMPLE LOCATION (6/20/08)
E-4	SAMPLE LOCATION (6/20/08)
AB/RAC	SURFACE LAYER OF AGGREGATE BASE AND REMNANT ASPHALT CONCRETE

SOIL SAMPLING SITE PLAN

PM 9717

DUBLIN BOULEVARD
AND GRAFTON STREET
DUBLIN, CALIFORNIA
FOR
GRAFTON STATION, INC.

Berlogar Stevens & Associates
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

DRAWN BY: CC
DATE: 12-7-16
JOB NUMBER: 3831.900

PLATE 3

Project: **Promenade Phase II - Dublin Unified School District**

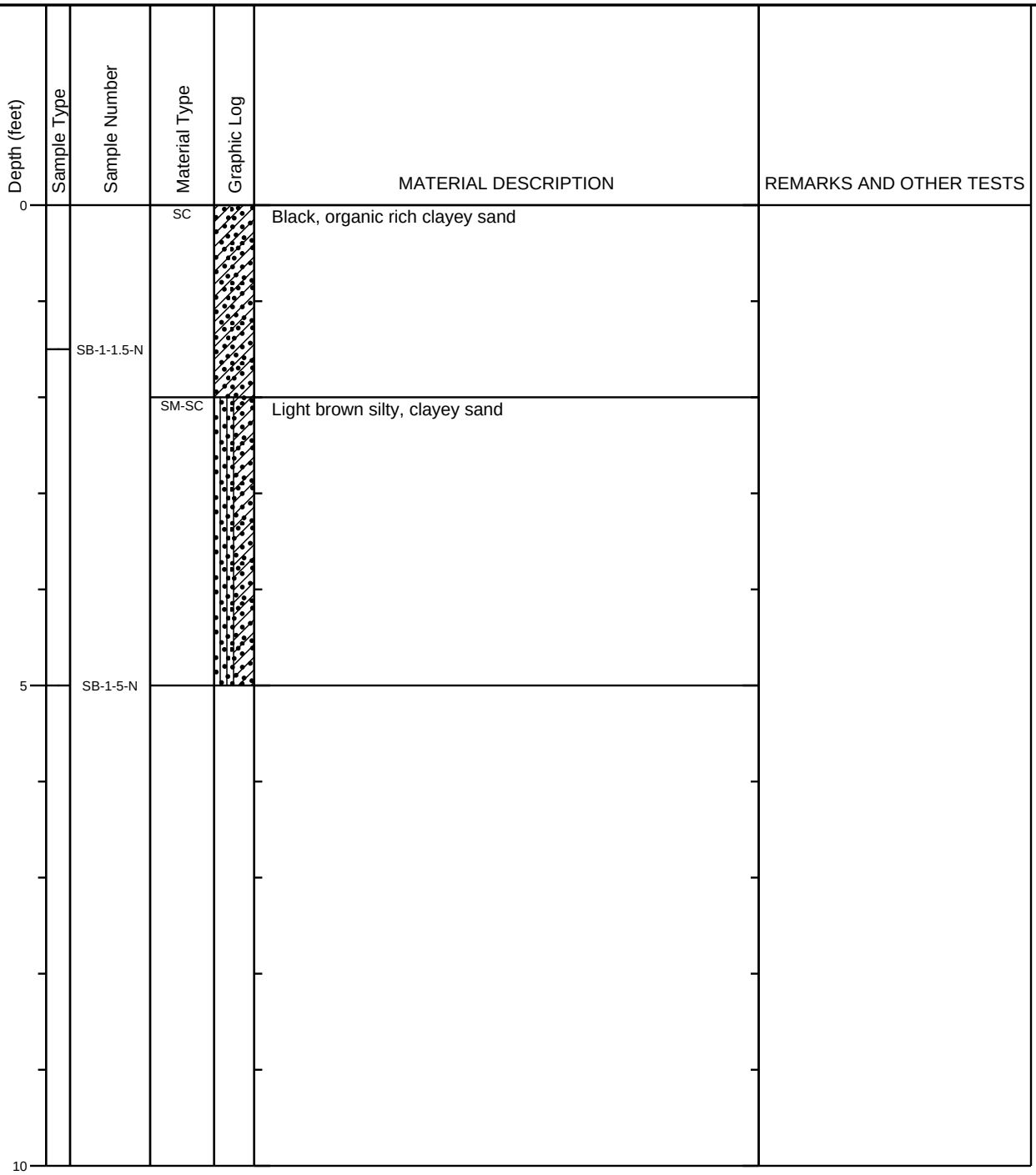
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**

Project Number: **0098.003.001**

Log of Boring SB-1

Sheet 1 of 1

Date(s) Drilled **05/22/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



C:\Users\Tanner\AppData\Local\Temp\borings_temp\tmpfile.bgs[Hamilition HS.tpl]

Figure 1

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Clayey SAND (SC)
Silty to Clayey SAND (SM-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

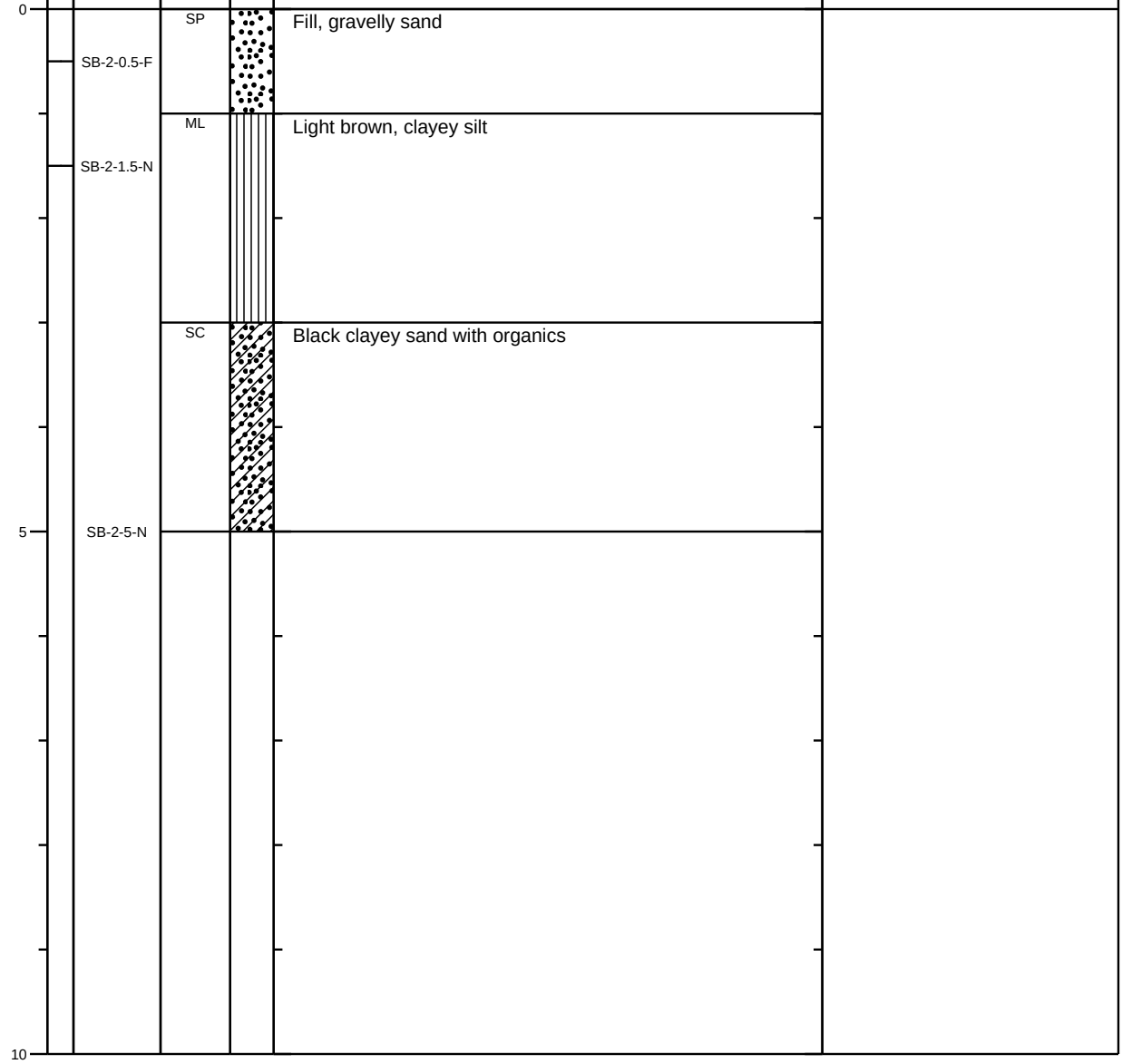
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-2 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 2

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)
Poorly graded SAND (SP)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

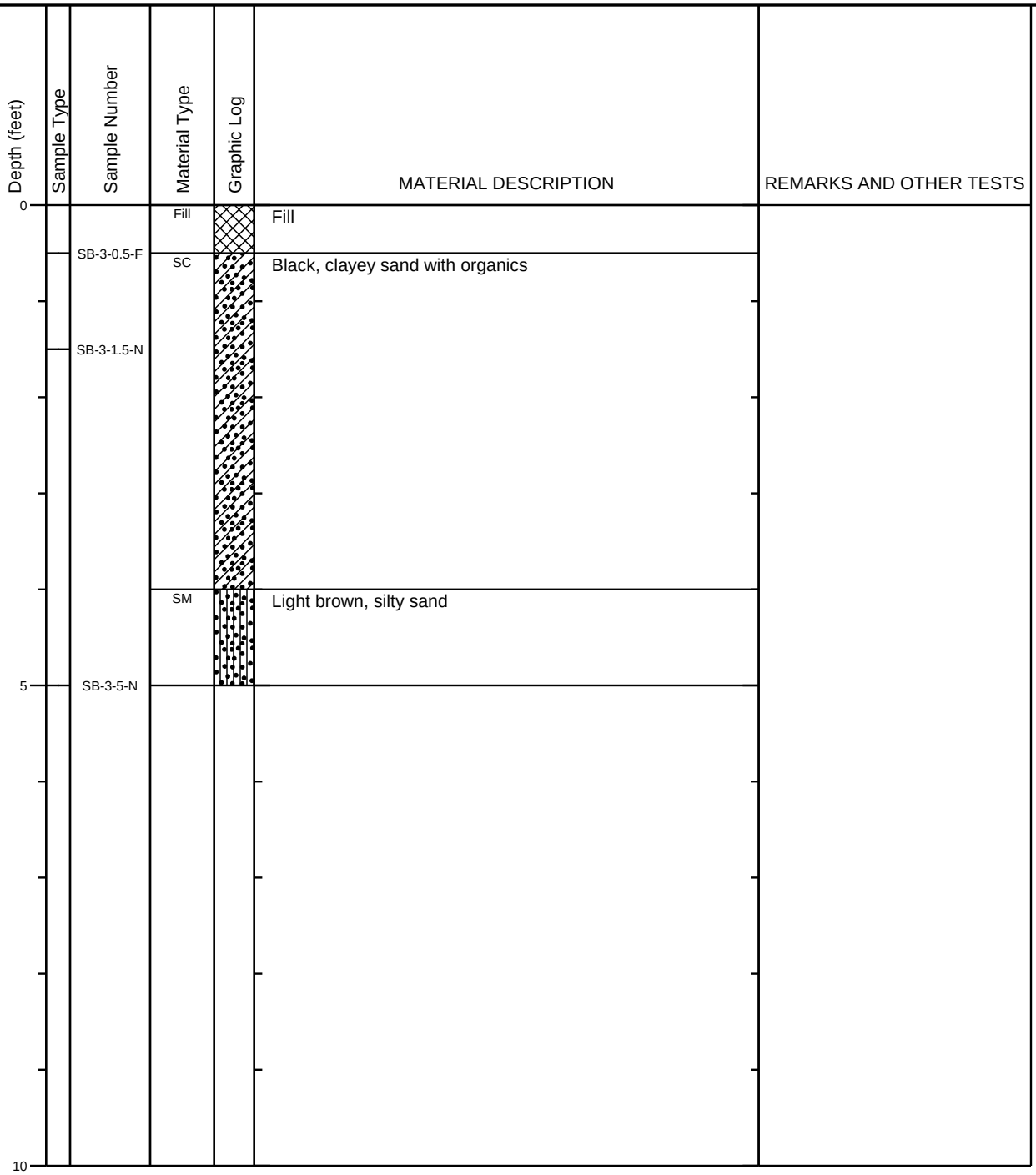
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-3 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 3

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
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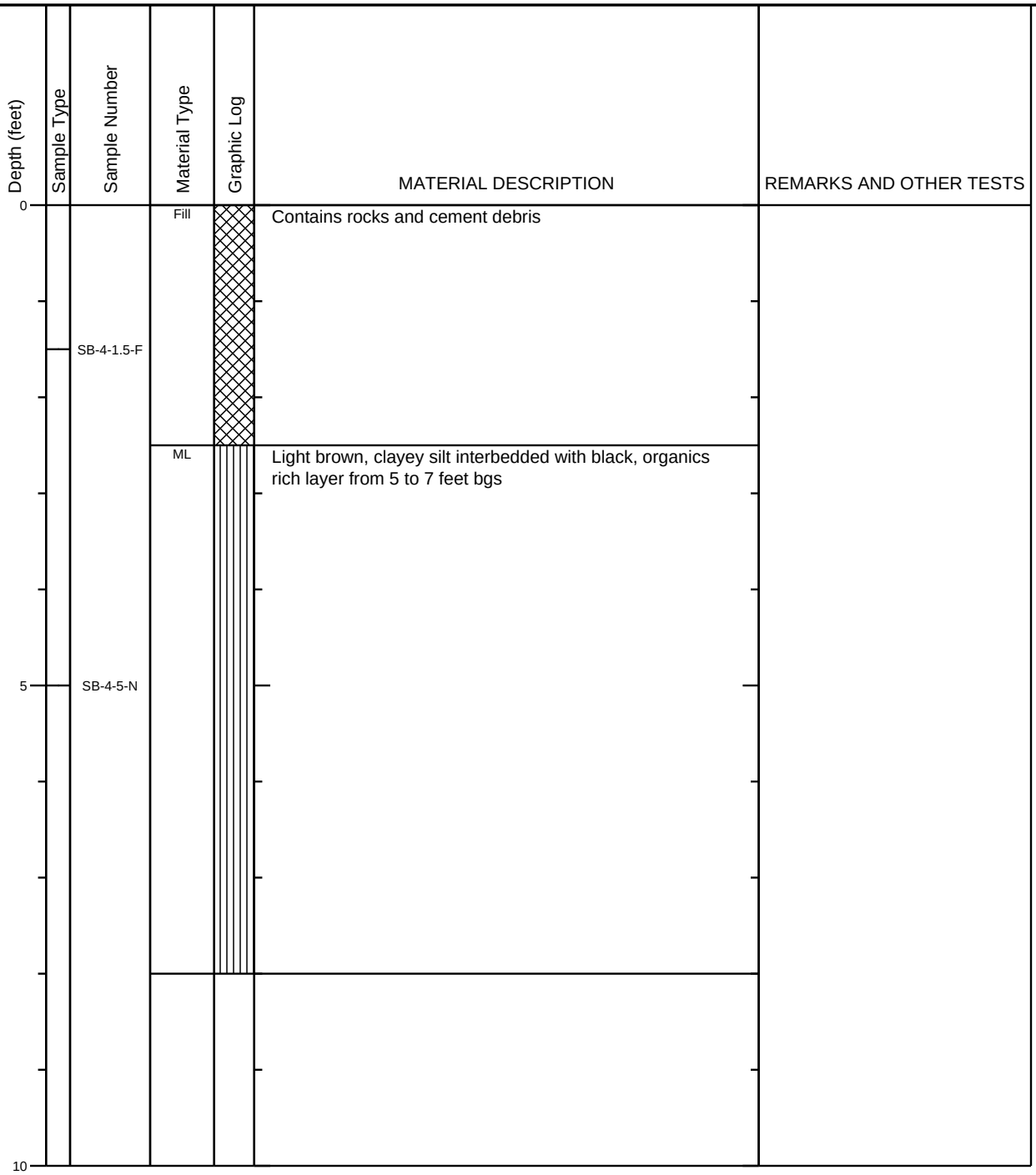
Figure B-1

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Log of Boring SB-4

Sheet 1 of 1

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 4

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

SILT, SILT w/SAND, SANDY SILT (ML)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

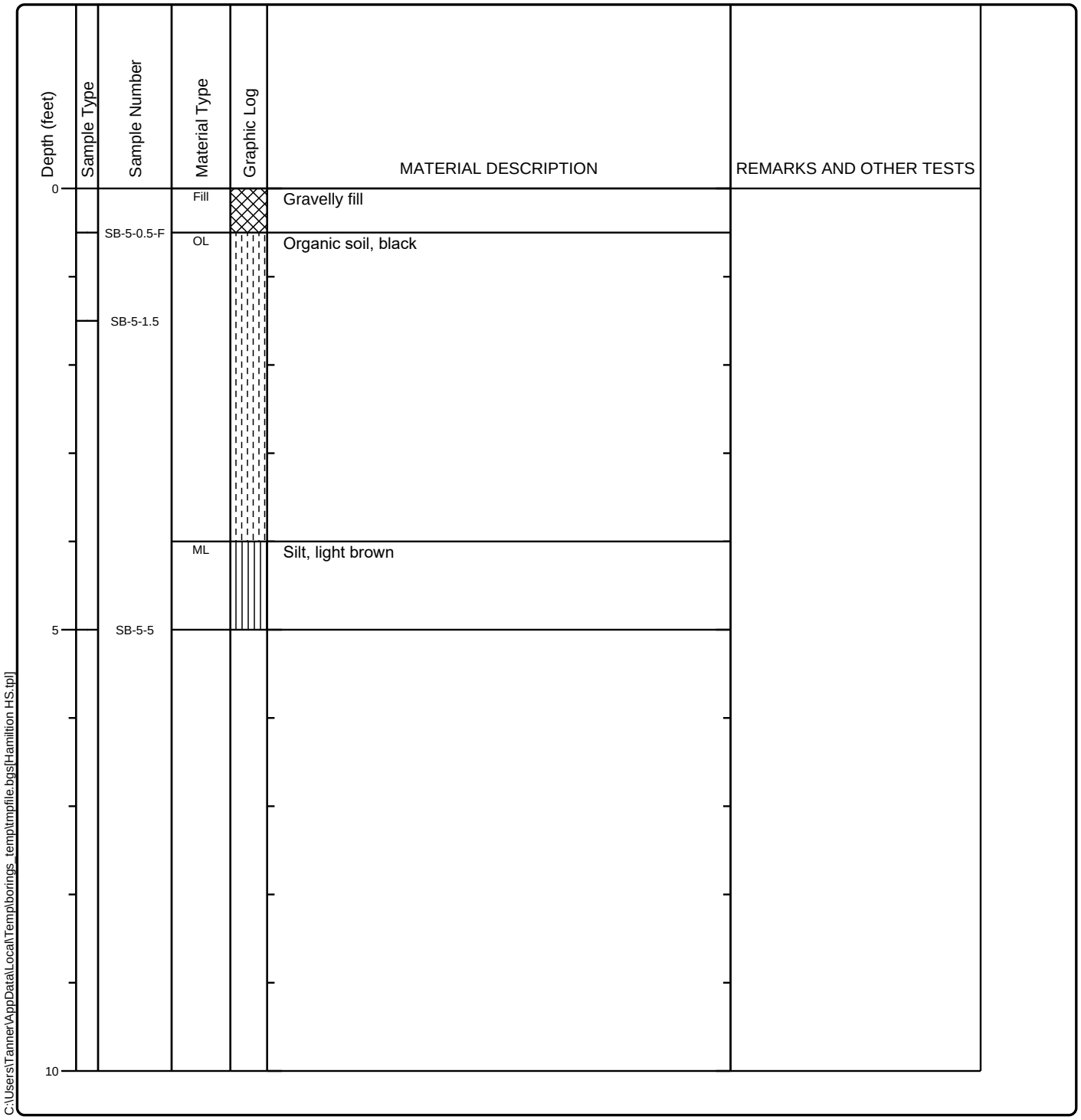
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-5 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 5

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Low plasticity PEAT (OL)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

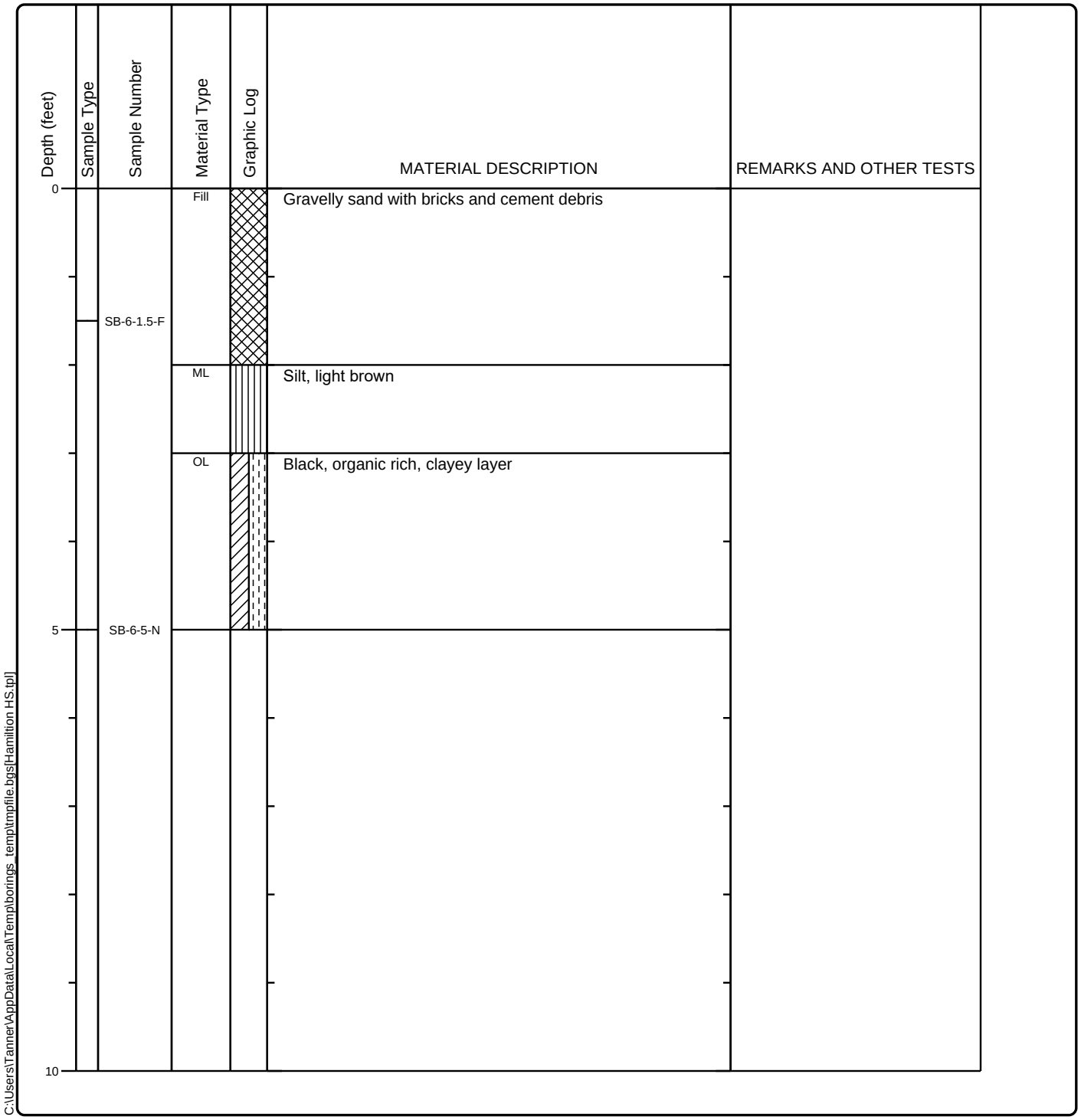
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-6 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 6

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Lean CLAY/PEAT (CL-OL)
AF
SILT, SILT w/SAND, SANDY SILT (ML)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

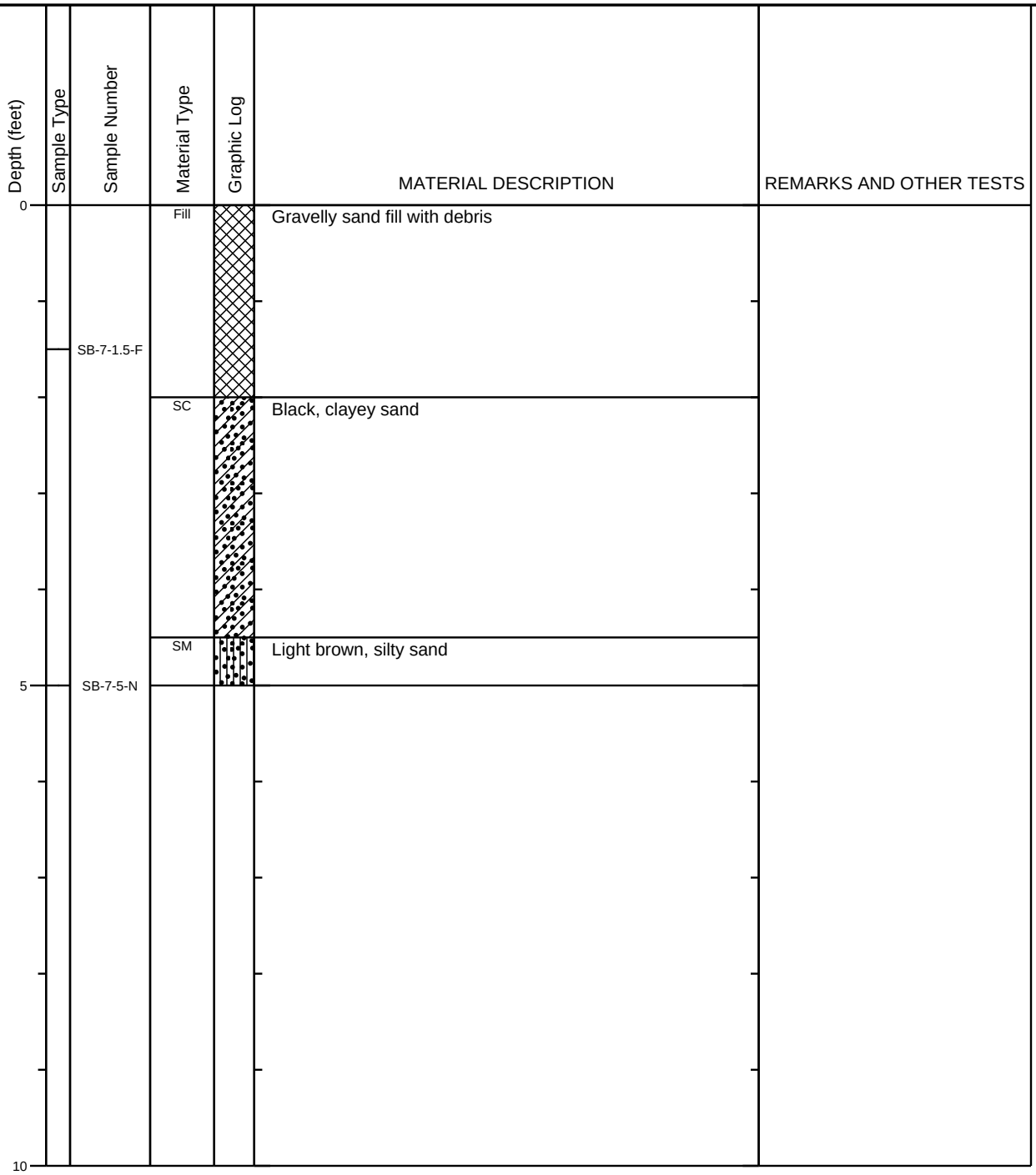
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-7 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 7

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
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FIELD AND LABORATORY TEST ABBREVIATIONS

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SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

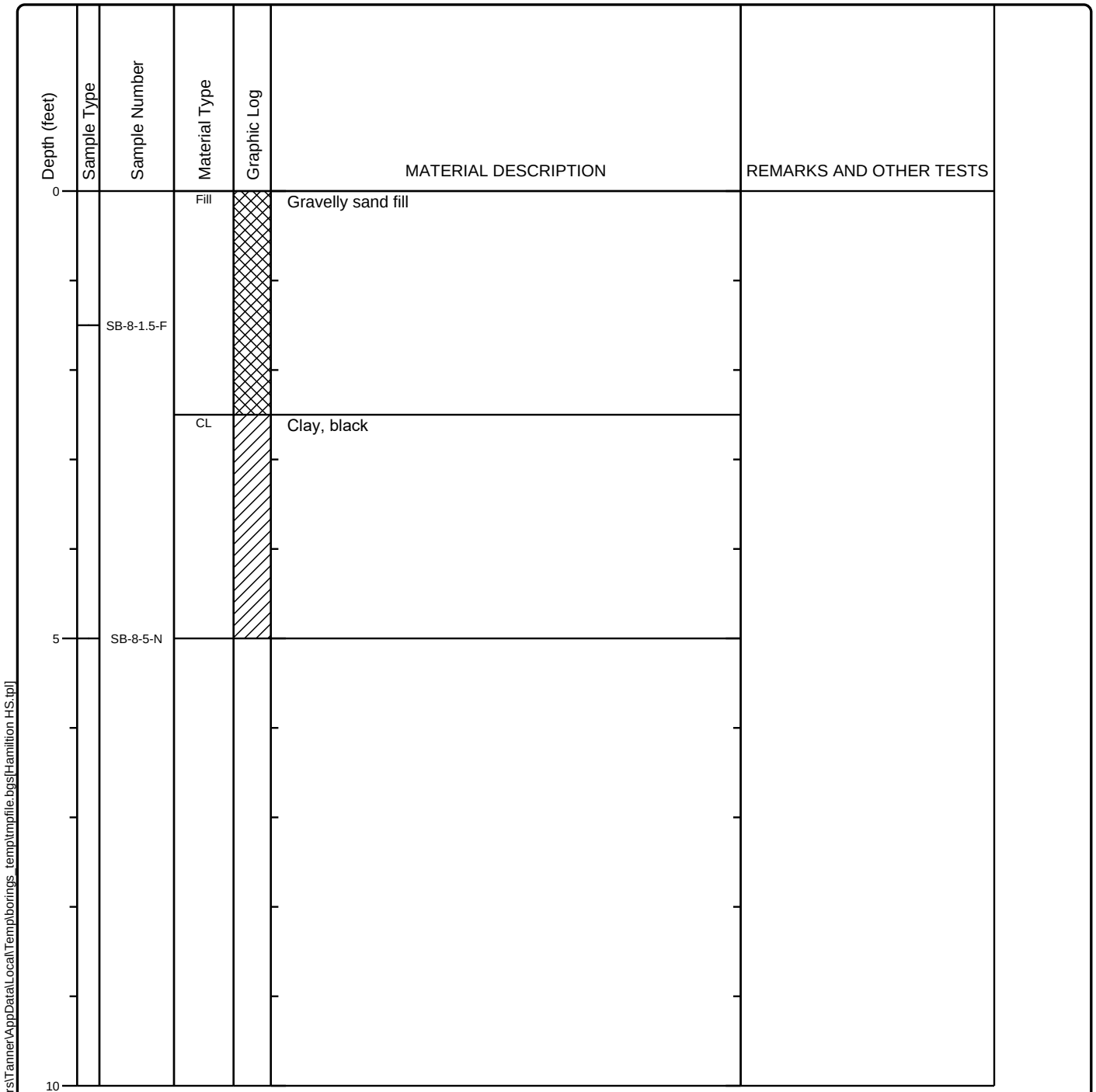
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-8 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 8

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
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CONS: One-dimensional consolidation test
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PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
CME Sampler
Pitcher Sample
Bulk Sample
Grab Sample
2-inch-OD unlined split spoon (SPT)
3-inch-OD California w/ brass rings
2.5-inch-OD Modified California w/ brass liners
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

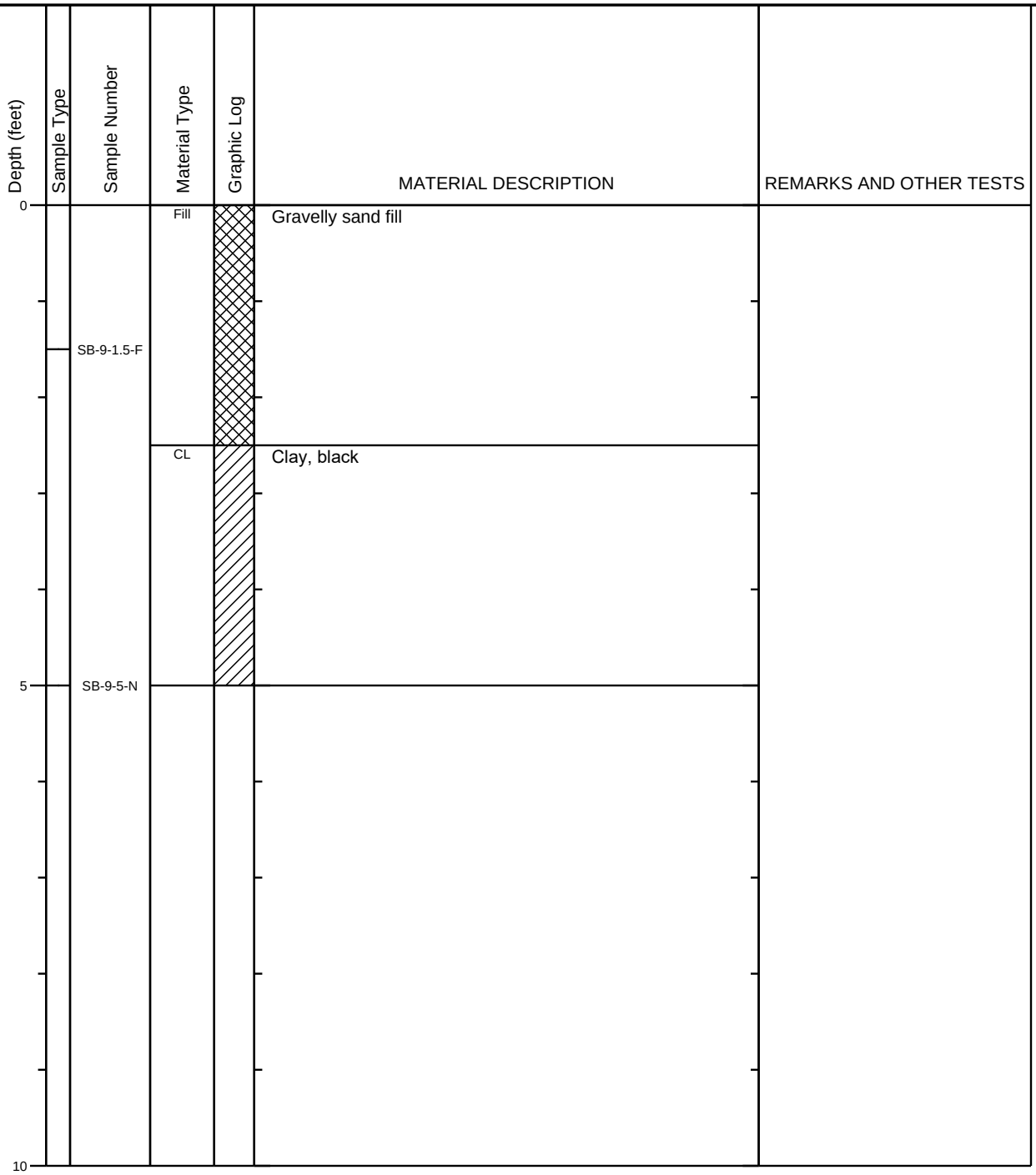
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-9 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 9

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

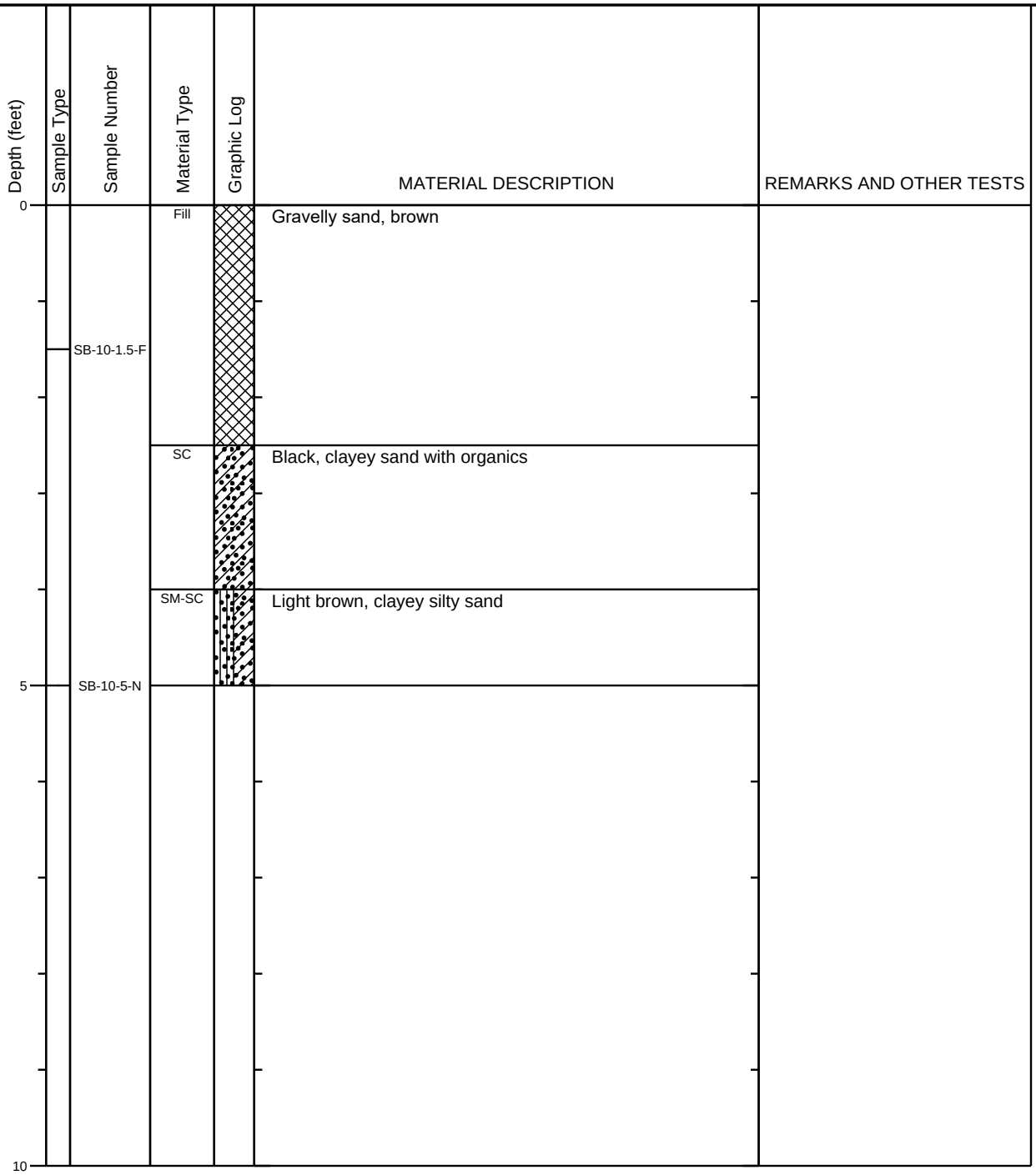
1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-10 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 10

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty to Clayey SAND (SM-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-11 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			Fill		Brown, gravelly sandy fill with debris	
		SB-11-1.5-F				
			CL		Clay, black with caliche present	
5		SB-11-5-N				
10						

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Figure 11

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-12 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **6.5 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			Fill		Dry, brown fill sand with clay and debris	Boring hand augered to 5 feet below ground surface and advanced to total depth using direct-push drilling.
		SB-12-1.5-F				
			OH		Moist, black native with organics	
5		SB-12-5-N				
10						

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Figure 12

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Fat CLAY/PEAT (CH-OH)
AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

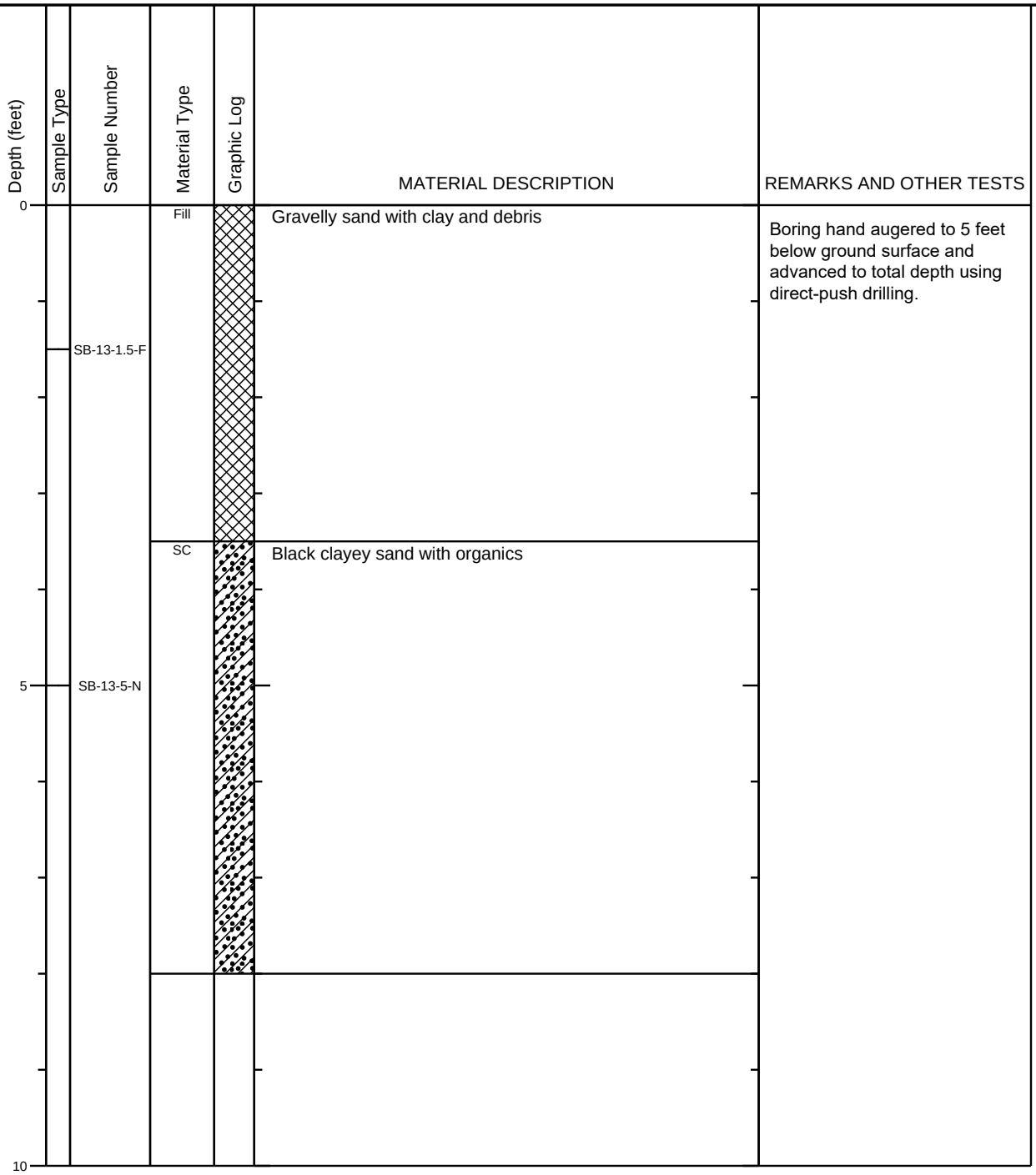
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-13 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 13

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-14 **Sheet 1 of 2**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **12 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			SP-SC		Brown, gravelly, clayey sand with debris, dry, includes cement debris and gravel	Boring hand augered to 5 feet below ground surface and advanced to total depth using direct-push drilling.
		SB-14-1.5-F				
			SC		Clayey sand with silt and organics, black, moist, very dense, little to no gravel and no debris present, caliche present	
5		SB-14-5-N				
			ML		Clayey silt with sand, brown, moist	
10						

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Figure 14

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Log of Boring SB-14

Sheet 2 of 2

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
10			ML		Clayey silt with sand, brown, moist	
15						
20						
25						
30						

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Figure 14

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
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FIELD AND LABORATORY TEST ABBREVIATIONS

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COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)
Poorly graded SAND with Clay (SP-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

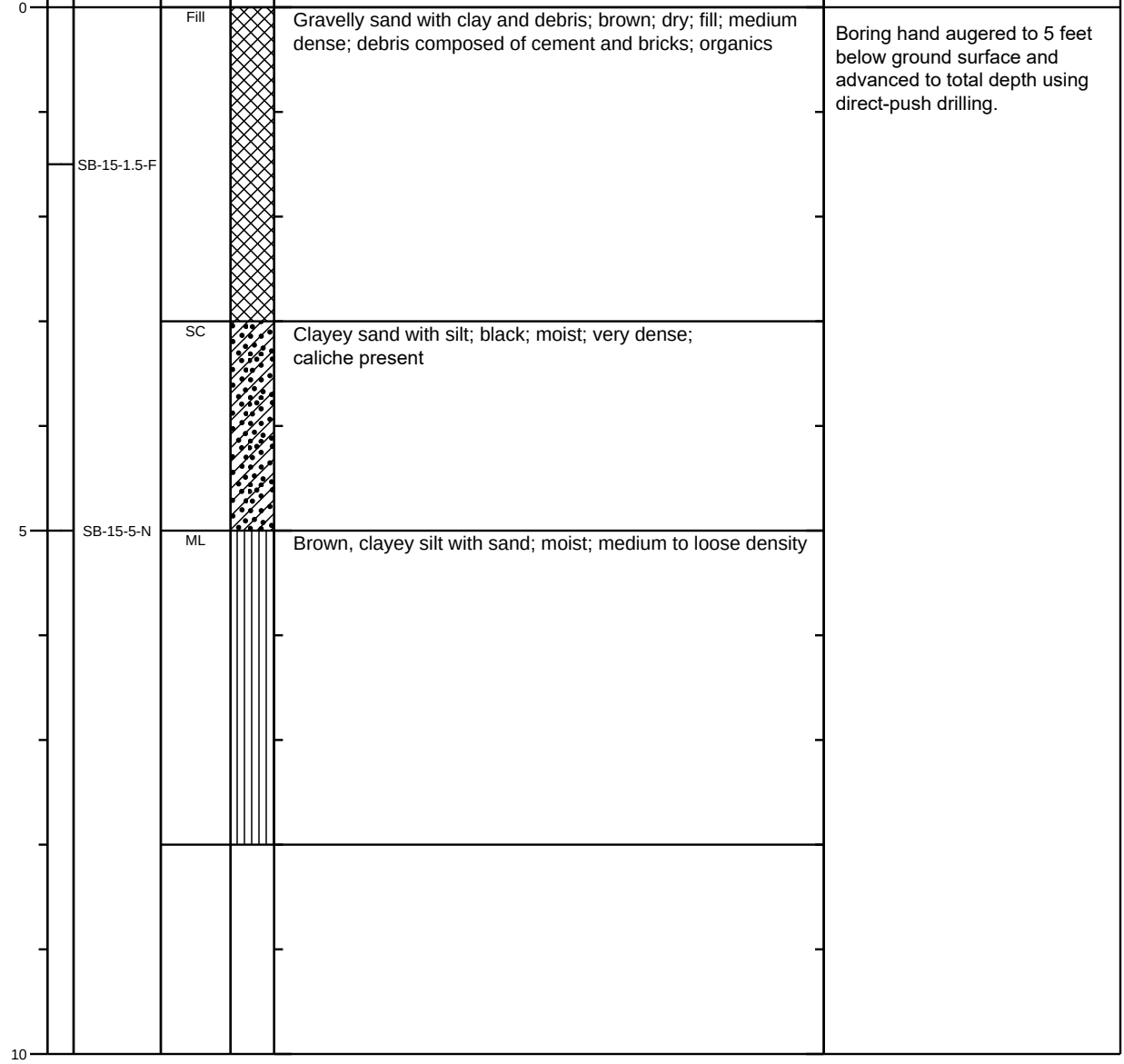
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-15 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 15

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

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COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

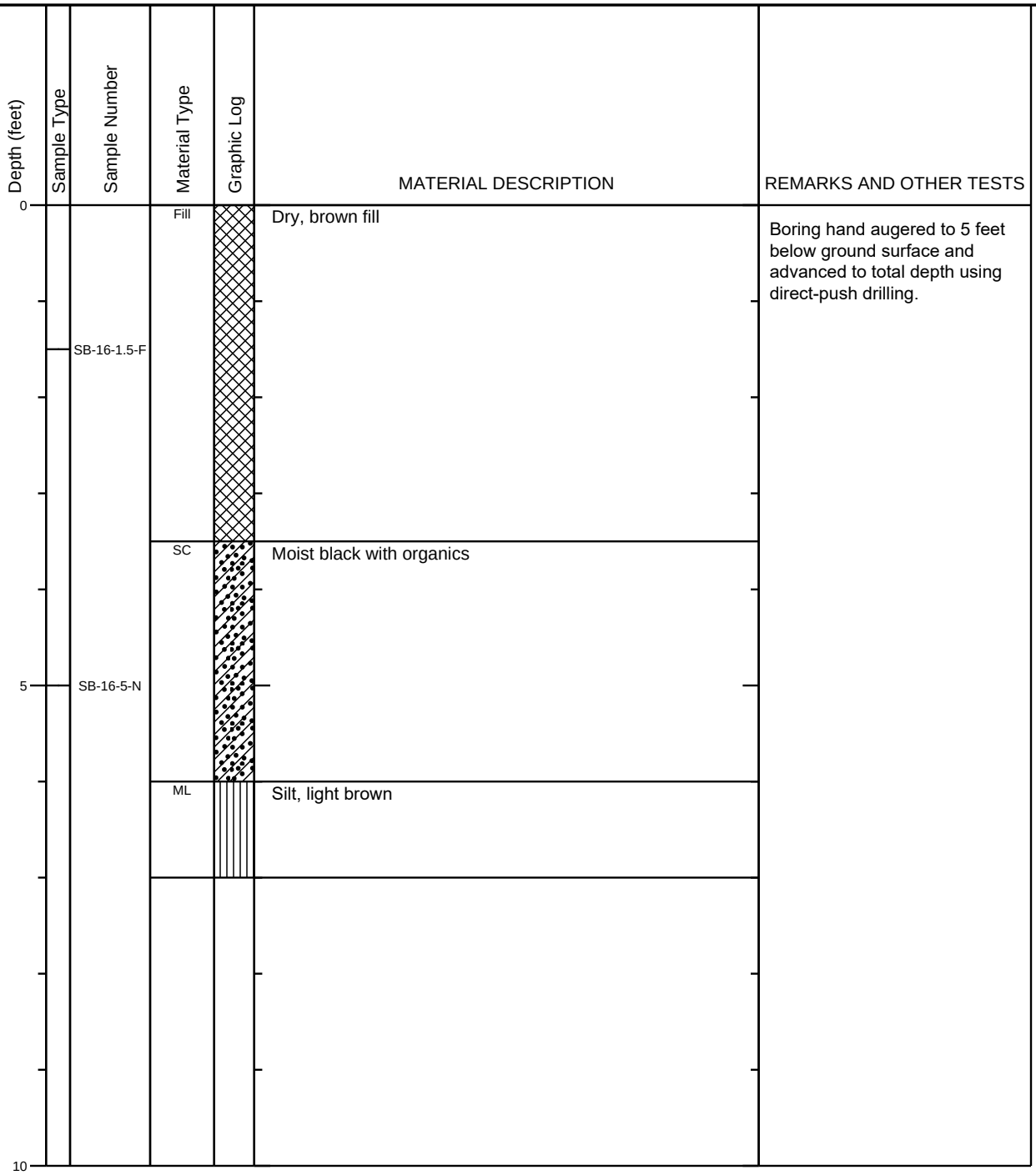
1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-16 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **7 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



J:\Projects\0098 - Dublin Unified School District\003 - Promenade Phase 2\Technical\Field Forms\boring log drafts.bg4[Hamilton HS.tpl]

Figure 16

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

J:\Projects\0098 - Dublin Unified School District\003 - Promenade Phase 2\Technical\Field Forms\boring log drafts.bg4[Hamilton HS.tpl]

Figure B-1



ENTHALPY

ANALYTICAL

Enthalpy Analytical
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300550
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
SB-2-0.5-F	300550-001
SB-3-0.5-F	300550-002
SB-4-1.5-F	300550-003
SB-5-0.5-F	300550-004
SB-6-1.5-F	300550-005
SB-7-1.5-F	300550-006
SB-8-1.5-F	300550-007
SB-9-1.5-F	300550-008
SB-10-1.5-F	300550-009
SB-11-1.5-F	300550-010
SB-12-1.5-F	300550-011
SB-13-1.5-F	300550-012
SB-14-1.5-F	300550-013
SB-15-1.5-F	300550-014
SB-16-1.5-F	300550-015

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Tracy Babjar Date: 06/25/2018

Tracy Babjar
Project Manager
tracy.babjar@enthalpy.com
(510) 204-2226 Ext 13107

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300550**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**06/18/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for fifteen soil samples, requested for the above referenced project on 06/18/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
SB-9-1.5-F (lab # 300550-008), SB-11-1.5-F (lab # 300550-010), and SB-15-1.5-F (lab # 300550-014) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
Matrix spikes QC935647,QC935648 (batch 260436) were not reported because the parent sample required a dilution that would have diluted out the spikes. High recoveries were observed for 2,4-dinitrotoluene and 4-nitrophenol in the LCS for batch 260436; these analytes were not detected at or above the RL in the associated samples. High surrogate recovery was observed for phenol-d5 in SB-5-0.5-F (lab # 300550-004); no target analytes were detected in the sample. High surrogate recoveries were observed for terphenyl-d14 in SB-3-0.5-F (lab # 300550-002) and SB-5-0.5-F (lab # 300550-004); no target analytes were detected in these samples. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC935535,QC935536 (batch 260410) were not reported because the parent sample required a dilution that would have diluted out the spikes. Many samples were diluted due to the color of the sample extracts. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
A number of analytes were detected between the MDL and the RL in the method blank for batch 260616. No other analytical problems were encountered.

CARB 435 Asbestos (CARB 435):
Forensic Analytical in Hayward, CA performed the analysis (not NELAP certified). Please see the Forensic Analytical case narrative.

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300550)

3 messages

Daren Roth <daren.roth@terraphase.com> Fri, Jun 15, 2018 at 6:34 PM
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

We would like to proceed with analyzing the extracts for all the samples presented in the login below (300550) for the following analytes:

- TPHd and TPHmo by 8015
- SVOCs by 8270
- PCBs by 8082

We would also like to analyze this same list of samples for the following:

- Title 22 Metals by 6010
- Asbestos by CARB 435

We would like these analyzed on a standard turn around time.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Monday, June 11, 2018 1:02 PM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <michael.murphy@terraphase.com>; Seth Stroika <seth.stroika@terraphase.com>
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300550)

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

Re: 0098.003.001 - Enthalpy (Berkeley) Data ~~(300213)~~ CT # 300550

Daren Roth <daren.roth@terraphase.com> Fri, Jun 8, 2018 at 6:42 PM
To: "mike.dahlquist@enthalpy.com" <mike.dahlquist@enthalpy.com>, Tracy Babjar <tracy.babjar@enthalpy.com>
Cc: Andy Lojo <andrew.lojo@terraphase.com>

Hi Tracy,

We would like to have the **extraction** completed for **SVOCs, TPHd/TPHmo, and PCBs** for select samples from the subject sample group. This will apply to the following samples:

1- • SB-2-0.5-F -028
2- • SB-3-0.5-F -027
3- • SB-4-1.5-F -026
4- • SB-5-0.5-F- 020
5- • SB-6-1.5-F -019
6- • SB-7-1.5-F -018
7- • SB-8-1.5-F -017
8- • SB-9-1.5-F -009
9- • SB-10-1.5-F -010
10- • SB-11-1.5-F -011
11- • SB-12-1.5-F -012
12- • SB-13-1.5-F -001
13- • SB-14-1.5-F- 002
14- • SB-15-1.5-F -003
15- • SB-16-1.5-F -004

Please prioritize the extractions from the samples that were collected on 5/29 on Monday, and then complete the extractions from the samples collected on 5/30 to avoid missing the hold times for any of these samples.

Let me know if you have any questions.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stouka
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																				
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd, mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	Hold												
	SB-13-1.5-F	5/24/18	1130		X			2					X	X	X	X	X	X	X	T												
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X	T												
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X	T												
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	T												
	SB-13-5-N	5/29/18	1140		X			2					X	X	X					T												
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					T												
	SB-15-5-N	5/29/18	0910		X			2					X	X	X					T												
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					T												
	SB-9-1.5-F	5/29/18	1510		X			2					X	X	X	X	X	X	X	T												
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X	T												
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X	T												
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	T												
					X																											

COMP-13-16-F
COMP-13-16-N
COMP-9-12-F

Notes:
Hold all discrete samples for potential future analysis, Only analyze comp at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 300213

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	T. Hs 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHdmo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE										
	SB-9-5-N	5/29/18	1520		X			2					X	X	X					T	COMP-9-12-N								
	SB-10-5-N	5/30/18	0745		X			2					X	X	X					T									
	SB-11-5-N	5/29/18	1405		X			2					X	X	X					T									
	SB-12-5-N	5/29/18	1215		X			2					X	X	X					T									
	SB-8-1.5-F	5/29/18	1435		X			2					X	X	X	X	X	X	X	T	COMP-5-8-F								
	SB-7-1.5-F	5/30/18	1020		X			2					X	X	X	X	X	X	X	T									
	SB-6-1.5-F	5/30/18	0905		X			2					X	X	X	X	X	X	X	T									
	SB-5-0.5-F	5/30/18	1105		X			2					X	X	X	X	X	X	X	T									
	SB-8-5-N	5/29/18	1445		X			2					X	X	X					T	COMP-5-8-N								
	SB-7-5-N	5/30/18	1030		X			2					X	X	X					T									
	SB-6-5-N	5/30/18	0920		X			2					X	X	X					T									
	SB-5-1.5-N	5/30/18	1105		X			2					X	X	X					T									
	SB-5-5-N	5/30/18	1110		X			2					X	HOLD						T									

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE 5/30/18 TIME 1605
DATE TIME
DATE TIME

RECEIVED BY:
DATE 5/31/18 TIME 1015
DATE TIME
DATE TIME

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stoika

Project Name: DUSD Promenade Report To: Daren Roth

Project P. O. No: Company: Terraphase

EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496

Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																			
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite													
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	1	} COMP-1-4-F											
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X	1												
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	1												
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	1	} COMP-1-4-N											
	SB-2-1.5-N	5/30/18	1205		X			2					X	X						1												
	SB-3-1.5-N	5/30/18	1135		X			2					X	X						1												
	SB-4-5-N	5/30/18	0840		X			2					X	X						1												
	SB-1-5-N	5/30/18	1235		X			2					X	X						1												
	SB-2-5-N	5/30/18	1210		X			2					X	HOLD																		
	SB-3-5-N	5/30/18	1140		X			2					X	HOLD																		
														HOLD																		

Notes:
Hold all discrete samples pending analysis; Only Analyze COMP SB-1-1.5-N run for All analytes as discrete

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/31/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300213 Client: Terraphase

Date Received: 5.30.18 Project: DUSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5.30.18 By (print) KP (sign) KP

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☒ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? By Date:			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (If N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 - time (sample) doesn't match COC → ID & date matched

Sample 20 - sample time doesn't match COC → ID & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "N"

Sample 30 & 34 - sample labels were wrong, called client to figure out which sample was ~~empty~~ which since the 2 small jars have the same label & 2 large jars had same label instead of 1 large jar & 1 small jar per the rest of the job.

Date Logged In 5/31/18 **By (print)** KP **(sign)** KP

Date Labeled 5/31/18 **By (print)** KP **(sign)** KP

ENTHALPY ANALYTICAL

Detections Summary for 300550

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-2-0.5-F Laboratory Sample ID : 300550-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.1	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	110		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.30		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.069	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.60	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	53		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-0.5-F Laboratory Sample ID : 300550-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	22		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.2		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	290		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.67		0.096	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.28		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.24	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.96	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.020		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.17	J	0.24	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	45		0.24	0.066	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.63	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	52		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		0.96	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-4-1.5-F Laboratory Sample ID : 300550-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.4	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	72		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
4-Methylphenol	20	J	340	10	ug/Kg	As Recd	1.000	EPA 8270C	EPA 3550C
Arsenic	5.3		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.25	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.7		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.025		0.016	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.36		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.50	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-5-0.5-F Laboratory Sample ID : 300550-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.9	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	43		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.5		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	300		0.23	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.67		0.093	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.27		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.23	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.93	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.024		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.083	J	0.23	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.23	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.54	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	55		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		0.93	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-6-1.5-F Laboratory Sample ID : 300550-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	53		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.68		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.26		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.069	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.73	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	53		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-7-1.5-F Laboratory Sample ID : 300550-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.9	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	57		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.7		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.11	0.022	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.32		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.27	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.9		1.0	0.14	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.22	J	0.27	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.27	0.075	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.41	J	2.0	0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	52		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	47		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-8-1.5-F Laboratory Sample ID : 300550-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	74		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	6.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	330		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.66		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.26		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.016	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.66	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	56		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-9-1.5-F Laboratory Sample ID : 300550-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	17	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	190		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	4.7		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	320		0.24	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.73		0.097	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.25		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	43		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		0.97	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.19	J	0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.24	0.067	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.72	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	51		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		0.97	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-10-1.5-F Laboratory Sample ID : 300550-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.1	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	65		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.0		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	340		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.73		0.098	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.98	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.017	J	0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.17	J	0.25	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.25	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.48	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	55		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	47		0.98	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-11-1.5-F Laboratory Sample ID : 300550-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	15	Y,Z	2.0	0.61	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	160		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	6.3		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	210		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.58		0.11	0.022	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.27	J	0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.14	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.034		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.37		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	39		0.27	0.076	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.58	J	2.0	0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	46		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	56		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-12-1.5-F Laboratory Sample ID : 300550-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	70		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	1.2	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	5.4		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.32		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	36		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.9		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.018		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.15	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.48	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	46		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	44		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-13-1.5-F Laboratory Sample ID : 300550-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.7	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	69		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	0.78	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	6.0		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.094	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	36		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	9.7		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.24	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.8		0.94	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.019		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.23	J	0.24	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	34		0.24	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.51	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	48		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		0.94	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-14-1.5-F Laboratory Sample ID : 300550-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	90		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	1.0	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	6.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.26	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.26	0.057	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.0		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.22	J	0.26	0.057	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	35		0.26	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.60	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-15-1.5-F Laboratory Sample ID : 300550-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y,Z	2.0	0.61	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	210		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	6.5		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	250		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.66		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	48		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	26		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.027		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.34		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	46		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.57	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	61		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

ENTHALPY ANALYTICAL

Client Sample ID : SB-16-1.5-F Laboratory Sample ID : 300550-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	25		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
bis(2-Ethylhexyl)phthalate	15	J	330	13	ug/Kg	As Recd	1.000	EPA 8270C	EPA 3550C
Arsenic	6.5		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	240		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.34		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.6		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.44	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	45		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-2-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-001	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	7.1 Y Z	1.0	0.31
Motor Oil C24-C36	110	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Field ID:	SB-3-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-002	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.3 Y Z	1.0	0.31
Motor Oil C24-C36	22	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	102	55-133

Field ID:	SB-4-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-003	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.4 Y Z	1.0	0.31
Motor Oil C24-C36	72	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Field ID:	SB-5-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-004	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.9 Y Z	1.0	0.31
Motor Oil C24-C36	43	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-6-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-005	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.3 Y Z	1.0	0.31
Motor Oil C24-C36	53	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Field ID:	SB-7-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-006	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	4.9 Y Z	1.0	0.31
Motor Oil C24-C36	57	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	99	55-133

Field ID:	SB-8-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-007	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	5.3 Y Z	1.0	0.31
Motor Oil C24-C36	74	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Field ID:	SB-9-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-008	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	17 Y Z	2.0	0.62
Motor Oil C24-C36	190	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	112	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-10-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-009	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	9.1 Y Z	1.0	0.31
Motor Oil C24-C36	65	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Field ID:	SB-11-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-010	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	15 Y Z	2.0	0.61
Motor Oil C24-C36	160	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	103	55-133

Field ID:	SB-12-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-011	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.3 Y Z	1.0	0.31
Motor Oil C24-C36	70	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	111	55-133

Field ID:	SB-13-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-012	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	7.7 Y Z	1.0	0.31
Motor Oil C24-C36	69	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID: SB-14-1.5-F
Type: SAMPLE
Lab ID: 300550-013
Diln Fac: 1.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	12 Y Z	1.0	0.31
Motor Oil C24-C36	90	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Field ID: SB-15-1.5-F
Type: SAMPLE
Lab ID: 300550-014
Diln Fac: 2.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	16 Y Z	2.0	0.61
Motor Oil C24-C36	210	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Field ID: SB-16-1.5-F
Type: SAMPLE
Lab ID: 300550-015
Diln Fac: 1.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	4.2 Y Z	1.0	0.31
Motor Oil C24-C36	25	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	107	55-133

Type: BLANK
Lab ID: QC935459
Diln Fac: 1.000
Analyzed: 06/12/18

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935460	Batch#:	260392
Matrix:	Soil	Prepared:	06/11/18
Units:	mg/Kg	Analyzed:	06/12/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	54.79	110	51-137

Surrogate	%REC	Limits
o-Terphenyl	107	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	SB-11-1.5-F	Batch#:	260392
MSS Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/11/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Type: MS Lab ID: QC935461

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	15.02	50.48	47.24	64	36-143

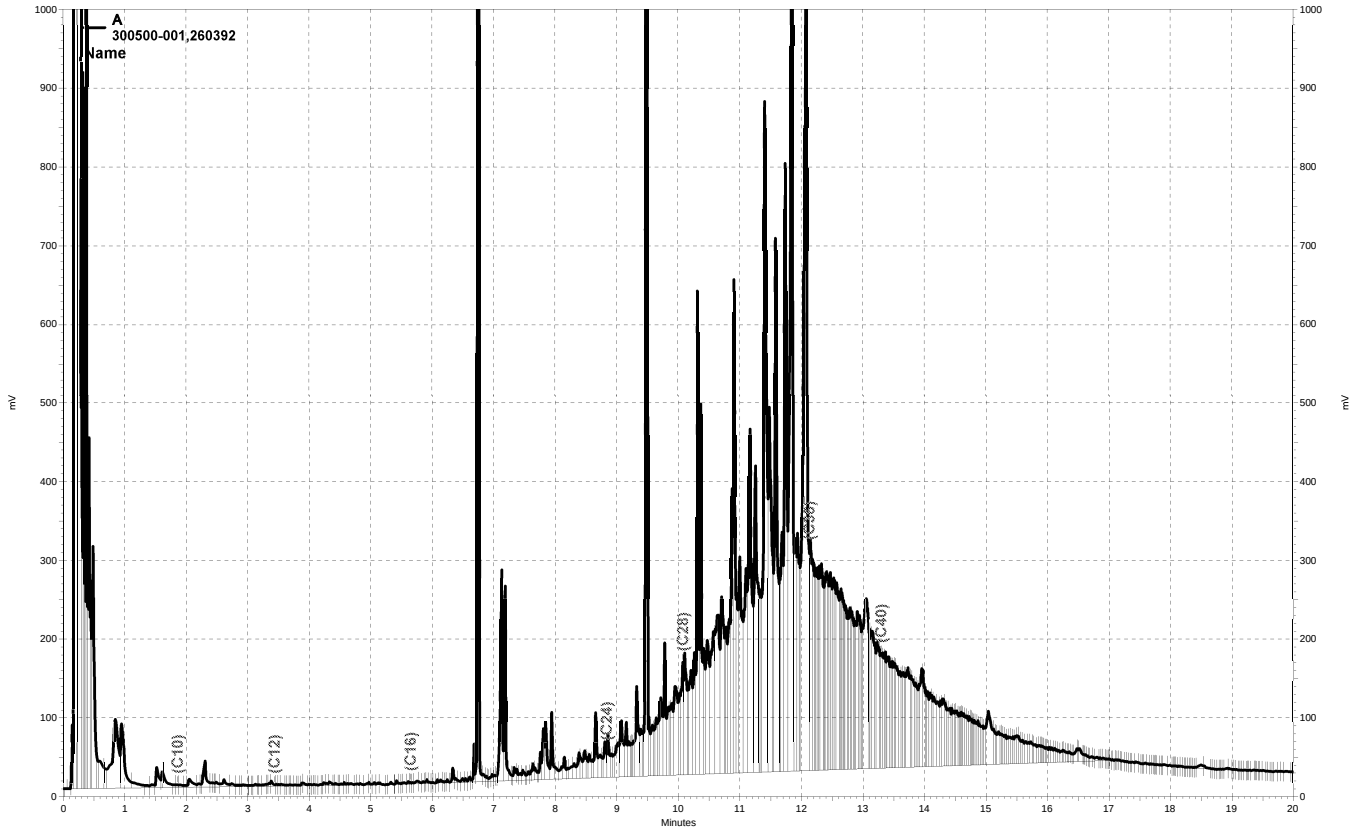
Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Type: MSD Lab ID: QC935462

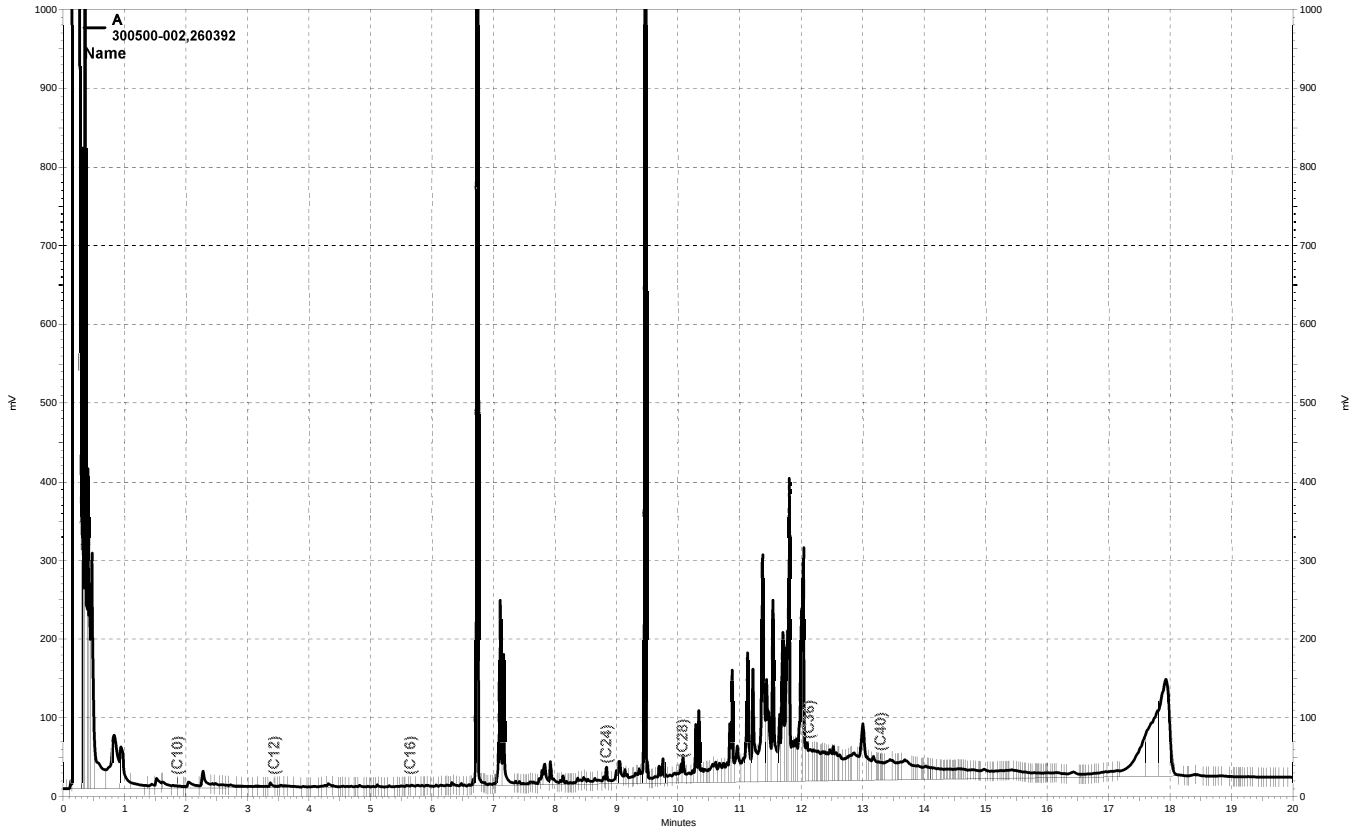
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.55	47.83	66	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	99	55-133

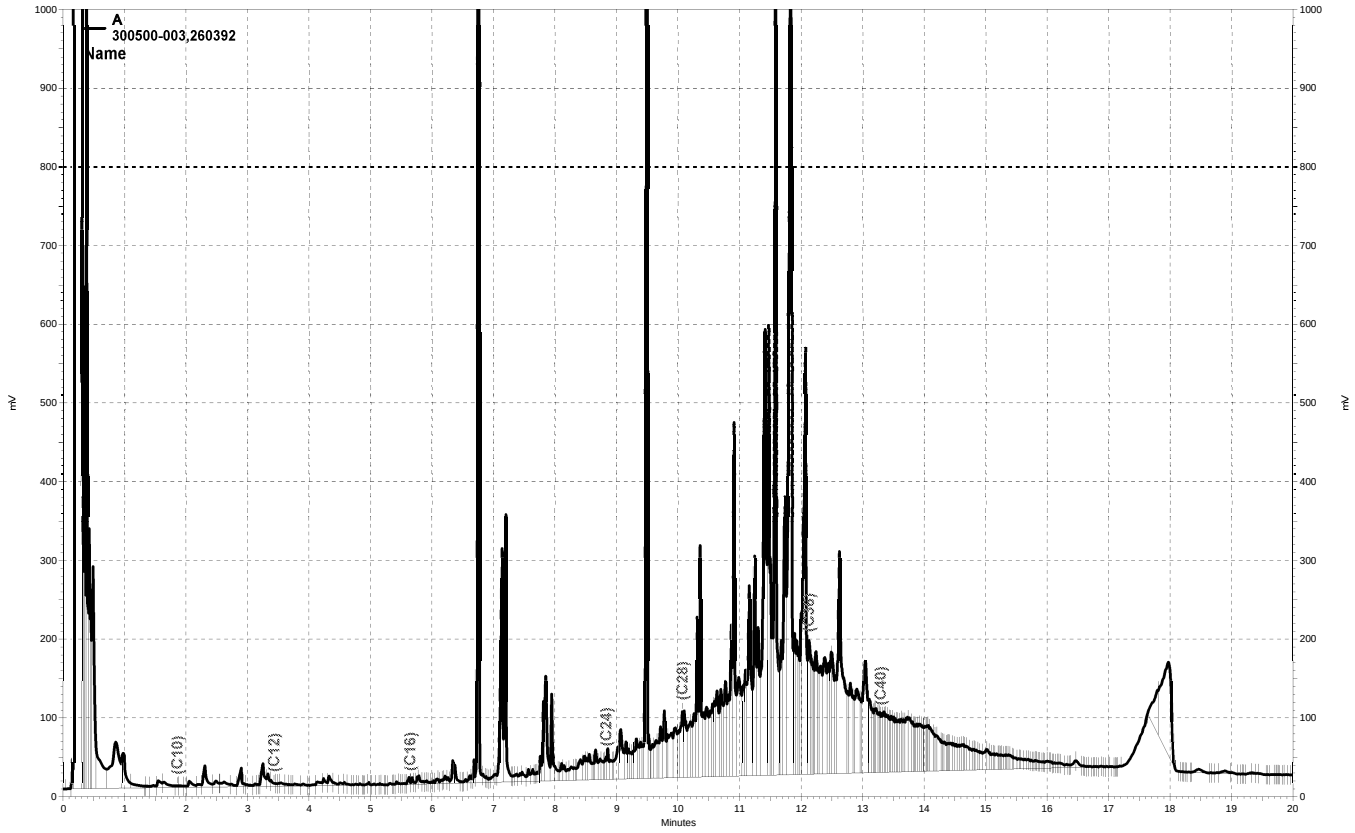
RPD= Relative Percent Difference



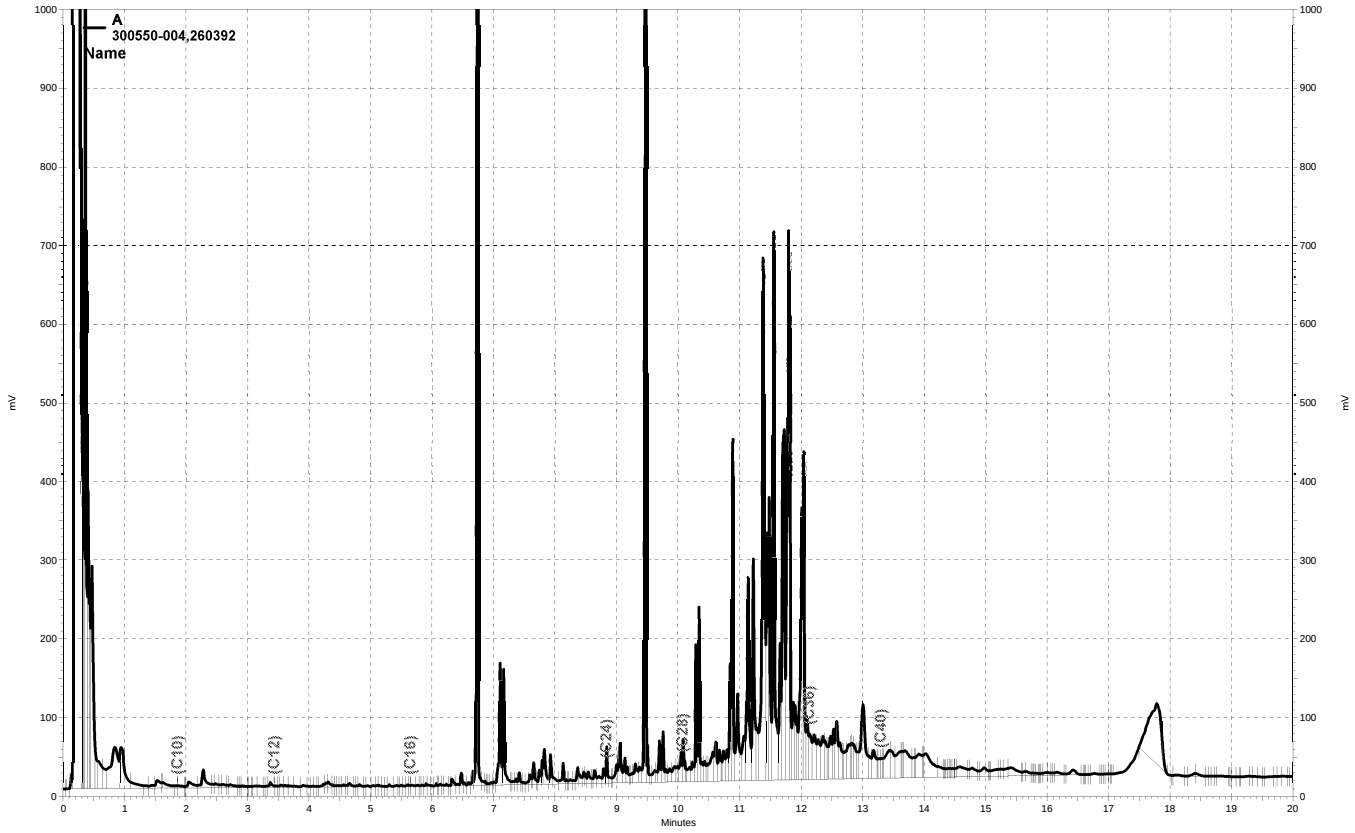
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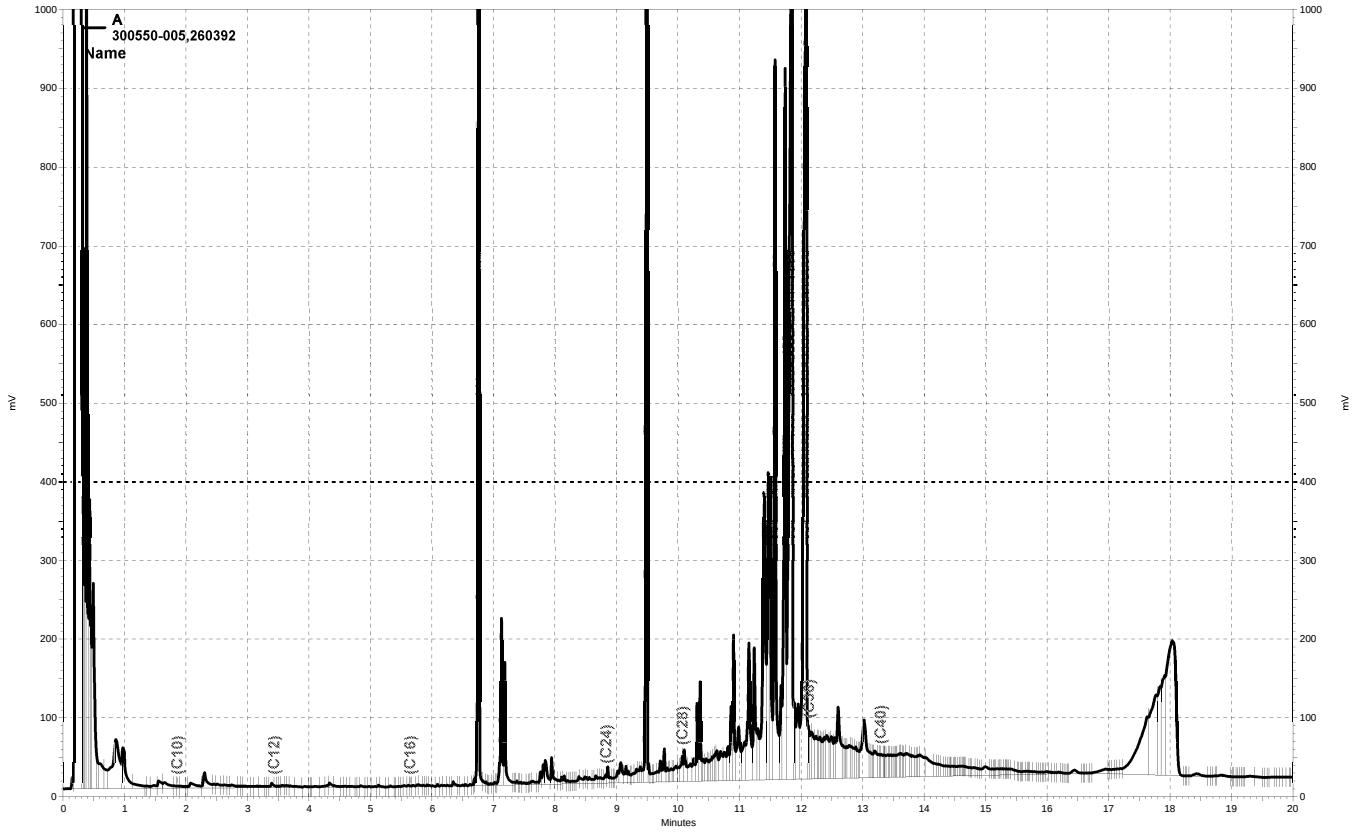
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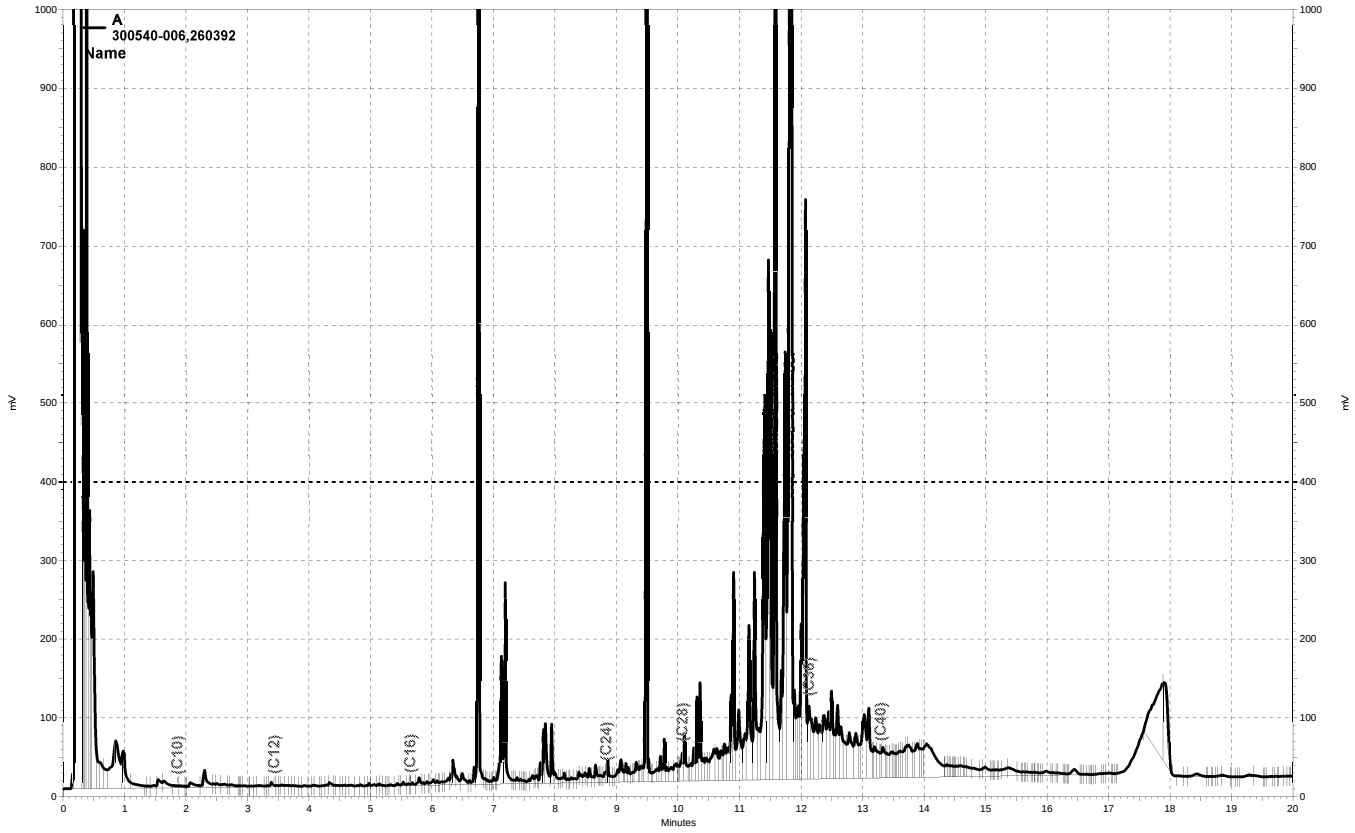
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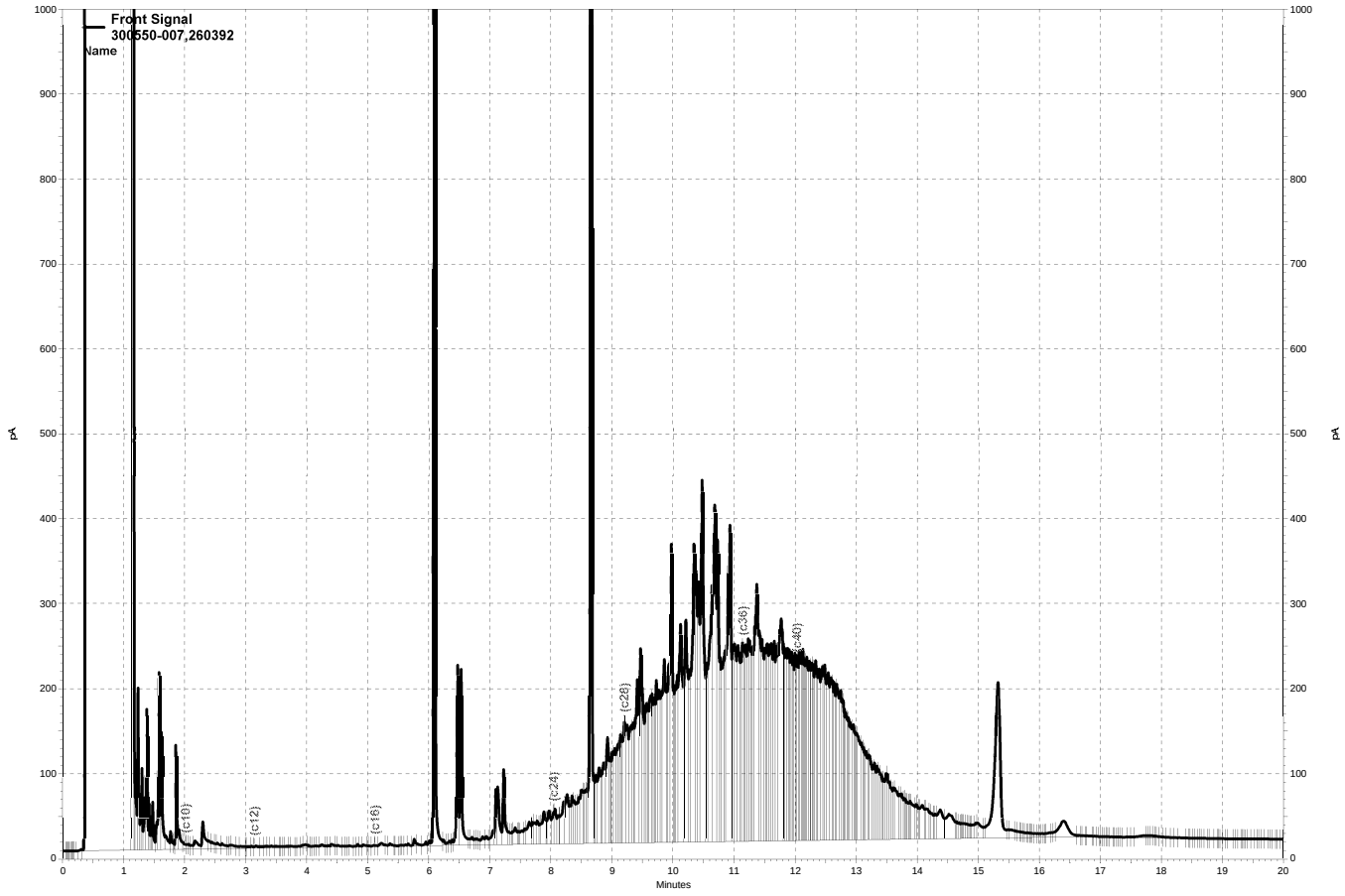
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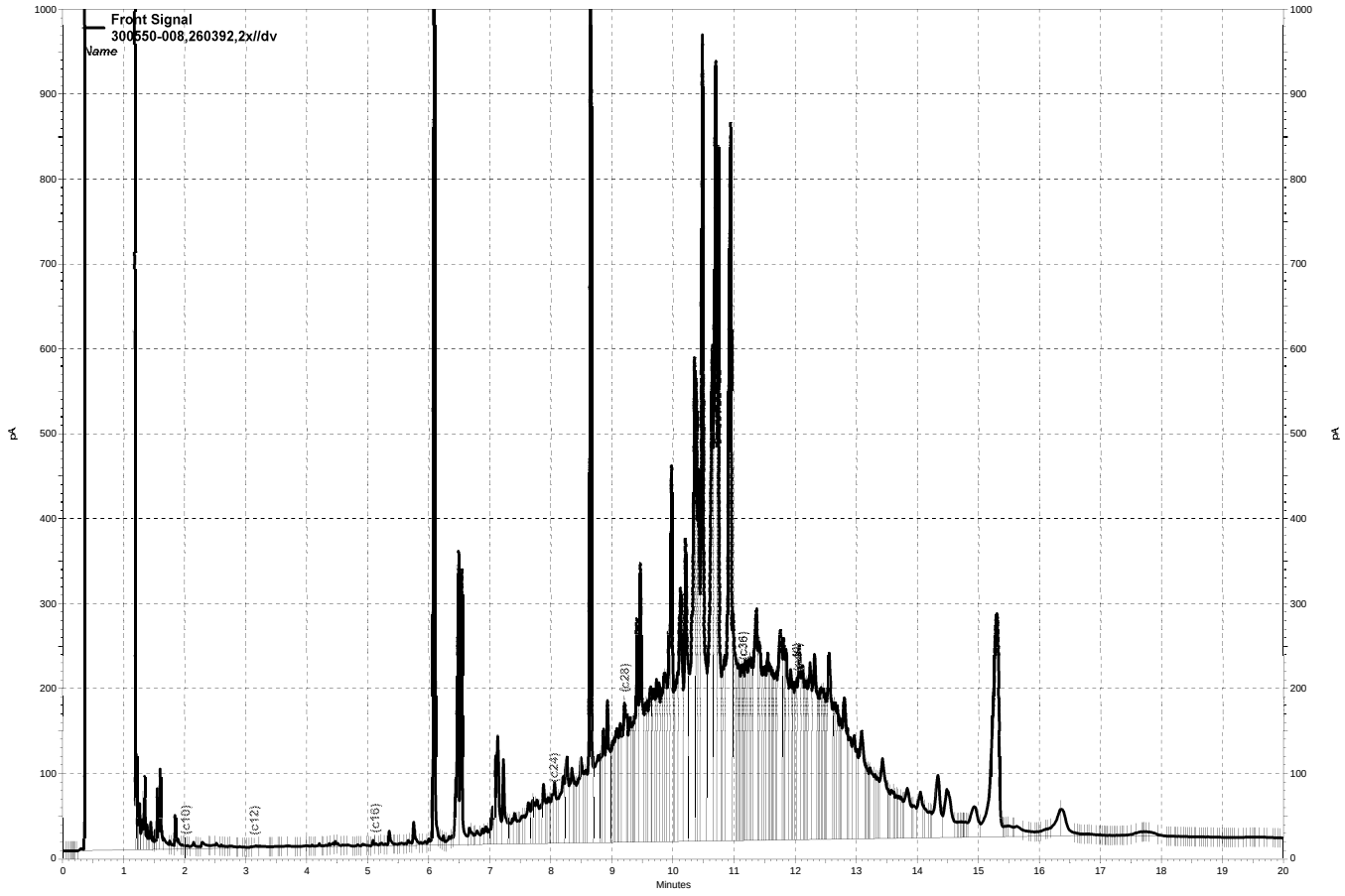
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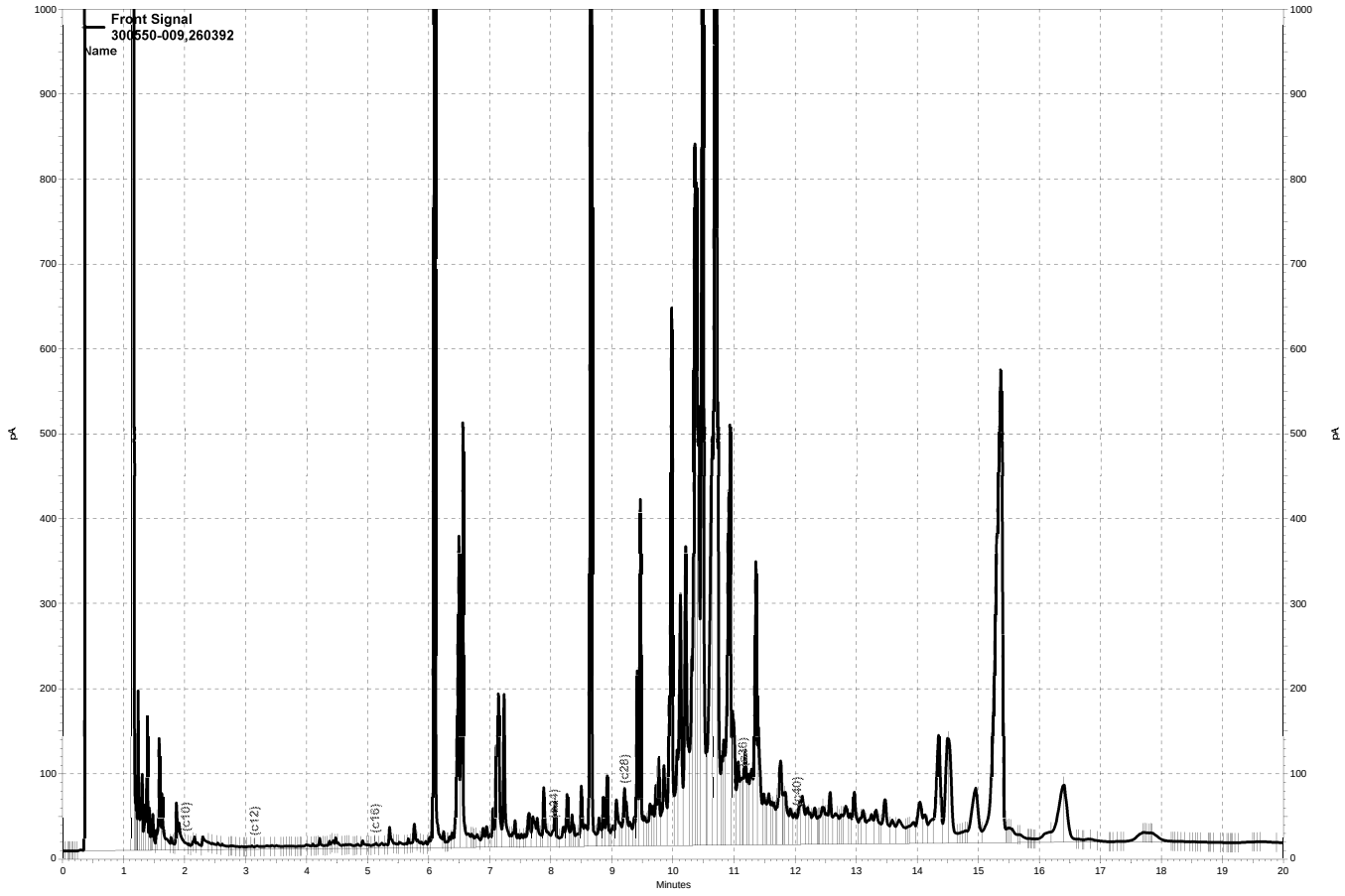
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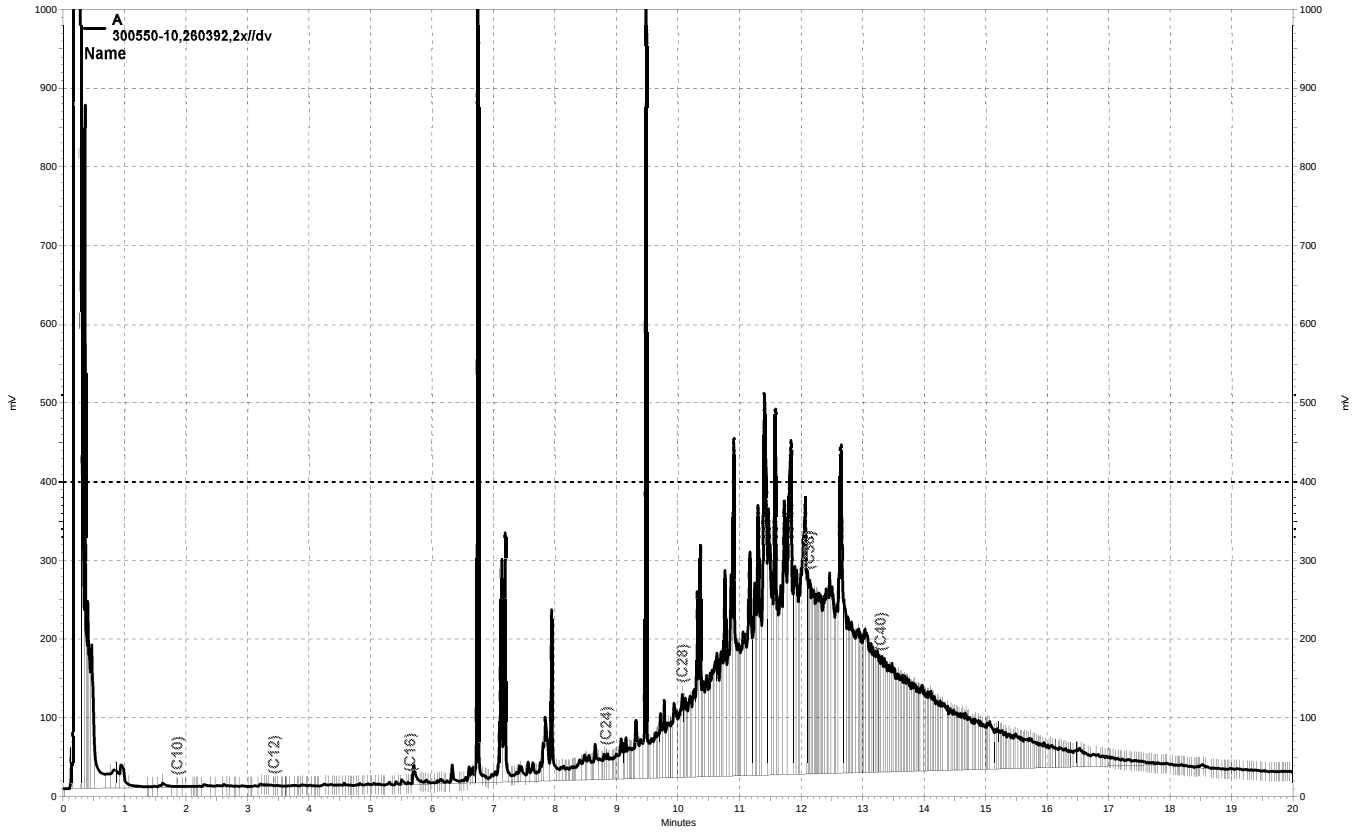
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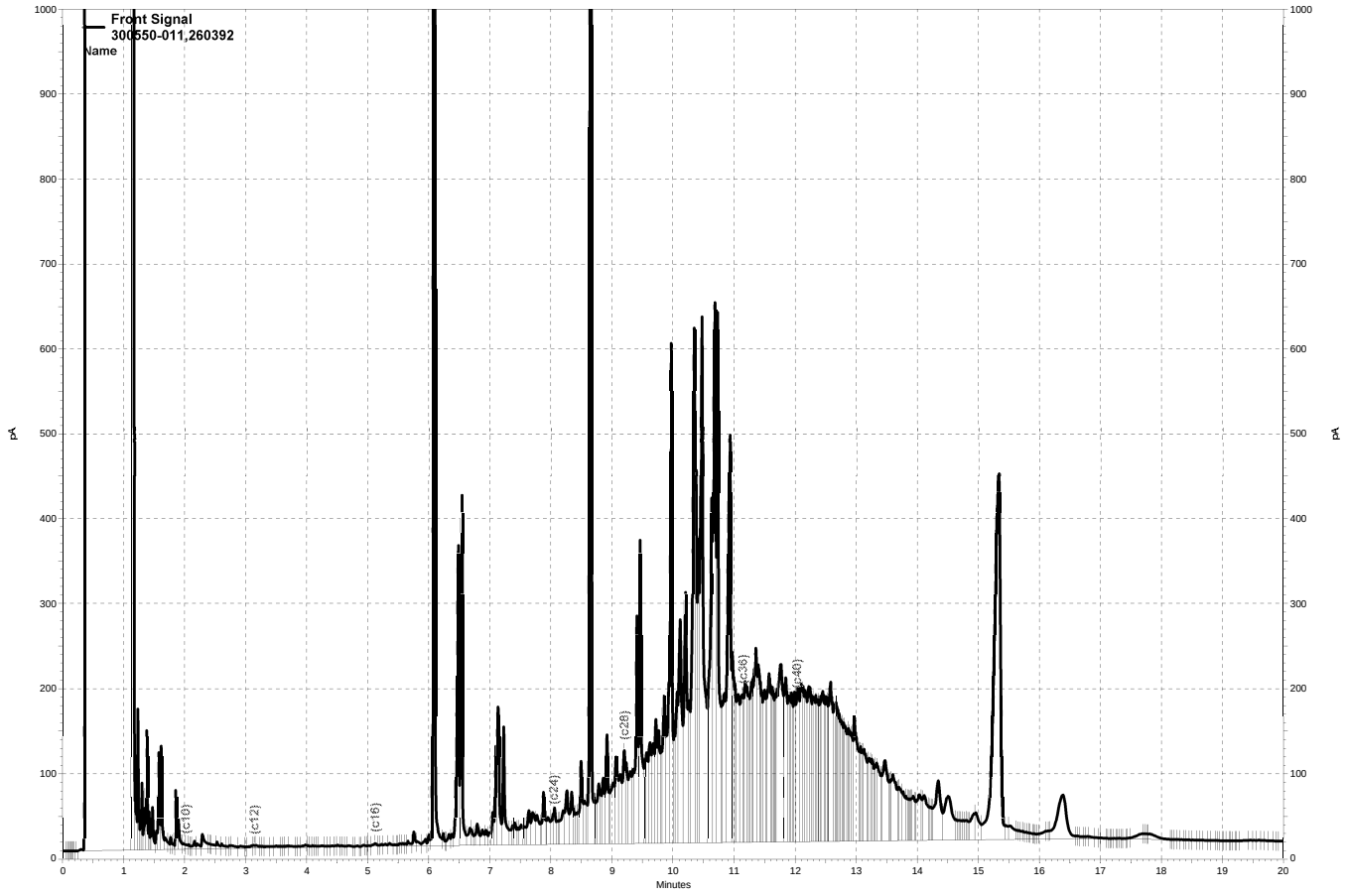
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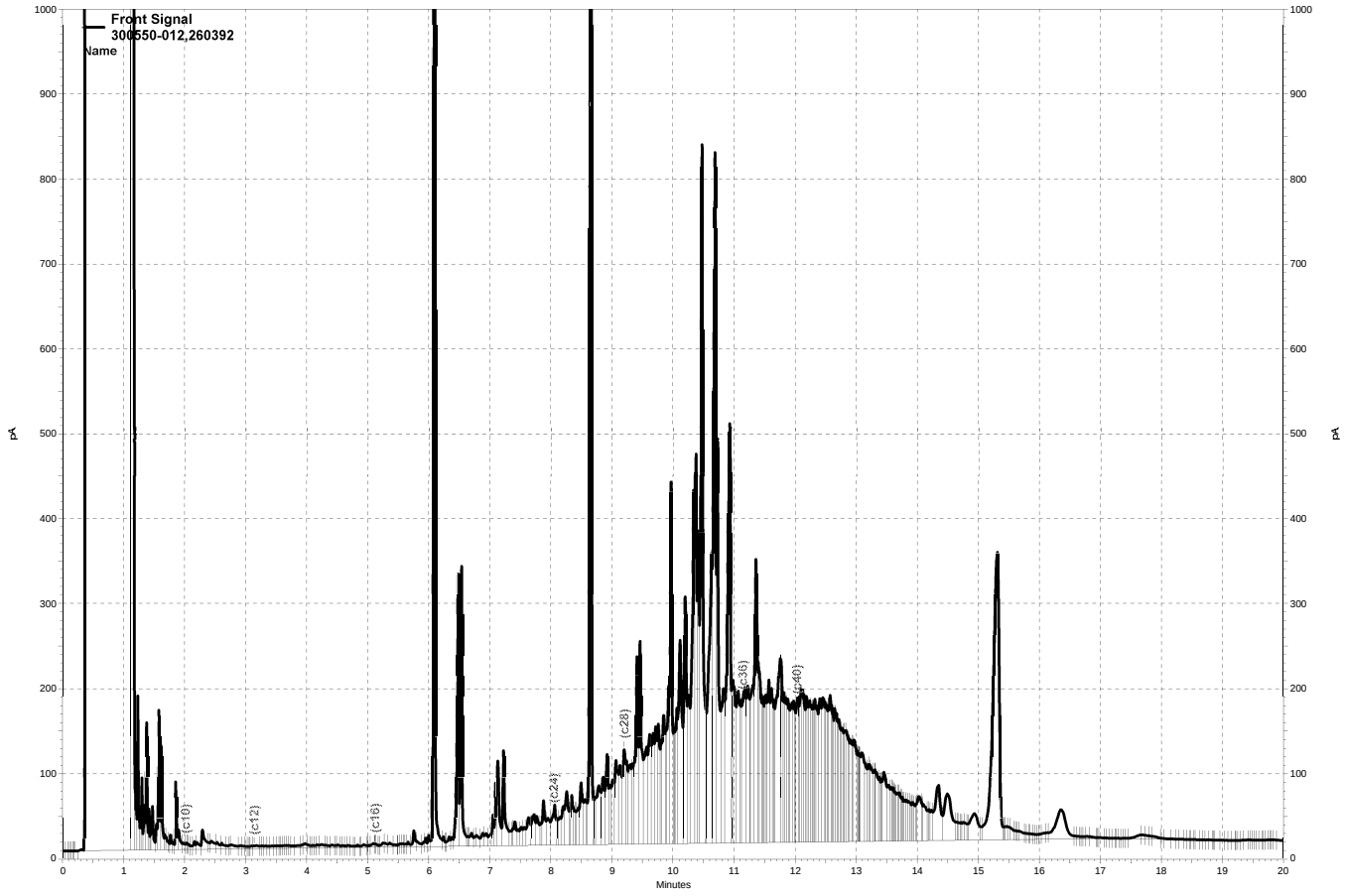
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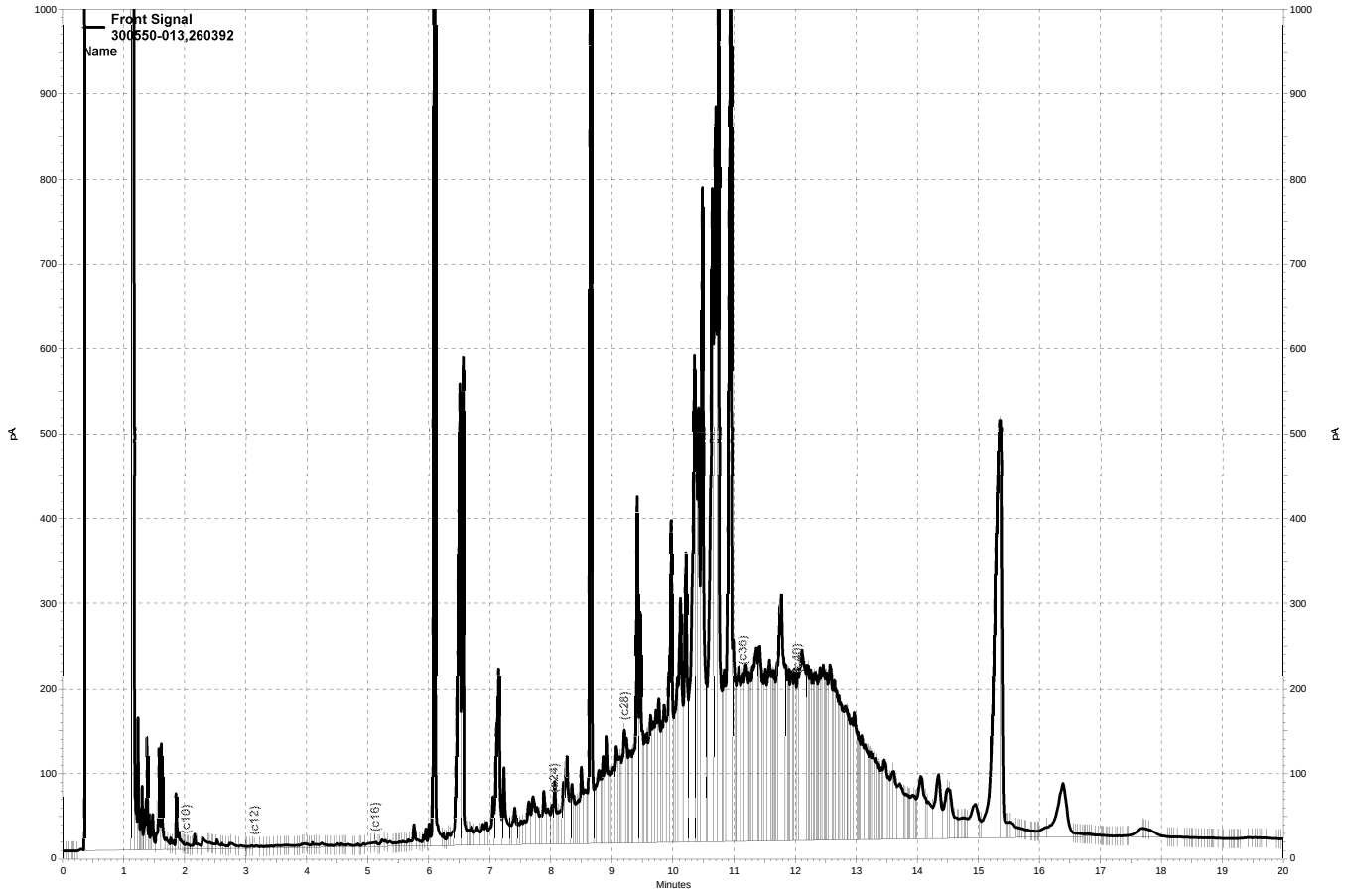
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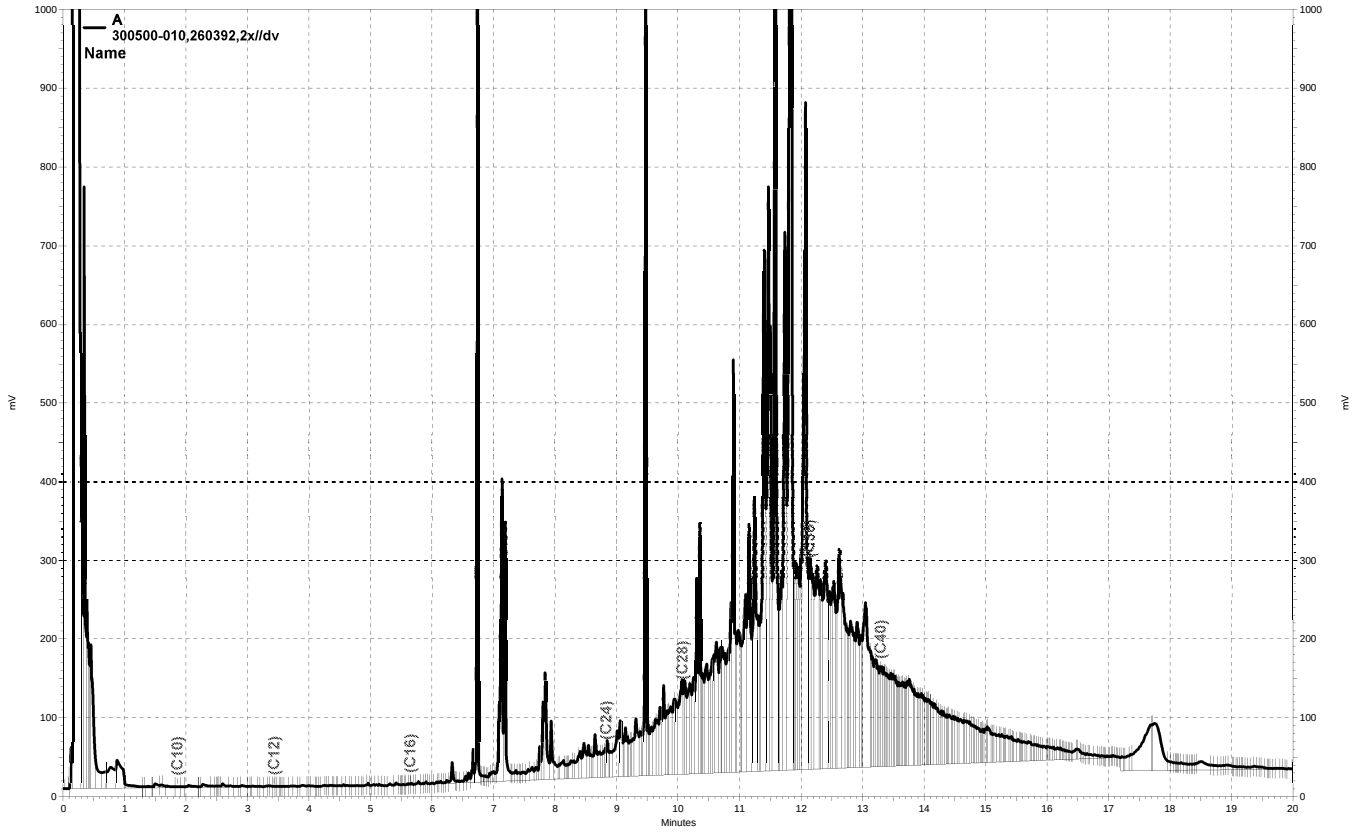
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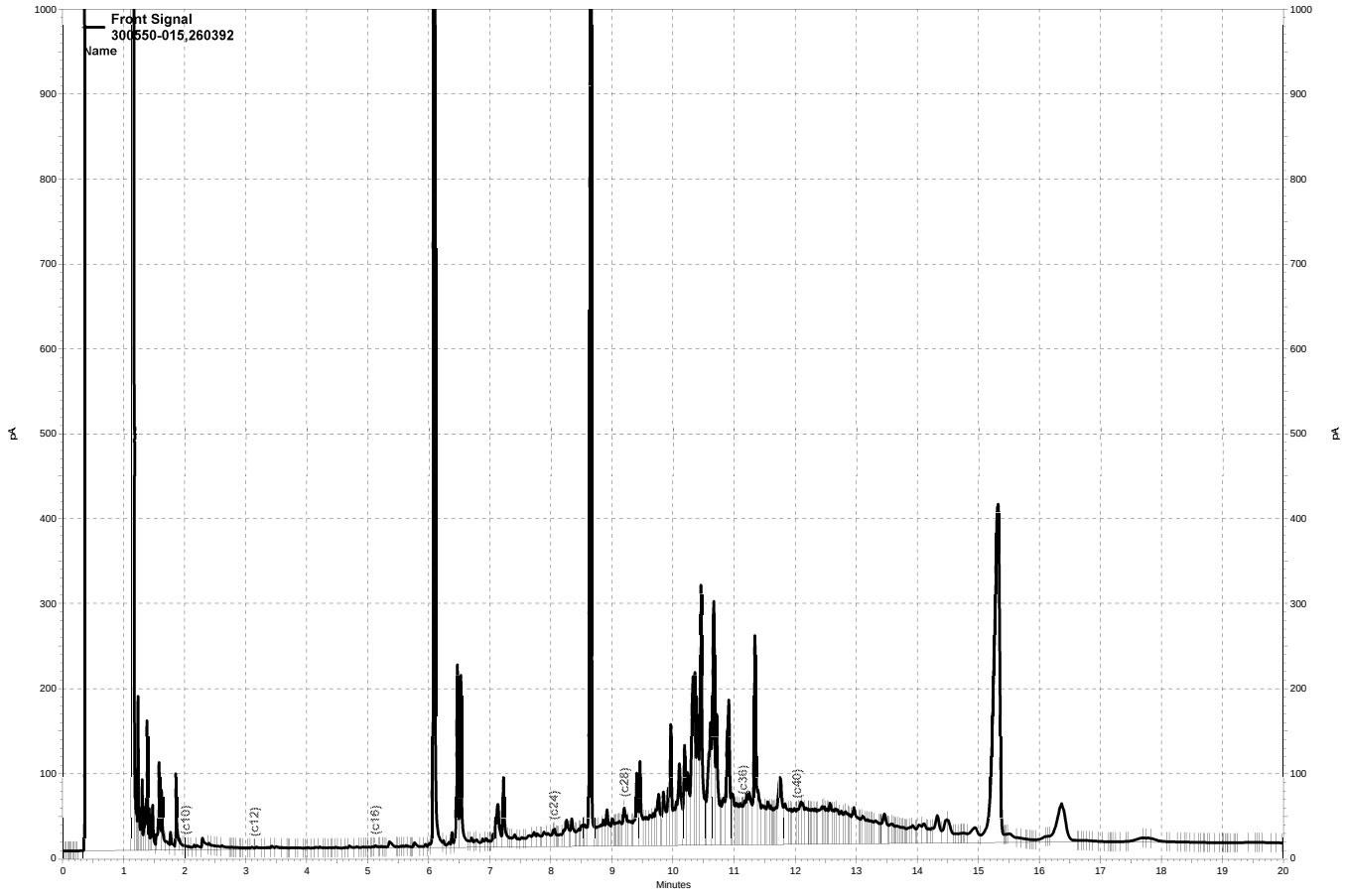
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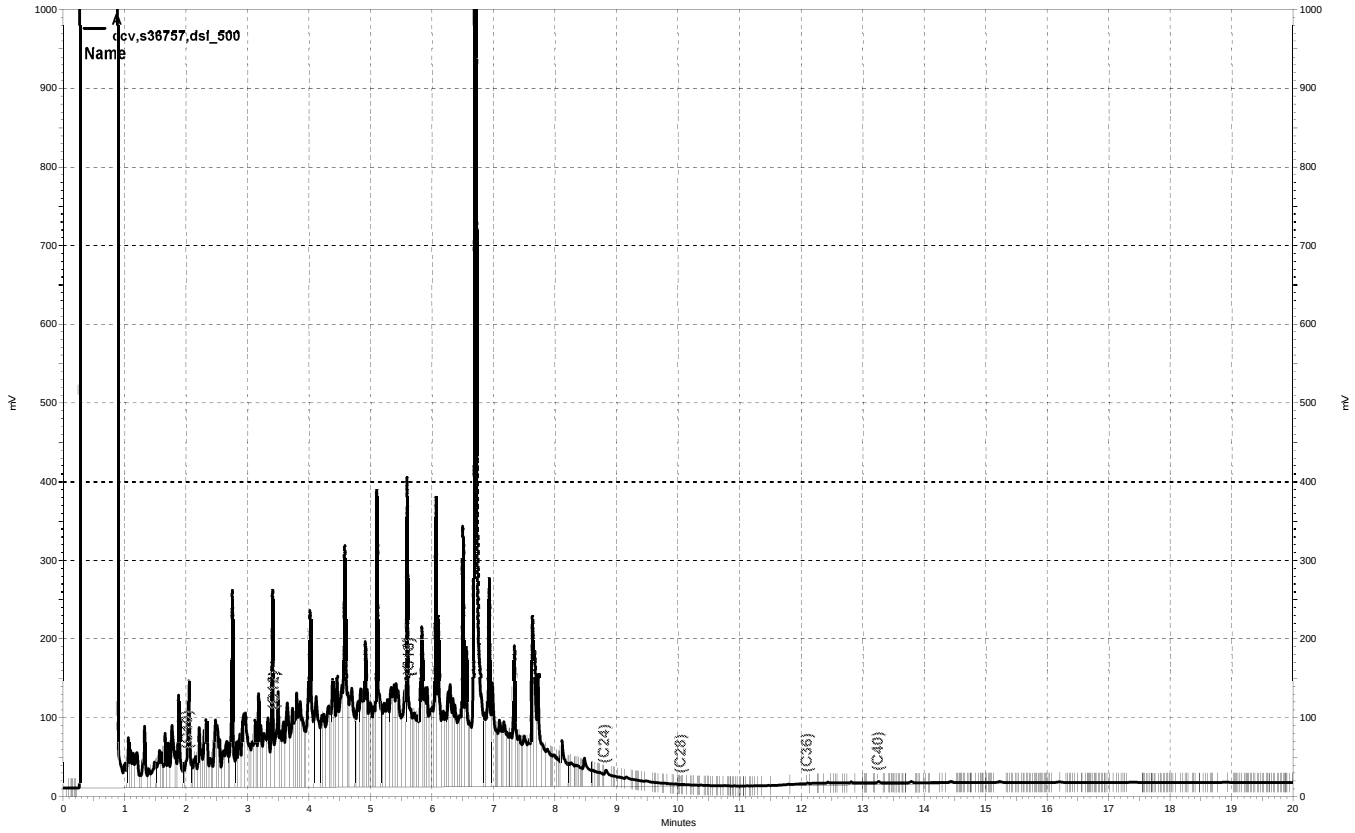
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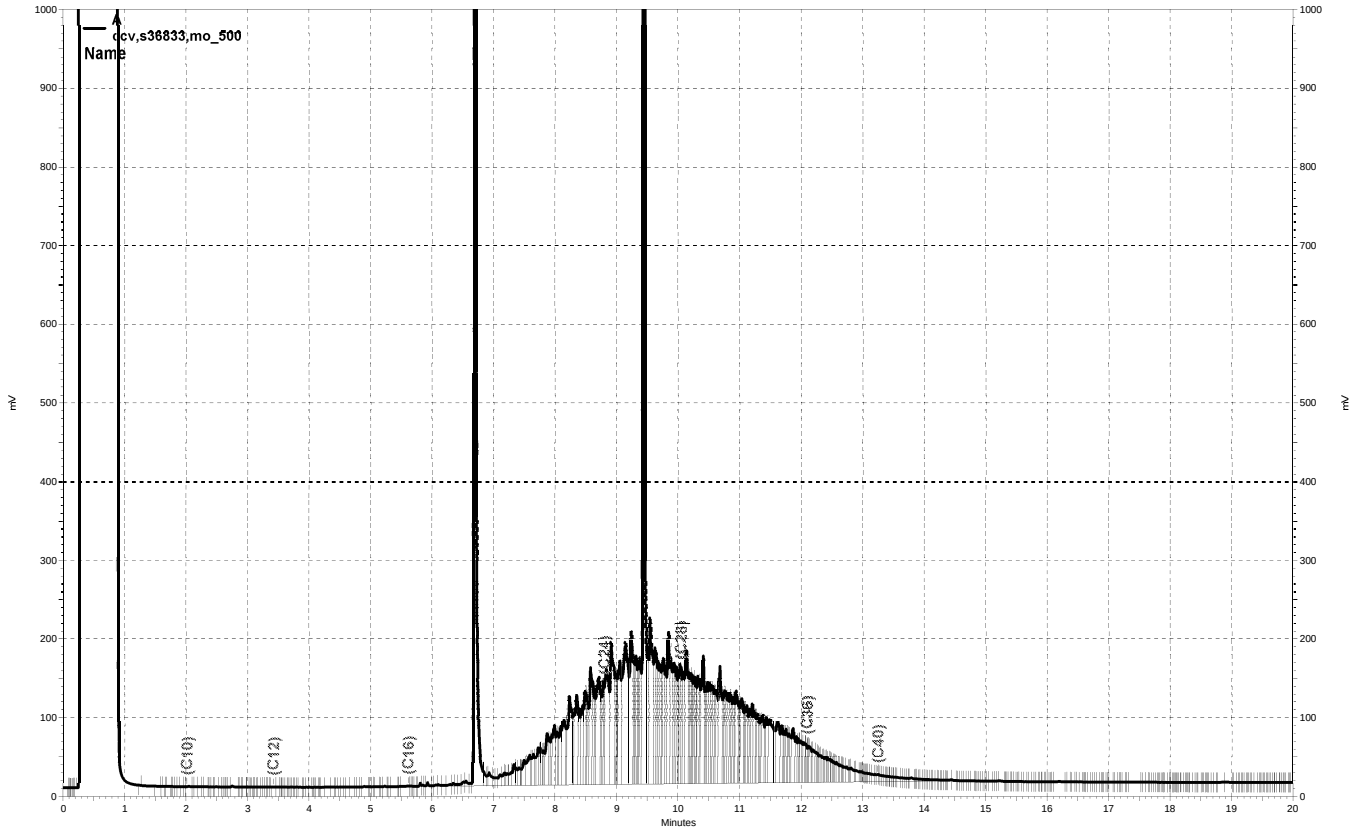
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\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\163a003, A



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ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-2-0.5-F	Batch#:	260436
Lab ID:	300550-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	660	94
Phenol	ND	660	20
bis(2-Chloroethyl)ether	ND	660	120
2-Chlorophenol	ND	660	20
1,3-Dichlorobenzene	ND	660	110
1,4-Dichlorobenzene	ND	660	20
Benzyl alcohol	ND	660	22
1,2-Dichlorobenzene	ND	660	20
2-Methylphenol	ND	660	27
bis(2-Chloroisopropyl) ether	ND	660	20
4-Methylphenol	ND	660	20
N-Nitroso-di-n-propylamine	ND	660	20
Hexachloroethane	ND	660	20
Nitrobenzene	ND	660	22
Isophorone	ND	660	20
2-Nitrophenol	ND	1,300	20
2,4-Dimethylphenol	ND	660	28
Benzoic acid	ND	3,300	870
bis(2-Chloroethoxy)methane	ND	660	20
2,4-Dichlorophenol	ND	660	20
1,2,4-Trichlorobenzene	ND	660	20
Naphthalene	ND	130	20
4-Chloroaniline	ND	660	19
Hexachlorobutadiene	ND	660	18
4-Chloro-3-methylphenol	ND	660	17
2-Methylnaphthalene	ND	130	20
Hexachlorocyclopentadiene	ND	1,300	150
2,4,6-Trichlorophenol	ND	660	25
2,4,5-Trichlorophenol	ND	660	17
2-Chloronaphthalene	ND	660	18
2-Nitroaniline	ND	1,300	21
Dimethylphthalate	ND	660	20
Acenaphthylene	ND	130	18
2,6-Dinitrotoluene	ND	660	18
3-Nitroaniline	ND	1,300	83
Acenaphthene	ND	130	20
2,4-Dinitrophenol	ND	1,300	300
4-Nitrophenol	ND	1,300	140
Dibenzofuran	ND	660	21
2,4-Dinitrotoluene	ND	660	19
Diethylphthalate	ND	660	22
Fluorene	ND	130	20
4-Chlorophenyl-phenylether	ND	660	19
4-Nitroaniline	ND	1,300	83
4,6-Dinitro-2-methylphenol	ND	1,300	150
N-Nitrosodiphenylamine	ND	660	21
Azobenzene	ND	660	17
4-Bromophenyl-phenylether	ND	660	21
Hexachlorobenzene	ND	660	21
Pentachlorophenol	ND	1,300	250
Phenanthrene	ND	130	21
Anthracene	ND	130	23

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-2-0.5-F	Batch#:	260436
Lab ID:	300550-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	660	24
Fluoranthene	ND	130	20
Pyrene	ND	130	22
Butylbenzylphthalate	ND	660	20
3,3'-Dichlorobenzidine	ND	1,300	44
Benzo(a)anthracene	ND	130	20
Chrysene	ND	130	22
bis(2-Ethylhexyl)phthalate	ND	660	26
Di-n-octylphthalate	ND	660	20
Benzo(b)fluoranthene	ND	130	18
Benzo(k)fluoranthene	ND	130	19
Benzo(a)pyrene	ND	130	17
Indeno(1,2,3-cd)pyrene	ND	130	18
Dibenz(a,h)anthracene	ND	130	19
Benzo(g,h,i)perylene	ND	130	20

Surrogate	%REC	Limits
2-Fluorophenol	86	31-121
Phenol-d5	84	31-120
2,4,6-Tribromophenol	88	24-120
Nitrobenzene-d5	82	43-120
2-Fluorobiphenyl	97	44-120
Terphenyl-d14	108	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-3-0.5-F	Batch#:	260436
Lab ID:	300550-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	41
Phenol	ND	330	17
bis(2-Chloroethyl)ether	ND	330	12
2-Chlorophenol	ND	330	16
1,3-Dichlorobenzene	ND	330	12
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	15
1,2-Dichlorobenzene	ND	330	9.3
2-Methylphenol	ND	330	15
bis(2-Chloroisopropyl) ether	ND	330	41
4-Methylphenol	ND	330	17
N-Nitroso-di-n-propylamine	ND	330	33
Hexachloroethane	ND	330	12
Nitrobenzene	ND	330	12
Isophorone	ND	330	11
2-Nitrophenol	ND	660	9.9
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,600	490
bis(2-Chloroethoxy)methane	ND	330	11
2,4-Dichlorophenol	ND	330	12
1,2,4-Trichlorobenzene	ND	330	9.5
Naphthalene	ND	66	8.6
4-Chloroaniline	ND	330	41
Hexachlorobutadiene	ND	330	60
4-Chloro-3-methylphenol	ND	330	14
2-Methylnaphthalene	ND	66	9.7
Hexachlorocyclopentadiene	ND	660	60
2,4,6-Trichlorophenol	ND	330	14
2,4,5-Trichlorophenol	ND	330	8.6
2-Chloronaphthalene	ND	330	54
2-Nitroaniline	ND	660	33
Dimethylphthalate	ND	330	9.2
Acenaphthylene	ND	66	8.4
2,6-Dinitrotoluene	ND	330	8.6
3-Nitroaniline	ND	660	41
Acenaphthene	ND	66	12
2,4-Dinitrophenol	ND	660	160
4-Nitrophenol	ND	660	68
Dibenzofuran	ND	330	8.6
2,4-Dinitrotoluene	ND	330	9.5
Diethylphthalate	ND	330	8.4
Fluorene	ND	66	8.8
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	41
4,6-Dinitro-2-methylphenol	ND	660	41
N-Nitrosodiphenylamine	ND	330	55
Azobenzene	ND	330	12
4-Bromophenyl-phenylether	ND	330	58
Hexachlorobenzene	ND	330	12
Pentachlorophenol	ND	660	150
Phenanthrene	ND	66	9.4

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-3-0.5-F	Batch#:	260436
Lab ID:	300550-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	12
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	8.5
Pyrene	ND	66	9.2
Butylbenzylphthalate	ND	330	12
3,3'-Dichlorobenzidine	ND	660	42
Benzo(a)anthracene	ND	66	8.5
Chrysene	ND	66	12
bis(2-Ethylhexyl)phthalate	ND	330	8.6
Di-n-octylphthalate	ND	330	8.3
Benzo(b)fluoranthene	ND	66	12
Benzo(k)fluoranthene	ND	66	8.5
Benzo(a)pyrene	ND	66	8.5
Indeno(1,2,3-cd)pyrene	ND	66	12
Dibenz(a,h)anthracene	ND	66	12
Benzo(g,h,i)perylene	ND	66	8.5

Surrogate	%REC	Limits
2-Fluorophenol	115	31-121
Phenol-d5	120	31-120
2,4,6-Tribromophenol	74	24-120
Nitrobenzene-d5	77	43-120
2-Fluorobiphenyl	78	44-120
Terphenyl-d14	131 *	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-4-1.5-F	Batch#:	260436
Lab ID:	300550-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	20 J	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	67	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	670	43
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	11
Fluorene	ND	67	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	670	43
4,6-Dinitro-2-methylphenol	ND	670	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-4-1.5-F	Batch#:	260436
Lab ID:	300550-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	67	12
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	67	9.1
Benzo(k)fluoranthene	ND	67	9.6
Benzo(a)pyrene	ND	67	8.9
Indeno(1,2,3-cd)pyrene	ND	67	8.9
Dibenz(a,h)anthracene	ND	67	9.5
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	70	31-121
Phenol-d5	79	31-120
2,4,6-Tribromophenol	87	24-120
Nitrobenzene-d5	58	43-120
2-Fluorobiphenyl	70	44-120
Terphenyl-d14	91	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-5-0.5-F	Batch#:	260436
Lab ID:	300550-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	41
Phenol	ND	330	17
bis(2-Chloroethyl)ether	ND	330	12
2-Chlorophenol	ND	330	16
1,3-Dichlorobenzene	ND	330	12
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	15
1,2-Dichlorobenzene	ND	330	9.3
2-Methylphenol	ND	330	15
bis(2-Chloroisopropyl) ether	ND	330	41
4-Methylphenol	ND	330	17
N-Nitroso-di-n-propylamine	ND	330	32
Hexachloroethane	ND	330	12
Nitrobenzene	ND	330	12
Isophorone	ND	330	11
2-Nitrophenol	ND	660	9.9
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,600	490
bis(2-Chloroethoxy)methane	ND	330	11
2,4-Dichlorophenol	ND	330	12
1,2,4-Trichlorobenzene	ND	330	9.5
Naphthalene	ND	66	8.6
4-Chloroaniline	ND	330	41
Hexachlorobutadiene	ND	330	60
4-Chloro-3-methylphenol	ND	330	14
2-Methylnaphthalene	ND	66	9.7
Hexachlorocyclopentadiene	ND	660	60
2,4,6-Trichlorophenol	ND	330	14
2,4,5-Trichlorophenol	ND	330	8.6
2-Chloronaphthalene	ND	330	54
2-Nitroaniline	ND	660	32
Dimethylphthalate	ND	330	9.2
Acenaphthylene	ND	66	8.4
2,6-Dinitrotoluene	ND	330	8.6
3-Nitroaniline	ND	660	41
Acenaphthene	ND	66	12
2,4-Dinitrophenol	ND	660	160
4-Nitrophenol	ND	660	68
Dibenzofuran	ND	330	8.6
2,4-Dinitrotoluene	ND	330	9.5
Diethylphthalate	ND	330	8.4
Fluorene	ND	66	8.8
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	41
4,6-Dinitro-2-methylphenol	ND	660	41
N-Nitrosodiphenylamine	ND	330	55
Azobenzene	ND	330	12
4-Bromophenyl-phenylether	ND	330	58
Hexachlorobenzene	ND	330	12
Pentachlorophenol	ND	660	150
Phenanthrene	ND	66	9.4

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-5-0.5-F	Batch#:	260436
Lab ID:	300550-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	12
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	8.5
Pyrene	ND	66	9.2
Butylbenzylphthalate	ND	330	12
3,3'-Dichlorobenzidine	ND	660	42
Benzo(a)anthracene	ND	66	8.5
Chrysene	ND	66	12
bis(2-Ethylhexyl)phthalate	ND	330	8.6
Di-n-octylphthalate	ND	330	8.3
Benzo(b)fluoranthene	ND	66	12
Benzo(k)fluoranthene	ND	66	8.5
Benzo(a)pyrene	ND	66	8.5
Indeno(1,2,3-cd)pyrene	ND	66	12
Dibenz(a,h)anthracene	ND	66	12
Benzo(g,h,i)perylene	ND	66	8.5

Surrogate	%REC	Limits
2-Fluorophenol	121	31-121
Phenol-d5	121 *	31-120
2,4,6-Tribromophenol	86	24-120
Nitrobenzene-d5	86	43-120
2-Fluorobiphenyl	86	44-120
Terphenyl-d14	142 *	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-6-1.5-F	Batch#:	260436
Lab ID:	300550-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	42
Phenol	ND	340	17
bis(2-Chloroethyl)ether	ND	340	13
2-Chlorophenol	ND	340	17
1,3-Dichlorobenzene	ND	340	12
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	16
1,2-Dichlorobenzene	ND	340	9.5
2-Methylphenol	ND	340	15
bis(2-Chloroisopropyl) ether	ND	340	42
4-Methylphenol	ND	340	18
N-Nitroso-di-n-propylamine	ND	340	33
Hexachloroethane	ND	340	12
Nitrobenzene	ND	340	12
Isophorone	ND	340	11
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	500
bis(2-Chloroethoxy)methane	ND	340	12
2,4-Dichlorophenol	ND	340	13
1,2,4-Trichlorobenzene	ND	340	9.7
Naphthalene	ND	67	8.8
4-Chloroaniline	ND	340	42
Hexachlorobutadiene	ND	340	61
4-Chloro-3-methylphenol	ND	340	15
2-Methylnaphthalene	ND	67	9.9
Hexachlorocyclopentadiene	ND	670	61
2,4,6-Trichlorophenol	ND	340	14
2,4,5-Trichlorophenol	ND	340	8.8
2-Chloronaphthalene	ND	340	56
2-Nitroaniline	ND	670	33
Dimethylphthalate	ND	340	9.4
Acenaphthylene	ND	67	8.6
2,6-Dinitrotoluene	ND	340	8.8
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	12
2,4-Dinitrophenol	ND	670	160
4-Nitrophenol	ND	670	69
Dibenzofuran	ND	340	8.8
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	8.5
Fluorene	ND	67	9.0
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	42
N-Nitrosodiphenylamine	ND	340	56
Azobenzene	ND	340	12
4-Bromophenyl-phenylether	ND	340	59
Hexachlorobenzene	ND	340	12
Pentachlorophenol	ND	670	150
Phenanthrene	ND	67	9.6
Anthracene	ND	67	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-6-1.5-F	Batch#:	260436
Lab ID:	300550-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	8.7
Pyrene	ND	67	9.4
Butylbenzylphthalate	ND	340	12
3,3'-Dichlorobenzidine	ND	670	43
Benzo(a)anthracene	ND	67	8.7
Chrysene	ND	67	12
bis(2-Ethylhexyl)phthalate	ND	340	8.8
Di-n-octylphthalate	ND	340	8.5
Benzo(b)fluoranthene	ND	67	12
Benzo(k)fluoranthene	ND	67	8.7
Benzo(a)pyrene	ND	67	8.7
Indeno(1,2,3-cd)pyrene	ND	67	12
Dibenz(a,h)anthracene	ND	67	12
Benzo(g,h,i)perylene	ND	67	8.7

Surrogate	%REC	Limits
2-Fluorophenol	107	31-121
Phenol-d5	99	31-120
2,4,6-Tribromophenol	83	24-120
Nitrobenzene-d5	91	43-120
2-Fluorobiphenyl	90	44-120
Terphenyl-d14	118	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-7-1.5-F	Batch#:	260436
Lab ID:	300550-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.4
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	67	9.0
2,6-Dinitrotoluene	ND	340	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	11
Fluorene	ND	67	10
4-Chlorophenyl-phenylether	ND	340	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.6
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-7-1.5-F	Batch#:	260436
Lab ID:	300550-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	67	9.1
Benzo(k)fluoranthene	ND	67	9.6
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.9
Dibenz(a,h)anthracene	ND	67	9.4
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	79	31-121
Phenol-d5	84	31-120
2,4,6-Tribromophenol	91	24-120
Nitrobenzene-d5	67	43-120
2-Fluorobiphenyl	77	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-8-1.5-F	Batch#:	260436
Lab ID:	300550-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	8,300	1,200
Phenol	ND	8,300	250
bis(2-Chloroethyl)ether	ND	8,300	1,500
2-Chlorophenol	ND	8,300	250
1,3-Dichlorobenzene	ND	8,300	1,400
1,4-Dichlorobenzene	ND	8,300	250
Benzyl alcohol	ND	8,300	270
1,2-Dichlorobenzene	ND	8,300	250
2-Methylphenol	ND	8,300	340
bis(2-Chloroisopropyl) ether	ND	8,300	250
4-Methylphenol	ND	8,300	250
N-Nitroso-di-n-propylamine	ND	8,300	250
Hexachloroethane	ND	8,300	250
Nitrobenzene	ND	8,300	270
Isophorone	ND	8,300	250
2-Nitrophenol	ND	17,000	250
2,4-Dimethylphenol	ND	8,300	350
Benzoic acid	ND	42,000	11,000
bis(2-Chloroethoxy)methane	ND	8,300	250
2,4-Dichlorophenol	ND	8,300	250
1,2,4-Trichlorobenzene	ND	8,300	250
Naphthalene	ND	1,700	250
4-Chloroaniline	ND	8,300	230
Hexachlorobutadiene	ND	8,300	220
4-Chloro-3-methylphenol	ND	8,300	210
2-Methylnaphthalene	ND	1,700	250
Hexachlorocyclopentadiene	ND	17,000	1,900
2,4,6-Trichlorophenol	ND	8,300	310
2,4,5-Trichlorophenol	ND	8,300	210
2-Chloronaphthalene	ND	8,300	220
2-Nitroaniline	ND	17,000	270
Dimethylphthalate	ND	8,300	250
Acenaphthylene	ND	1,700	220
2,6-Dinitrotoluene	ND	8,300	220
3-Nitroaniline	ND	17,000	1,000
Acenaphthene	ND	1,700	250
2,4-Dinitrophenol	ND	17,000	3,700
4-Nitrophenol	ND	17,000	1,800
Dibenzofuran	ND	8,300	260
2,4-Dinitrotoluene	ND	8,300	240
Diethylphthalate	ND	8,300	280
Fluorene	ND	1,700	250
4-Chlorophenyl-phenylether	ND	8,300	240
4-Nitroaniline	ND	17,000	1,000
4,6-Dinitro-2-methylphenol	ND	17,000	1,900
N-Nitrosodiphenylamine	ND	8,300	260
Azobenzene	ND	8,300	210
4-Bromophenyl-phenylether	ND	8,300	260
Hexachlorobenzene	ND	8,300	270
Pentachlorophenol	ND	17,000	3,200
Phenanthrene	ND	1,700	260

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-8-1.5-F	Batch#:	260436
Lab ID:	300550-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
Anthracene	ND	1,700	280
Di-n-butylphthalate	ND	8,300	300
Fluoranthene	ND	1,700	260
Pyrene	ND	1,700	270
Butylbenzylphthalate	ND	8,300	250
3,3'-Dichlorobenzidine	ND	17,000	550
Benzo(a)anthracene	ND	1,700	260
Chrysene	ND	1,700	280
bis(2-Ethylhexyl)phthalate	ND	8,300	330
Di-n-octylphthalate	ND	8,300	250
Benzo(b)fluoranthene	ND	1,700	220
Benzo(k)fluoranthene	ND	1,700	240
Benzo(a)pyrene	ND	1,700	220
Indeno(1,2,3-cd)pyrene	ND	1,700	220
Dibenz(a,h)anthracene	ND	1,700	230
Benzo(g,h,i)perylene	ND	1,700	250

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-9-1.5-F	Batch#:	260436
Lab ID:	300550-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	11
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-9-1.5-F	Batch#:	260436
Lab ID:	300550-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	8.9
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	76	31-121
Phenol-d5	82	31-120
2,4,6-Tribromophenol	82	24-120
Nitrobenzene-d5	66	43-120
2-Fluorobiphenyl	77	44-120
Terphenyl-d14	92	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-10-1.5-F	Batch#:	260436
Lab ID:	300550-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	58
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	11
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	12
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-10-1.5-F	Batch#:	260436
Lab ID:	300550-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	9.0
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	86	31-121
Phenol-d5	86	31-120
2,4,6-Tribromophenol	85	24-120
Nitrobenzene-d5	78	43-120
2-Fluorobiphenyl	84	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-11-1.5-F	Batch#:	260436
Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	8,300	1,200
Phenol	ND	8,300	250
bis(2-Chloroethyl)ether	ND	8,300	1,500
2-Chlorophenol	ND	8,300	250
1,3-Dichlorobenzene	ND	8,300	1,400
1,4-Dichlorobenzene	ND	8,300	250
Benzyl alcohol	ND	8,300	270
1,2-Dichlorobenzene	ND	8,300	250
2-Methylphenol	ND	8,300	340
bis(2-Chloroisopropyl) ether	ND	8,300	250
4-Methylphenol	ND	8,300	250
N-Nitroso-di-n-propylamine	ND	8,300	250
Hexachloroethane	ND	8,300	250
Nitrobenzene	ND	8,300	270
Isophorone	ND	8,300	250
2-Nitrophenol	ND	17,000	250
2,4-Dimethylphenol	ND	8,300	350
Benzoic acid	ND	42,000	11,000
bis(2-Chloroethoxy)methane	ND	8,300	250
2,4-Dichlorophenol	ND	8,300	250
1,2,4-Trichlorobenzene	ND	8,300	250
Naphthalene	ND	1,700	250
4-Chloroaniline	ND	8,300	230
Hexachlorobutadiene	ND	8,300	220
4-Chloro-3-methylphenol	ND	8,300	210
2-Methylnaphthalene	ND	1,700	250
Hexachlorocyclopentadiene	ND	17,000	1,900
2,4,6-Trichlorophenol	ND	8,300	310
2,4,5-Trichlorophenol	ND	8,300	210
2-Chloronaphthalene	ND	8,300	220
2-Nitroaniline	ND	17,000	270
Dimethylphthalate	ND	8,300	250
Acenaphthylene	ND	1,700	220
2,6-Dinitrotoluene	ND	8,300	220
3-Nitroaniline	ND	17,000	1,000
Acenaphthene	ND	1,700	250
2,4-Dinitrophenol	ND	17,000	3,700
4-Nitrophenol	ND	17,000	1,800
Dibenzofuran	ND	8,300	260
2,4-Dinitrotoluene	ND	8,300	240
Diethylphthalate	ND	8,300	280
Fluorene	ND	1,700	250
4-Chlorophenyl-phenylether	ND	8,300	240
4-Nitroaniline	ND	17,000	1,000
4,6-Dinitro-2-methylphenol	ND	17,000	1,900
N-Nitrosodiphenylamine	ND	8,300	260
Azobenzene	ND	8,300	210
4-Bromophenyl-phenylether	ND	8,300	260
Hexachlorobenzene	ND	8,300	270
Pentachlorophenol	ND	17,000	3,200
Phenanthrene	ND	1,700	260

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-11-1.5-F	Batch#:	260436
Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
Anthracene	ND	1,700	280
Di-n-butylphthalate	ND	8,300	300
Fluoranthene	ND	1,700	260
Pyrene	ND	1,700	270
Butylbenzylphthalate	ND	8,300	250
3,3'-Dichlorobenzidine	ND	17,000	550
Benzo(a)anthracene	ND	1,700	260
Chrysene	ND	1,700	280
bis(2-Ethylhexyl)phthalate	ND	8,300	330
Di-n-octylphthalate	ND	8,300	250
Benzo(b)fluoranthene	ND	1,700	220
Benzo(k)fluoranthene	ND	1,700	240
Benzo(a)pyrene	ND	1,700	220
Indeno(1,2,3-cd)pyrene	ND	1,700	220
Dibenz(a,h)anthracene	ND	1,700	230
Benzo(g,h,i)perylene	ND	1,700	250

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-12-1.5-F	Batch#:	260436
Lab ID:	300550-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	11
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-12-1.5-F	Batch#:	260436
Lab ID:	300550-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	8.9
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	78	31-121
Phenol-d5	78	31-120
2,4,6-Tribromophenol	83	24-120
Nitrobenzene-d5	69	43-120
2-Fluorobiphenyl	79	44-120
Terphenyl-d14	92	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-13-1.5-F	Batch#:	260436
Lab ID:	300550-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,300	470
Phenol	ND	3,300	100
bis(2-Chloroethyl)ether	ND	3,300	600
2-Chlorophenol	ND	3,300	100
1,3-Dichlorobenzene	ND	3,300	570
1,4-Dichlorobenzene	ND	3,300	100
Benzyl alcohol	ND	3,300	110
1,2-Dichlorobenzene	ND	3,300	100
2-Methylphenol	ND	3,300	140
bis(2-Chloroisopropyl) ether	ND	3,300	100
4-Methylphenol	ND	3,300	100
N-Nitroso-di-n-propylamine	ND	3,300	100
Hexachloroethane	ND	3,300	100
Nitrobenzene	ND	3,300	110
Isophorone	ND	3,300	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,300	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,300	100
2,4-Dichlorophenol	ND	3,300	100
1,2,4-Trichlorobenzene	ND	3,300	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,300	94
Hexachlorobutadiene	ND	3,300	89
4-Chloro-3-methylphenol	ND	3,300	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	750
2,4,6-Trichlorophenol	ND	3,300	130
2,4,5-Trichlorophenol	ND	3,300	84
2-Chloronaphthalene	ND	3,300	90
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,300	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,300	90
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,300	100
2,4-Dinitrotoluene	ND	3,300	97
Diethylphthalate	ND	3,300	110
Fluorene	ND	670	99
4-Chlorophenyl-phenylether	ND	3,300	97
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	770
N-Nitrosodiphenylamine	ND	3,300	110
Azobenzene	ND	3,300	86
4-Bromophenyl-phenylether	ND	3,300	110
Hexachlorobenzene	ND	3,300	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-13-1.5-F	Batch#:	260436
Lab ID:	300550-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,300	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,300	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,300	130
Di-n-octylphthalate	ND	3,300	100
Benzo(b)fluoranthene	ND	670	90
Benzo(k)fluoranthene	ND	670	95
Benzo(a)pyrene	ND	670	88
Indeno(1,2,3-cd)pyrene	ND	670	88
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-14-1.5-F	Batch#:	260436
Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,400	480
Phenol	ND	3,400	100
bis(2-Chloroethyl)ether	ND	3,400	600
2-Chlorophenol	ND	3,400	100
1,3-Dichlorobenzene	ND	3,400	570
1,4-Dichlorobenzene	ND	3,400	100
Benzyl alcohol	ND	3,400	110
1,2-Dichlorobenzene	ND	3,400	100
2-Methylphenol	ND	3,400	140
bis(2-Chloroisopropyl) ether	ND	3,400	100
4-Methylphenol	ND	3,400	100
N-Nitroso-di-n-propylamine	ND	3,400	100
Hexachloroethane	ND	3,400	100
Nitrobenzene	ND	3,400	110
Isophorone	ND	3,400	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,400	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,400	100
2,4-Dichlorophenol	ND	3,400	100
1,2,4-Trichlorobenzene	ND	3,400	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,400	95
Hexachlorobutadiene	ND	3,400	90
4-Chloro-3-methylphenol	ND	3,400	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	760
2,4,6-Trichlorophenol	ND	3,400	130
2,4,5-Trichlorophenol	ND	3,400	85
2-Chloronaphthalene	ND	3,400	91
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,400	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,400	91
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,400	100
2,4-Dinitrotoluene	ND	3,400	97
Diethylphthalate	ND	3,400	110
Fluorene	ND	670	100
4-Chlorophenyl-phenylether	ND	3,400	98
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	780
N-Nitrosodiphenylamine	ND	3,400	110
Azobenzene	ND	3,400	87
4-Bromophenyl-phenylether	ND	3,400	110
Hexachlorobenzene	ND	3,400	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-14-1.5-F	Batch#:	260436
Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,400	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,400	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,400	130
Di-n-octylphthalate	ND	3,400	100
Benzo(b)fluoranthene	ND	670	91
Benzo(k)fluoranthene	ND	670	96
Benzo(a)pyrene	ND	670	89
Indeno(1,2,3-cd)pyrene	ND	670	89
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-15-1.5-F	Batch#:	260436
Lab ID:	300550-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	16.67		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	5,500	780
Phenol	ND	5,500	160
bis(2-Chloroethyl)ether	ND	5,500	980
2-Chlorophenol	ND	5,500	160
1,3-Dichlorobenzene	ND	5,500	930
1,4-Dichlorobenzene	ND	5,500	160
Benzyl alcohol	ND	5,500	180
1,2-Dichlorobenzene	ND	5,500	160
2-Methylphenol	ND	5,500	220
bis(2-Chloroisopropyl) ether	ND	5,500	160
4-Methylphenol	ND	5,500	160
N-Nitroso-di-n-propylamine	ND	5,500	160
Hexachloroethane	ND	5,500	160
Nitrobenzene	ND	5,500	180
Isophorone	ND	5,500	160
2-Nitrophenol	ND	11,000	160
2,4-Dimethylphenol	ND	5,500	230
Benzoic acid	ND	27,000	7,200
bis(2-Chloroethoxy)methane	ND	5,500	160
2,4-Dichlorophenol	ND	5,500	160
1,2,4-Trichlorobenzene	ND	5,500	160
Naphthalene	ND	1,100	160
4-Chloroaniline	ND	5,500	150
Hexachlorobutadiene	ND	5,500	150
4-Chloro-3-methylphenol	ND	5,500	140
2-Methylnaphthalene	ND	1,100	160
Hexachlorocyclopentadiene	ND	11,000	1,200
2,4,6-Trichlorophenol	ND	5,500	210
2,4,5-Trichlorophenol	ND	5,500	140
2-Chloronaphthalene	ND	5,500	150
2-Nitroaniline	ND	11,000	180
Dimethylphthalate	ND	5,500	160
Acenaphthylene	ND	1,100	150
2,6-Dinitrotoluene	ND	5,500	150
3-Nitroaniline	ND	11,000	690
Acenaphthene	ND	1,100	160
2,4-Dinitrophenol	ND	11,000	2,500
4-Nitrophenol	ND	11,000	1,200
Dibenzofuran	ND	5,500	170
2,4-Dinitrotoluene	ND	5,500	160
Diethylphthalate	ND	5,500	190
Fluorene	ND	1,100	160
4-Chlorophenyl-phenylether	ND	5,500	160
4-Nitroaniline	ND	11,000	690
4,6-Dinitro-2-methylphenol	ND	11,000	1,300
N-Nitrosodiphenylamine	ND	5,500	170
Azobenzene	ND	5,500	140
4-Bromophenyl-phenylether	ND	5,500	170
Hexachlorobenzene	ND	5,500	180
Pentachlorophenol	ND	11,000	2,100
Phenanthrene	ND	1,100	170

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-15-1.5-F	Batch#:	260436
Lab ID:	300550-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	16.67		

Analyte	Result	RL	MDL
Anthracene	ND	1,100	190
Di-n-butylphthalate	ND	5,500	200
Fluoranthene	ND	1,100	170
Pyrene	ND	1,100	180
Butylbenzylphthalate	ND	5,500	170
3,3'-Dichlorobenzidine	ND	11,000	360
Benzo(a)anthracene	ND	1,100	170
Chrysene	ND	1,100	190
bis(2-Ethylhexyl)phthalate	ND	5,500	210
Di-n-octylphthalate	ND	5,500	160
Benzo(b)fluoranthene	ND	1,100	150
Benzo(k)fluoranthene	ND	1,100	160
Benzo(a)pyrene	ND	1,100	140
Indeno(1,2,3-cd)pyrene	ND	1,100	150
Dibenz(a,h)anthracene	ND	1,100	150
Benzo(g,h,i)perylene	ND	1,100	170

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-16-1.5-F	Batch#:	260436
Lab ID:	300550-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	59
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	56
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	660	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	66	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	66	10
Hexachlorocyclopentadiene	ND	660	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.3
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	660	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	66	8.9
2,6-Dinitrotoluene	ND	330	8.9
3-Nitroaniline	ND	660	42
Acenaphthene	ND	66	10
2,4-Dinitrophenol	ND	660	150
4-Nitrophenol	ND	660	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	66	9.9
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	42
4,6-Dinitro-2-methylphenol	ND	660	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.5
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	660	130
Phenanthrene	ND	66	10

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-16-1.5-F	Batch#:	260436
Lab ID:	300550-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	11
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	10
Pyrene	ND	66	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	660	22
Benzo(a)anthracene	ND	66	10
Chrysene	ND	66	11
bis(2-Ethylhexyl)phthalate	15 J	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	66	9.0
Benzo(k)fluoranthene	ND	66	9.5
Benzo(a)pyrene	ND	66	8.7
Indeno(1,2,3-cd)pyrene	ND	66	8.8
Dibenz(a,h)anthracene	ND	66	9.3
Benzo(g,h,i)perylene	ND	66	10

Surrogate	%REC	Limits
2-Fluorophenol	78	31-121
Phenol-d5	78	31-120
2,4,6-Tribromophenol	90	24-120
Nitrobenzene-d5	74	43-120
2-Fluorobiphenyl	79	44-120
Terphenyl-d14	86	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935645	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	8.9
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11
Di-n-butylphthalate	ND	330	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935645	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.3
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	80	31-121
Phenol-d5	77	31-120
2,4,6-Tribromophenol	89	24-120
Nitrobenzene-d5	74	43-120
2-Fluorobiphenyl	81	44-120
Terphenyl-d14	90	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	2.000
Lab ID:	QC935646	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Spiked	Result	%REC	Limits
Phenol	2,667	3,142	118	40-120
2-Chlorophenol	2,667	2,888	108	51-120
1,4-Dichlorobenzene	2,667	2,858	107	55-120
N-Nitroso-di-n-propylamine	2,667	2,895	109	27-122
1,2,4-Trichlorobenzene	2,667	2,897	109	58-120
4-Chloro-3-methylphenol	2,667	3,151	118	55-136
Acenaphthene	1,000	1,156	116	53-120
4-Nitrophenol	2,667	3,376	127 *	46-121
2,4-Dinitrotoluene	2,667	3,275	123 *	56-120
Pentachlorophenol	2,667	2,679	100	18-120
Pyrene	1,000	1,150	115	53-124

Surrogate	%REC	Limits
2-Fluorophenol	92	31-121
Phenol-d5	93	31-120
2,4,6-Tribromophenol	99	24-120
Nitrobenzene-d5	90	43-120
2-Fluorobiphenyl	101	44-120
Terphenyl-d14	108	44-120

*= Value outside of QC limits; see narrative

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID: SB-2-0.5-F
Type: SAMPLE
Lab ID: 300550-001
Diln Fac: 2.000
Sampled: 05/30/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.3
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.8
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	87	26-153

Field ID: SB-3-0.5-F
Type: SAMPLE
Lab ID: 300550-002
Diln Fac: 2.000
Sampled: 05/30/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.3
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.8
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	75	26-153

Field ID: SB-4-1.5-F
Type: SAMPLE
Lab ID: 300550-003
Diln Fac: 1.000
Sampled: 05/30/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	76	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-5-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-004	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	95	26-153

Field ID:	SB-6-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-005	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	101	26-153

Field ID:	SB-7-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-006	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	93	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-8-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-007	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.7	2.4
Aroclor-1221	ND	13	6.4
Aroclor-1232	ND	6.7	3.1
Aroclor-1242	ND	6.7	2.9
Aroclor-1248	ND	6.7	3.1
Aroclor-1254	ND	6.7	2.4
Aroclor-1260	ND	6.7	1.6

Surrogate	%REC	Limits
Decachlorobiphenyl	66	26-153

Field ID:	SB-9-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-008	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.7	2.4
Aroclor-1221	ND	13	6.4
Aroclor-1232	ND	6.7	3.1
Aroclor-1242	ND	6.7	2.9
Aroclor-1248	ND	6.7	3.0
Aroclor-1254	ND	6.7	2.4
Aroclor-1260	ND	6.7	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	89	26-153

Field ID:	SB-10-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-009	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	104	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-11-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-010	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.4
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.9
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	68	26-153

Field ID:	SB-12-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-011	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	1.2 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	105	26-153

Field ID:	SB-13-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-012	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	0.78 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	94	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-14-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-013	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	1.0 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	97	26-153

Field ID:	SB-15-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-014	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.8	2.4
Aroclor-1221	ND	14	6.5
Aroclor-1232	ND	6.8	3.1
Aroclor-1242	ND	6.8	2.9
Aroclor-1248	ND	6.8	3.1
Aroclor-1254	ND	6.8	2.5
Aroclor-1260	ND	6.8	1.6

Surrogate	%REC	Limits
Decachlorobiphenyl	75	26-153

Field ID:	SB-16-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-015	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	109	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935533	Analyzed:	06/12/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	83	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935534	Batch#:	260410
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/12/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	75.14	90	56-152
Aroclor-1260	83.33	69.57	83	52-165

Surrogate	%REC	Limits
Decachlorobiphenyl	50	26-153

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-2-0.5-F	Basis:	as received
Lab ID:	300550-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.8	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	260	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	23	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.018	0.0031	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.30	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.069	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.60 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	53	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-3-0.5-F	Basis:	as received
Lab ID:	300550-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.2	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	290	0.24	0.028	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.67	0.096	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.28	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	40	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	13	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	23	0.24	0.053	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.96	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.020	0.016	0.0028	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.17 J	0.24	0.053	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	45	0.24	0.066	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.63 J	1.9	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.48	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	52	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	0.96	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-4-1.5-F	Basis:	as received
Lab ID:	300550-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.25	0.030	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.7	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.025	0.016	0.0027	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.36	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.070	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.50 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.51	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-5-0.5-F	Basis:	as received
Lab ID:	300550-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.5	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	300	0.23	0.027	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.67	0.093	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.27	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	40	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	13	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.23	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.93	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.024	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.083 J	0.23	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	40	0.23	0.065	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.54 J	1.9	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	55	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	46	0.93	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-6-1.5-F	Basis:	as received
Lab ID:	300550-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.8	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	260	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.68	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	24	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.26	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.069	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.73 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	53	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	49	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
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MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-7-1.5-F	Basis:	as received
Lab ID:	300550-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.7	1.5	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	270	0.27	0.032	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.11	0.022	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.32	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.27	0.060	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.9	1.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.22 J	0.27	0.060	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.27	0.075	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.41 J	2.0	0.24	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	52	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	47	1.1	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

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MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-8-1.5-F	Basis:	as received
Lab ID:	300550-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.1	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	330	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.66	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.26	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.016	0.0027	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	41	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.66 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	56	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	50	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-9-1.5-F	Basis:	as received
Lab ID:	300550-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	4.7	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	320	0.24	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.73	0.097	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.25	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	43	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.24	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	0.97	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.19 J	0.24	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	40	0.24	0.067	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.72 J	1.9	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.49	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	51	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	50	0.97	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-10-1.5-F	Basis:	as received
Lab ID:	300550-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.0	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	340	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.73	0.098	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.98	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.017 J	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.17 J	0.25	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	37	0.25	0.068	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.48 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.49	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	55	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	47	0.98	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-11-1.5-F	Basis:	as received
Lab ID:	300550-010	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.3	1.5	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	210	0.27	0.032	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.58	0.11	0.022	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.27 J	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	38	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.27	0.061	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.034	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.37	0.27	0.061	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	39	0.27	0.076	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.58 J	2.0	0.25	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.55	0.17	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	46	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	56	1.1	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-12-1.5-F	Basis:	as received
Lab ID:	300550-011	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.4	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.32	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	36	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	19	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.9	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.018	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.15 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	37	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.48 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	46	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	44	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-13-1.5-F	Basis:	as received
Lab ID:	300550-012	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.0	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	270	0.24	0.028	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.55	0.094	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	36	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	9.7	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	19	0.24	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.8	0.94	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.019	0.016	0.0028	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.23 J	0.24	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	34	0.24	0.065	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.51 J	1.9	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	48	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	46	0.94	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-14-1.5-F	Basis:	as received
Lab ID:	300550-013	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.1	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.26	0.030	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.59	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	35	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.26	0.057	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.0	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.018	0.0031	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.22 J	0.26	0.057	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	35	0.26	0.071	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.60 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-15-1.5-F	Basis:	as received
Lab ID:	300550-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	250	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.66	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	48	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	26	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.027	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.34	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	46	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.57 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	61	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-16-1.5-F	Basis:	as received
Lab ID:	300550-015	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	240	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.56	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.34	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	38	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.6	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	38	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.44 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	45	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	45	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC936393	Batch#:	260616
Matrix:	Soil	Prepared:	06/19/18
Units:	mg/Kg	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.14
Arsenic	ND	1.5	0.21
Barium	ND	0.27	0.031
Beryllium	ND	0.11	0.021
Cadmium	ND	0.27	0.053
Chromium	0.24 J	0.27	0.053
Cobalt	ND	0.27	0.053
Copper	0.26 J	0.27	0.059
Lead	ND	1.0	0.14
Molybdenum	0.063 J	0.27	0.059
Nickel	0.27 J	0.27	0.074
Selenium	ND	2.0	0.24
Silver	ND	0.27	0.053
Thallium	ND	0.53	0.16
Vanadium	ND	0.27	0.053
Zinc	ND	1.1	0.21

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260616
Units:	mg/Kg	Prepared:	06/19/18
Diln Fac:	1.000	Analyzed:	06/19/18

Type: BS Lab ID: QC936394

Analyte	Spiked	Result	%REC	Limits
Antimony	46.73	47.84	102	80-120
Arsenic	46.73	48.97	105	80-120
Barium	46.73	47.36	101	80-120
Beryllium	23.36	23.85	102	80-120
Cadmium	46.73	46.46	99	80-120
Chromium	46.73	49.32	106	80-120
Cobalt	46.73	47.46	102	80-120
Copper	46.73	47.97	103	80-120
Lead	46.73	50.65	108	80-120
Molybdenum	46.73	46.03	99	80-120
Nickel	46.73	44.55	95	80-120
Selenium	46.73	47.87	102	80-120
Silver	4.673	4.229	90	80-120
Thallium	46.73	49.78	107	80-120
Vanadium	46.73	49.79	107	80-120
Zinc	46.73	47.70	102	80-120

Type: BSD Lab ID: QC936395

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	49.02	51.24	105	80-120	2	20
Arsenic	49.02	51.73	106	80-120	1	20
Barium	49.02	49.65	101	80-120	0	20
Beryllium	24.51	25.32	103	80-120	1	20
Cadmium	49.02	48.94	100	80-120	0	20
Chromium	49.02	52.24	107	80-120	1	20
Cobalt	49.02	50.02	102	80-120	0	20
Copper	49.02	50.53	103	80-120	0	20
Lead	49.02	53.60	109	80-120	1	20
Molybdenum	49.02	48.30	99	80-120	0	20
Nickel	49.02	47.00	96	80-120	1	20
Selenium	49.02	50.70	103	80-120	1	20
Silver	4.902	4.500	92	80-120	1	22
Thallium	49.02	52.51	107	80-120	1	20
Vanadium	49.02	52.32	107	80-120	0	20
Zinc	49.02	51.73	106	80-120	3	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	SB-14-1.5-F	Batch#:	260616
MSS Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/19/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Type: MS Lab ID: QC936396

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1358	51.02	14.04	28	1-120
Arsenic	6.129	51.02	59.35	104	71-123
Barium	276.1	51.02	338.0	121 NM	48-155
Beryllium	0.5887	25.51	25.91	99	80-120
Cadmium	0.3284	51.02	53.04	103	78-120
Chromium	35.26	51.02	90.66	109	64-135
Cobalt	11.62	51.02	58.40	92	65-120
Copper	19.61	51.02	75.97	110	75-132
Lead	8.979	51.02	58.43	97	53-128
Molybdenum	0.2228	51.02	42.59	83	68-120
Nickel	34.93	51.02	80.97	90	56-128
Selenium	0.6019	51.02	52.82	102	59-120
Silver	<0.05155	5.102	4.072	80	36-123
Thallium	<0.1552	51.02	46.37	91	55-120
Vanadium	54.18	51.02	109.9	109	73-129
Zinc	48.23	51.02	98.12	98	49-138

Type: MSD Lab ID: QC936397

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	47.17	10.68	23	1-120	19	50
Arsenic	47.17	55.60	105	71-123	0	27
Barium	47.17	340.3	136 NM	48-155	2	41
Beryllium	23.58	23.63	98	80-120	2	20
Cadmium	47.17	48.45	102	78-120	1	21
Chromium	47.17	88.89	114	64-135	3	37
Cobalt	47.17	53.85	90	65-120	2	32
Copper	47.17	72.28	112	75-132	1	33
Lead	47.17	54.33	96	53-128	1	48
Molybdenum	47.17	37.54	79	68-120	5	23
Nickel	47.17	82.35	101	56-128	6	38
Selenium	47.17	48.03	101	59-120	2	30
Silver	4.717	3.655	77	36-123	3	47
Thallium	47.17	41.84	89	55-120	2	22
Vanadium	47.17	107.4	113	73-129	1	27
Zinc	47.17	93.43	96	49-138	1	39

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260762
Lab ID:	QC936960	Prepared:	06/22/18
Matrix:	Soil	Analyzed:	06/22/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0030

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260762
Matrix:	Soil	Prepared:	06/22/18
Units:	mg/Kg	Analyzed:	06/22/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC936961	0.1724	0.1704	99	80-126		
BSD	QC936962	0.1587	0.1592	100	80-126	1	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260762
MSS Lab ID:	300835-001	Sampled:	06/19/18
Matrix:	Soil	Received:	06/19/18
Units:	mg/Kg	Prepared:	06/22/18
Basis:	as received	Analyzed:	06/22/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC936963	0.1549	0.1563	0.3658	135	61-157		
MSD	QC936964		0.1724	0.3196	96	61-157	19	57

RPD= Relative Percent Difference

Laboratory Job Number 300550

Subcontracted Products

Forensic Analytical

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-2-0.5-F	12045832	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-3-0.5-F	12045833	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-4-1.5-F	12045834	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-5-0.5-F	12045835	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-42

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

PLM Report Number: N/A

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-6-1.5-F	12045836	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-7-1.5-F	12045837	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-8-1.5-F	12045838	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-9-1.5-F	12045839	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

PLM Report Number: N/A

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-10-1.5-F	12045840	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-11-1.5-F	12045841	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-12-1.5-F	12045842	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-13-1.5-F	12045843	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-14-1.5-F	12045844	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-15-1.5-F	12045845	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-16-1.5-F	12045846	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300574
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
SB-2-1.5-N	300574-001
SB-3-1.5-N	300574-002
SB-4-5-N	300574-003
SB-5-1.5-N	300574-004
SB-6-5-N	300574-005
SB-7-5-N	300574-006
SB-8-5-N	300574-007
SB-9-5-N	300574-008
SB-10-5-N	300574-009
SB-11-5-N	300574-010
SB-12-5-N	300574-011
SB-13-5-N	300574-012
SB-14-5-N	300574-013
SB-15-5-N	300574-014
SB-16-5-N	300574-015

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/25/2018

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236 ext 13115

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300574**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**06/18/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for fifteen soil samples, requested for the above referenced project on 06/18/18. The samples were received cold and intact.

Pesticides (EPA 8081A):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. Matrix spikes QC935601,QC935602 (batch 260424) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300574)

3 messages

Daren Roth <daren.roth@terraphase.com> Fri, Jun 15, 2018 at 6:37 PM
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

We would like to proceed with analyzing the extracts for all the samples presented in the login below (300574) for the following analyte:

- OCPs by 8081

We would also like to analyze this same list of samples for the following:

- Arsenic by 6010

We would like these analyzed on a standard turn around time.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Tuesday, June 12, 2018 9:14 AM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <michael.murphy@terraphase.com>; Seth Stroika <seth.stroika@terraphase.com>
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300574)

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300213)

1 message

Daren Roth <daren.roth@terraphase.com>
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

Please extract for OCPs from all the following samples that will still be within hold time. Do not complete the extraction for any

1- • SB-2-1.5-N -030
2- • SB-3-1.5-N -031
3- • SB-4-5-N - 032
4- • SB-5-1.5-N -024
5- • SB-6-5-N - 023
6- • SB-7-5-N -022
7- • SB-8-5-N -021
8- • SB-9-5-N -013
9- • SB-10-5-N -014
10- • SB-11-5-N -015
11- • SB-12-5-N -016
12- • SB-13-5-N -005
13- • SB-14-5-N -006
14- • SB-15-5-N -007
15- • SB-16-5-N -002

Let me know if you have any questions.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Thursday, May 31, 2018 1:41 PM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <miche
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300213)

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 200213

Project No: 0098.003.001 Sampler: Seth Stranka
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																		
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	Hold											
	SB-13-1.5-F	5/24/18	1130		X			2					X	X	X	X	X	X	X	T		} COMP-13-16-F										
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X	T												
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X	T												
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	T												
	SB-13-5-N	5/29/18	1140		X			2					X	X	X					T		} COMP-13-16-N										
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					T												
	SB-15-5-N	5/29/18	0910		X			2					X	X	X					T												
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					T												
	SB-9-1.5-F	5/30/18	1510		X			2					X	X	X	X	X	X	X	T		} COMP-9-12-F										
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X	T												
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X	T												
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	T												
					X																											

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 300213

Chain of Custody # 3

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid	# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	T.He 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOC (8270)	Asbestos (CARB 435)	COMPOSITE	
	SB-9-5-N	5/29/18	1520		X	2					X	X	X					⎤	COMP-9-12-N
	SB-10-5-N	5/30/18	0745		X	2					X	X	X						
	SB-11-5-N	5/29/18	1405		X	2					X	X	X						
	SB-12-5-N	5/29/18	1215		X	2					X	X	X					⎦	
	SB-8-1.5-F	5/29/18	1435		X	2					X	X	X	X	X	X	X	⎤	COMP-5-8-F
	SB-7-1.5-F	5/30/18	1020		X	2					X	X	X	X	X	X	X		
	SB-6-1.5-F	5/30/18	0905		X	2					X	X	X	X	X	X	X		
	SB-5-0.5-F	5/30/18	1105		X	2					X	X	X	X	X	X	X	⎦	
	SB-8-5-N	5/29/18	1445		X	2					X	X	X					⎤	COMP-5-8-N
	SB-7-5-N	5/30/18	1030		X	2					X	X	X						
	SB-6-5-N	5/30/18	0920		X	2					X	X	X						
	SB-5-4.5-N	5/30/18	1105		X	2					X	X	X					⎦	
	SB-5-5-N	5/30/18	1110		X	2					X	HOLD							

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/30/18	1615	[signature]	5/30/18	1615

CHAIN OF CUSTODY

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Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 300213

Page 3 of 3
Chain of Custody #

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stoika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	Sampling: Date Collected	Sampling: Time Collected	Matrix: Water	Matrix: Solid			# of Containers	Chemical Preservative: HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	COMP-1-4-F
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X	COMP-1-4-F
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	COMP-1-4-F
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	COMP-1-4-N
	SB-2-1.5-N	5/30/18	1205		X			2					X	X	X					COMP-1-4-N
	SB-3-1.5-N	5/30/18	1135		X			2					X	X	X					COMP-1-4-N
	SB-4-5-N	5/30/18	0840		X			2					X	X	X					COMP-1-4-N
	SB-1-5-N	5/30/18	1235		X			2					X	HOLD						
	SB-2-5-N	5/30/18	1210		X			2					X	HOLD						
	SB-3-5-N	5/30/18	1140		X			2					X	HOLD						

Notes:
Hold all discrete samples pending analysis; only Analyze COMP SB-1-1.5-N run for All [illegible]

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/31/18	1615	[signature]	5/31/18	16:15

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 305213 Client: Terraphase

Date Received: 5.30.18 Project: DVSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5.30.18 By (print) KP (sign) KP

Shipping Info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: *Important*: Notify PM if temperature exceeds 6°C or arrive frozen.

Packing in cooler: (If other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☒ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? By Date:			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (If N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 (3 samples) time doesn't match COC → TD & date matched

Sample 20 - sample time doesn't match COC → TD & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "-N"

sample 30 & 54 - sample labels were wrong, called client to figure out which sample was which since the 2 small jars had the same lid & 2 large jars had same label instead of 1 large jar & 1 small jar per the

Date Logged in 5/31/18 By (print) KG (sign) KG

Date Labeled 5/31/18 By (print) TM KP (sign) TM KP

ENTHALPY ANALYTICAL

Detections Summary for 300574

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-2-1.5-N Laboratory Sample ID : 300574-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-Chlordane	0.14	J	0.85	0.074	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	7.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-1.5-N Laboratory Sample ID : 300574-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.99	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.5		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-4-5-N Laboratory Sample ID : 300574-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	6.1		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-5-1.5-N Laboratory Sample ID : 300574-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	4.0		1.4	0.18	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-6-5-N Laboratory Sample ID : 300574-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.6		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-7-5-N Laboratory Sample ID : 300574-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	1.2	#,J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	3.6		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-8-5-N Laboratory Sample ID : 300574-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.92	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.2		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-9-5-N Laboratory Sample ID : 300574-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	5.2		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-10-5-N Laboratory Sample ID : 300574-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	5.9		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-11-5-N Laboratory Sample ID : 300574-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.99	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.0		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-12-5-N Laboratory Sample ID : 300574-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.3		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-13-5-N Laboratory Sample ID : 300574-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-14-5-N Laboratory Sample ID : 300574-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.42	J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	2.9		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-15-5-N Laboratory Sample ID : 300574-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	4.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-16-5-N Laboratory Sample ID : 300574-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.43	J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.2		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

= CCV drift outside limits; average CCV drift within limits per method requirements
J = Estimated value

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-2-1.5-N	Batch#:	260424
Lab ID:	300574-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.10
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	0.14 J	0.85	0.074
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	111	30-127
Decachlorobiphenyl	82	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-3-1.5-N	Batch#:	260424
Lab ID:	300574-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.10
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	0.99 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	111	30-127
Decachlorobiphenyl	92	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-4-5-N	Batch#:	260424
Lab ID:	300574-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.095
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.3
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	97	30-127
Decachlorobiphenyl	82	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-5-1.5-N	Batch#:	260424
Lab ID:	300574-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	94	30-127
Decachlorobiphenyl	75	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-6-5-N	Batch#:	260424
Lab ID:	300574-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	94	30-127
Decachlorobiphenyl	77	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-7-5-N	Batch#:	260424
Lab ID:	300574-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	1.2 J #	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	122	30-127
Decachlorobiphenyl	102	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-8-5-N	Batch#:	260424
Lab ID:	300574-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.096
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.088
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	0.92 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.3
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	104	30-127
Decachlorobiphenyl	106	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-9-5-N	Batch#:	260424
Lab ID:	300574-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	106	30-127
Decachlorobiphenyl	103	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-10-5-N	Batch#:	260424
Lab ID:	300574-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	72	30-127
Decachlorobiphenyl	114	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-11-5-N	Batch#:	260424
Lab ID:	300574-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	0.99 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	51	30-127
Decachlorobiphenyl	112	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-12-5-N	Batch#:	260424
Lab ID:	300574-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	86	30-127
Decachlorobiphenyl	123	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-13-5-N	Batch#:	260424
Lab ID:	300574-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	68	30-127
Decachlorobiphenyl	106	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-14-5-N	Batch#:	260424
Lab ID:	300574-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	0.42 J	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	85	30-127
Decachlorobiphenyl	132	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-15-5-N	Batch#:	260424
Lab ID:	300574-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	108	30-127
Decachlorobiphenyl	130	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-16-5-N	Batch#:	260424
Lab ID:	300574-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.095
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	0.43 J	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	60	30-127
Decachlorobiphenyl	112	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935599	Batch#:	260424
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	110	30-127
Decachlorobiphenyl	116	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935600	Batch#:	260424
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits	Analyzed
gamma-BHC	6.667	7.956	119	41-127	06/14/18
Heptachlor	6.667	8.079	121	33-134	06/14/18
Aldrin	6.667	7.513	113	39-130	06/14/18
Dieldrin	6.667	8.869 #	133	44-139	06/14/18
Endrin	6.667	8.461 #	127	39-150	06/13/18
4,4'-DDT	6.667	7.953	119	38-141	06/14/18

Surrogate	%REC	Limits	Analyzed
TCMX	104	30-127	06/14/18
Decachlorobiphenyl	109	33-136	06/14/18

#= CCV drift outside limits; average CCV drift within limits per method requirements

ENTHALPY ANALYTICAL

Arsenic

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	260589
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/18/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result	RL	MDL	Sampled
SB-2-1.5-N	SAMPLE	300574-001	7.1	1.5	0.21	05/30/18
SB-3-1.5-N	SAMPLE	300574-002	4.5	1.4	0.19	05/30/18
SB-4-5-N	SAMPLE	300574-003	6.1	1.5	0.22	05/30/18
SB-5-1.5-N	SAMPLE	300574-004	4.0	1.4	0.18	05/30/18
SB-6-5-N	SAMPLE	300574-005	3.6	1.4	0.19	05/30/18
SB-7-5-N	SAMPLE	300574-006	3.6	1.5	0.21	05/30/18
SB-8-5-N	SAMPLE	300574-007	4.2	1.5	0.20	05/29/18
SB-9-5-N	SAMPLE	300574-008	5.2	1.5	0.20	05/29/18
SB-10-5-N	SAMPLE	300574-009	5.9	1.5	0.21	05/30/18
SB-11-5-N	SAMPLE	300574-010	4.0	1.4	0.19	05/29/18
SB-12-5-N	SAMPLE	300574-011	3.3	1.5	0.21	05/29/18
SB-13-5-N	SAMPLE	300574-012	3.1	1.5	0.21	05/29/18
SB-14-5-N	SAMPLE	300574-013	2.9	1.5	0.21	05/29/18
SB-15-5-N	SAMPLE	300574-014	4.1	1.5	0.21	05/29/18
SB-16-5-N	SAMPLE	300574-015	4.2	1.4	0.19	05/29/18
	BLANK	QC936275	ND	1.4	0.19	

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Arsenic

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Field ID:	SB-2-1.5-N	Batch#:	260589
MSS Lab ID:	300574-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/18/18
Basis:	as received	Analyzed:	06/18/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC936276		51.55	52.26	101	80-120		
BSD	QC936277		46.73	48.91	105	80-120	3	20
MS	QC936278	7.066	48.08	58.98	108	71-123		
MSD	QC936279		51.55	58.47	100	71-123	7	27

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL

Enthalpy Analytical
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300213
ANALYTICAL REPORT

Terraphase Engineering
1404 Franklin Street
Oakland, CA 94612

Project : 0098.003.001
Location : DUSD Promenade
Level : II

Sample ID	Lab ID	Sample ID	Lab ID
SB-13-1.5-F	300213-001	SB-6-5-N	300213-023
SB-14-1.5-F	300213-002	SB-5-1.5-N	300213-024
SB-15-1.5-F	300213-003	SB-5-5-N	300213-025
SB-16-1.5-F	300213-004	SB-4-1.5-F	300213-026
SB-13-5-N	300213-005	SB-3-0.5-F	300213-027
SB-14-5-N	300213-006	SB-2-0.5-F	300213-028
SB-15-5-N	300213-007	SB-1-1.5-N	300213-029
SB-16-5-N	300213-008	SB-2-1.5-N	300213-030
SB-9-1.5-F	300213-009	SB-3-1.5-N	300213-031
SB-10-1.5-F	300213-010	SB-4-5-N	300213-032
SB-11-1.5-F	300213-011	SB-1-5-N	300213-033
SB-12-1.5-F	300213-012	SB-2-5-N	300213-034
SB-9-5-N	300213-013	SB-3-5-N	300213-035
SB-10-5-N	300213-014	COMP-13-16-F	300213-036
SB-11-5-N	300213-015	COMP-13-16-N	300213-037
SB-12-5-N	300213-016	COMP-9-12-F	300213-038
SB-8-1.5-F	300213-017	COMP-9-12-N	300213-039
SB-7-1.5-F	300213-018	COMP-5-8-F	300213-040
SB-6-1.5-F	300213-019	COMP-5-8-N	300213-041
SB-5-0.5-F	300213-020	COMP-2-4-F	300213-042
SB-8-5-N	300213-021	COMP-1-4-N	300213-043
SB-7-5-N	300213-022		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/06/2018

Mike Dahlquist
Project Manager
mike.dahlquist@enthalpy.com
(510) 204-2225 Ext 13101

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300213**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for seven four-point soil composites, one soil sample, and one three-point soil composite, requested for the above referenced project on 05/30/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
COMP-13-16-F (lab # 300213-036) and COMP-9-12-F (lab # 300213-038) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
High recovery was observed for 4-chloro-3-methylphenol in the MSD for batch 260145; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. High surrogate recovery was observed for 2-fluorophenol in COMP-2-4-F (lab # 300213-042); no target analytes were detected in the sample. High surrogate recovery was observed for phenol-d5 in COMP-2-4-F (lab # 300213-042); no target analytes were detected in the sample. A number of samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. High responses were observed for many analytes in the CCV analyzed 06/04/18 15:19; affected data was qualified with "b". Matrix spikes QC934355,QC934356 (batch 260118) were not reported because the parent sample required a dilution that would have diluted out the spikes. COMP-13-16-F (lab # 300213-036) and COMP-5-8-F (lab # 300213-040) were diluted due to the color of the sample extracts. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Zinc was detected above the RL in the method blank for batch 260140; this analyte was detected in samples at a level at least 10 times that of the blank. Arsenic, chromium, and nickel were detected between the MDL and the RL

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300213**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

Metals (EPA 6010B and EPA 7471A):
in the method blank for batch 260140; these analytes were detected in samples at a level at least 10 times that of the blank. No other analytical problems were encountered.

CARB 435 Asbestos (CARB 435):
Forensic Analytical in Hayward, CA performed the analysis (not NELAP certified). Please see the Forensic Analytical case narrative.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 | Sampler: Seth Stroika
Project Name: DUSD Promenade | Report To: Daren Roth
Project P. O. No: | Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV | Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard | Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST															
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd, mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	HOLD									
	SB-13-1.5-F	5/29/18	1130		X			2					X	X	X	X	X	X	X	T										
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X		}	COMP-13-16-F								
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X											
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	I										
	SB-13-5-N	5/29/18	1140		X			2					X	X	X															
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					I	}	COMP-13-16-N								
	SB-15-5-N	5/29/18	0910		X			2					X	X	X															
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					I										
	SB-9-1.5-F	5/29/18	1510		X			2					X	X	X	X	X	X	X	T										
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X		}	COMP-9-12-F								
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X											
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	I										
					X																									

Notes:
Hold all discrete samples for potential future analysis; Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY: _____ DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY: _____ DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
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Chain of Custody # 3

C&T LOGIN # 300213

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST									
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPH d/mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE			
	SB-9-5-N	5/29/18	1520		X			2					X	X	X								
	SB-10-5-N	5/30/18	0745		X			2					X	X	X								COMP-9-12-N
	SB-11-5-N	5/29/18	1405		X			2					X	X	X								
	SB-12-5-N	5/29/18	1215		X			2					X	X	X								
	SB-8-1.5-F	5/29/18	1435		X			2					X	X	X	X	X	X					
	SB-7-1.5-F	5/30/18	1020		X			2					X	X	X	X	X	X					COMP-5-8-F
	SB-6-1.5-F	5/30/18	0905		X			2					X	X	X	X	X	X					
	SB-5-0.5-F	5/30/18	1105		X			2					X	X	X	X	X	X					
	SB-8-5-N	5/29/18	1445		X			2					X	X	X								
	SB-7-5-N	5/30/18	1030		X			2					X	X	X								COMP-5-8-N
	SB-6-5-N	5/30/18	0920		X			2					X	X	X								
	SB-5-1.5-N	5/30/18	1105		X			2					X	X	X								
	SB-5-5-N	5/30/18	1110		X			2					X	HOLD									

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stoika
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH _____ ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST								
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE		
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	T	COMP-1-4-N	
	SB-2-1.5-N	5/30/18	1205		X			2					X	X	X					T	COMP-1-4-N	
	SB-3-1.5-N	5/30/18	1135		X			2					X	X	X					T	COMP-1-4-N	
	SB-4-5-N	5/30/18	0840		X			2					X	X	X					T	COMP-1-4-N	
	SB-1-5-N	5/30/18	1235		X			2					X	HOLD								
	SB-2-5-N	5/30/18	1210		X			2					X	H	O	L	D					
	SB-3-5-N	5/30/18	1140		X			2					X	H	O	L	D					

Notes:
Hold all discrete samples pending analysis; only Analyze COMP SB-1-1.5-N run for All analytes as discrete
COMP-1-4-N for Title 22 and OCPs only

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300213 Client: Terraphase

Date Received: 5-30-18 Project: DUSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5-30-18 By (print) kp (sign) kp

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☑ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 - time (sample) doesn't match COC → ID & date matched

Sample 20 - sample time doesn't match COC → ID & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "-N"

Sample 30 & 34 - sample labels were wrong, called client to figure out which sample was ~~which~~ which since the 2 small jars had the same label & 2 large jars had same label instead of 1 large jar & 1 small jar per the rest of the job.

Date Logged in 5/31/18 **By (print)** VG **(sign)** VG

Date Labeled 5/31/18 **By (print)** VG kp **(sign)** VG kp

ENTHALPY ANALYTICAL

Detections Summary for 300213

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-1-1.5-N Laboratory Sample ID : 300213-029

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12	Z	5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.54	J	2.0	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	4.3		1.5	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	390		0.26	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.62		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.14	J	0.26	0.017	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.26	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.26	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.7		1.0	0.059	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Molybdenum	0.30		0.26	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.26	0.045	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.26	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-13-16-F Laboratory Sample ID : 300213-036

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.0	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	79		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Antimony	0.77	J	2.0	0.075	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	6.5		1.5	0.073	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	250		0.27	0.033	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.11	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.22	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.063	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.3		1.0	0.062	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.018		0.018	0.0053	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.27	J	0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	44		0.27	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.27	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	53		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-13-16-N Laboratory Sample ID : 300213-037

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.73	J	2.0	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	2.3		1.5	0.066	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.25	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.099	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.15	J	0.25	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	27		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	9.6		0.25	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.8		0.99	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.0087	J	0.017	0.0050	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.084	J	0.25	0.026	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.25	0.042	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	22		0.25	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	36		0.99	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-9-12-F Laboratory Sample ID : 300213-038

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.6	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	64		10	3.1	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Antimony	0.66	J	2.0	0.074	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.0		1.5	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	230		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.45		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.13	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.27	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.1		1.0	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.018	0.0054	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.31		0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-9-12-N Laboratory Sample ID : 300213-039

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.62	J	1.9	0.064	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	4.4		1.4	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	210		0.23	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.093	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.11	J	0.23	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.23	0.045	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.23	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.23	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.5		0.93	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.011	J	0.016	0.0049	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.49		0.23	0.024	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.23	0.040	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	35		0.23	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	45		0.93	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-5-8-F Laboratory Sample ID : 300213-040

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.8	Y,Z	0.99	0.30	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	46		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.71	J	2.0	0.073	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.4		1.5	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.15	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.27	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.27	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.0		1.0	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.035		0.017	0.0051	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	43		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-5-8-N Laboratory Sample ID : 300213-041

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.68	J	2.0	0.074	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	3.6		1.5	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.63		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.13	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.27	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.2		1.0	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.0088	J	0.015	0.0046	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.13	J	0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	43		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-2-4-F Laboratory Sample ID : 300213-042

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.6	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	45		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.76	J	2.0	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.3		1.5	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.53		0.10	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.16	J	0.26	0.017	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.26	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.4		1.0	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.024		0.016	0.0049	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.27		0.26	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.26	0.044	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.26	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-1-4-N Laboratory Sample ID : 300213-043

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.50	J	1.9	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.3		1.4	0.062	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	230		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.49		0.094	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.16	J	0.24	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.24	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.24	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.7		0.94	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.017	0.0050	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.31		0.24	0.025	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.24	0.040	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		0.94	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

J = Estimated value
Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Batch#:	260102		

Field ID: SB-1-1.5-N
Type: SAMPLE
Lab ID: 300213-029
Diln Fac: 1.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	1.6 Y Z	1.0	0.31
Motor Oil C24-C36	12 Z	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: COMP-13-16-F
Type: SAMPLE
Lab ID: 300213-036
Diln Fac: 2.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.0 Y Z	2.0	0.62
Motor Oil C24-C36	79	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Field ID: COMP-9-12-F
Type: SAMPLE
Lab ID: 300213-038
Diln Fac: 2.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	5.6 Y Z	2.0	0.62
Motor Oil C24-C36	64	10	3.1

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: COMP-5-8-F
Type: SAMPLE
Lab ID: 300213-040
Diln Fac: 1.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.8 Y Z	0.99	0.30
Motor Oil C24-C36	46	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	108	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Batch#:	260102		

Field ID:	COMP-2-4-F	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	06/04/18
Lab ID:	300213-042		

Analyte	Result	RL	MDL
Diesel C10-C24	4.6 Y Z	1.0	0.31
Motor Oil C24-C36	45	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934277	Analyzed:	06/01/18

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	92	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934278	Batch#:	260102
Matrix:	Soil	Prepared:	06/01/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	44.99	90	51-137

Surrogate	%REC	Limits
o-Terphenyl	88	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	260102
MSS Lab ID:	300217-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/31/18
Units:	mg/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	2.000		

Type: MS Lab ID: QC934279

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.964	49.70	46.91	80	36-143

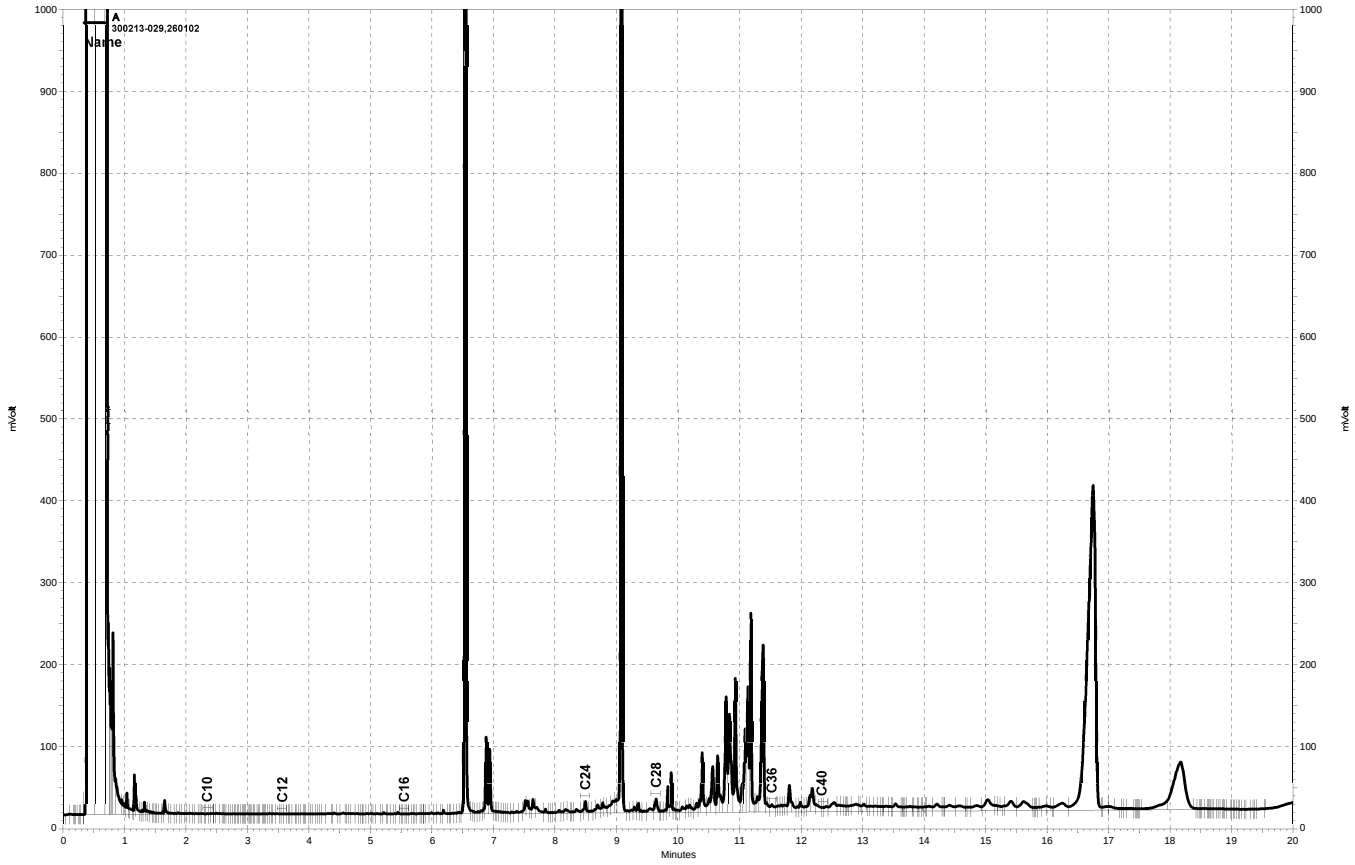
Surrogate	%REC	Limits
o-Terphenyl	84	55-133

Type: MSD Lab ID: QC934280

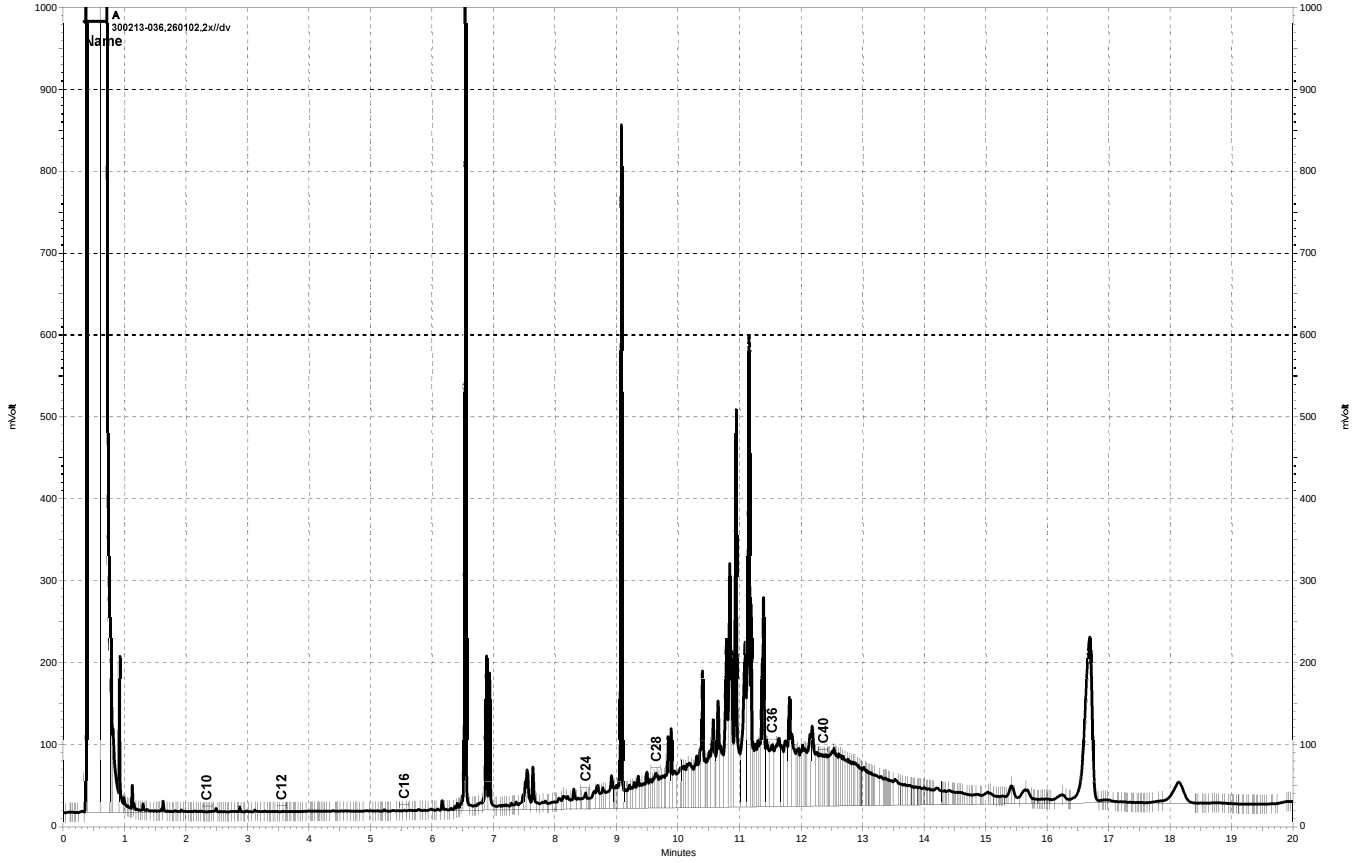
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.02	49.90	86	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl	87	55-133

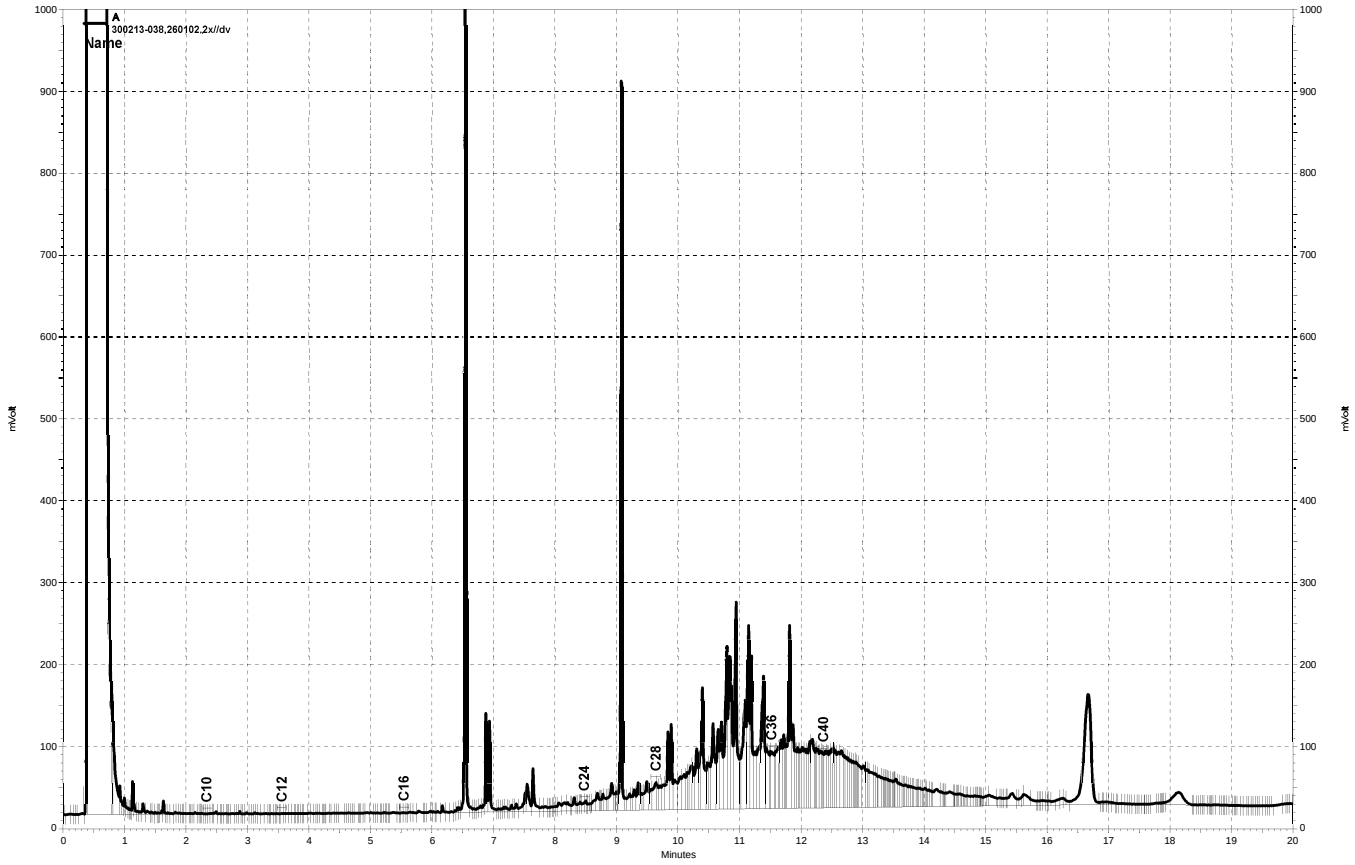
RPD= Relative Percent Difference



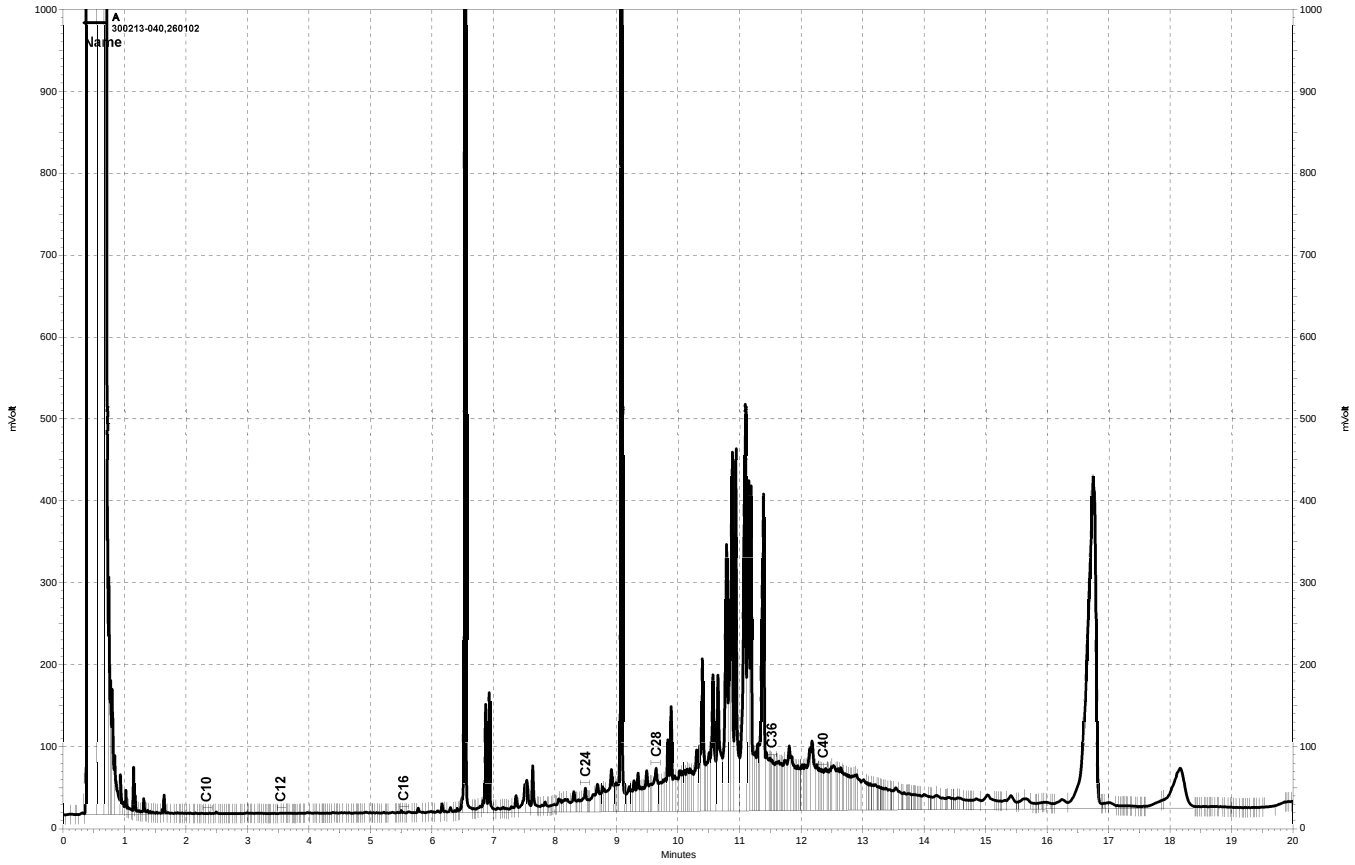
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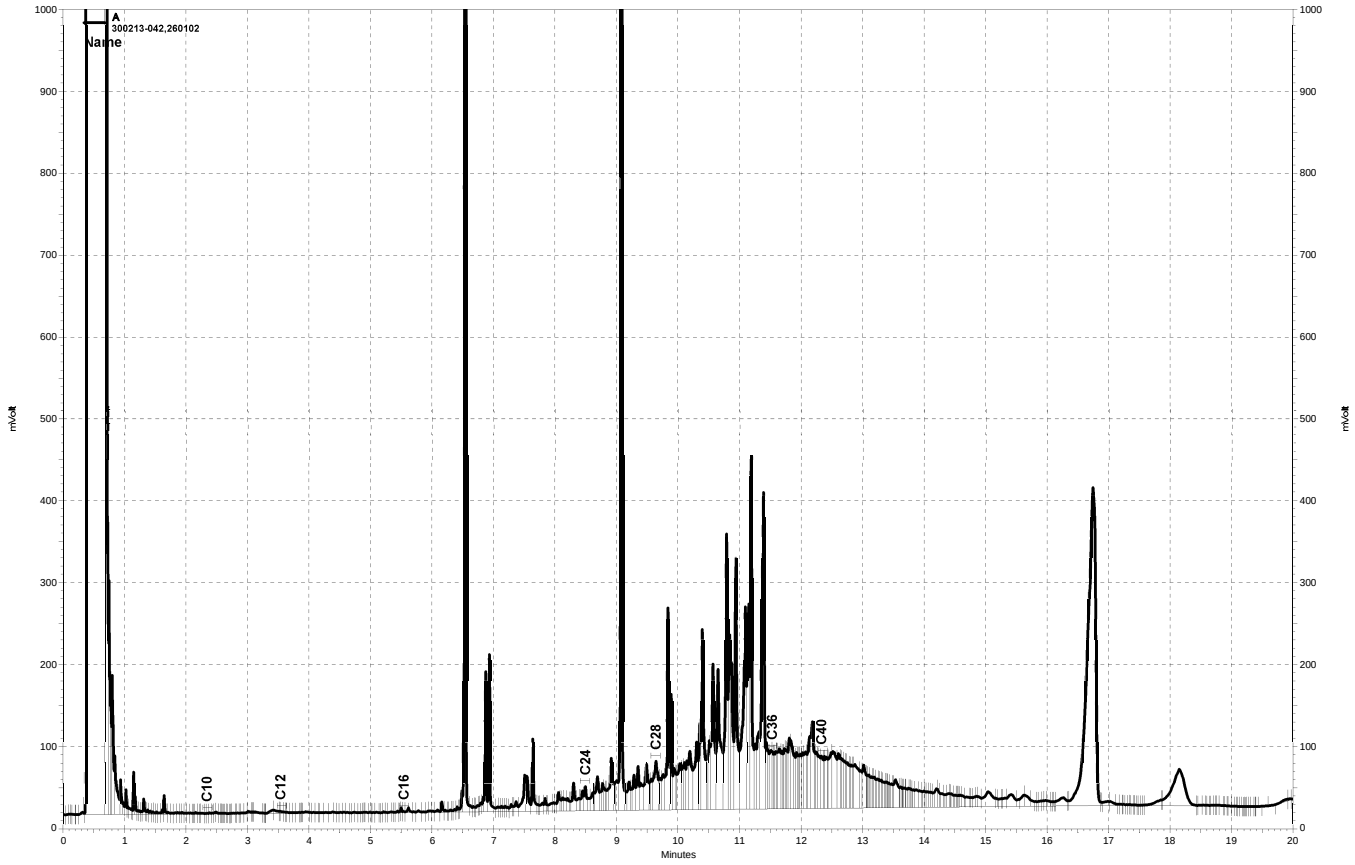
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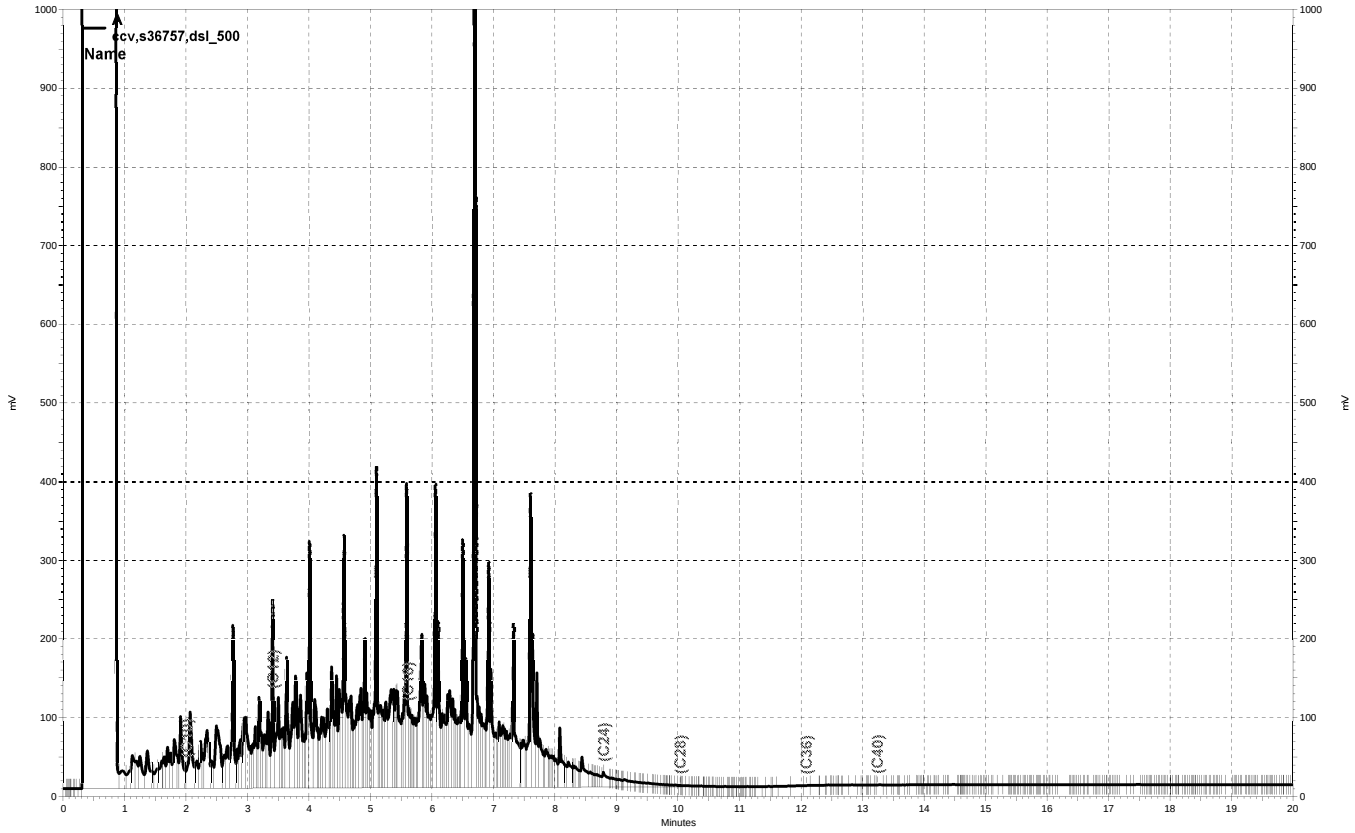
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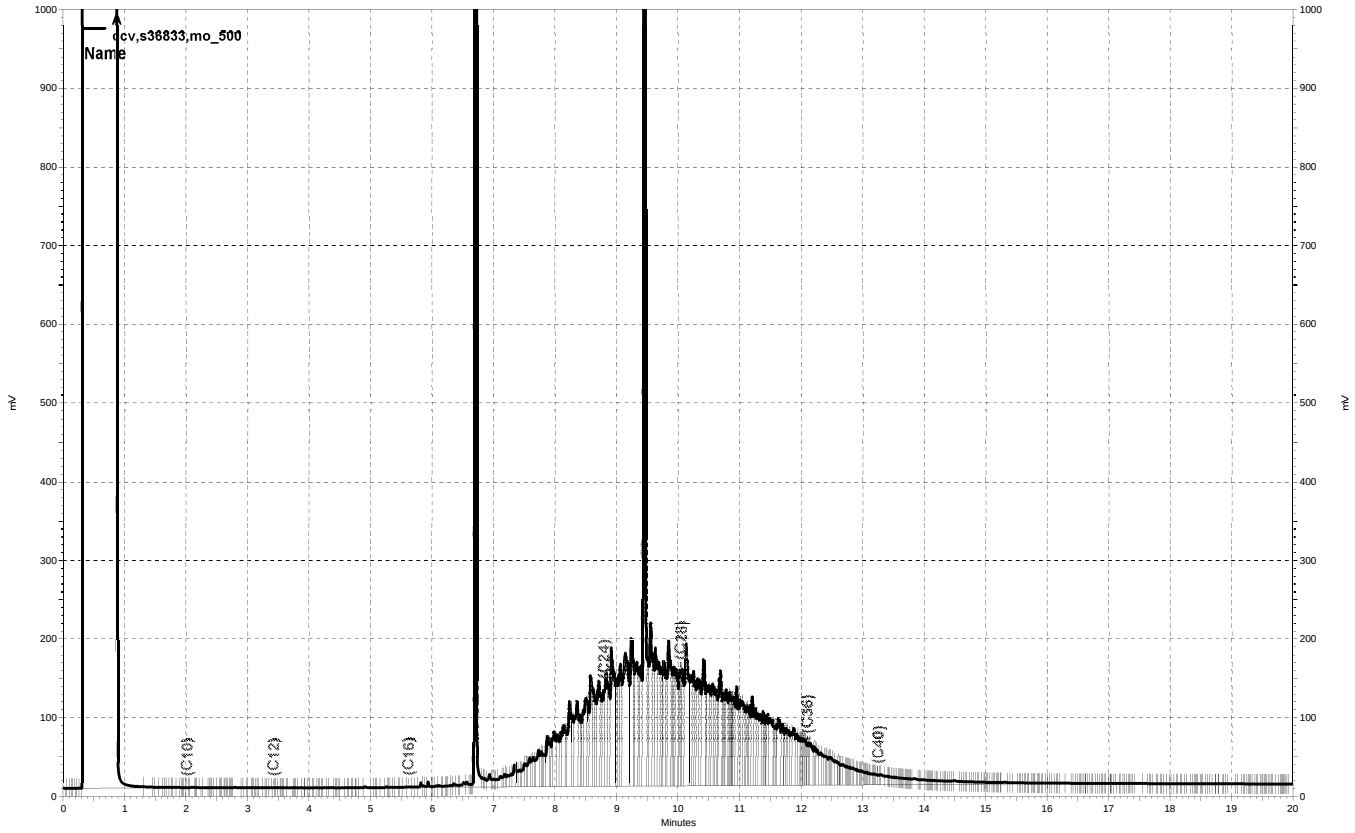
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ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-1-1.5-N	Batch#:	260145
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	9.0
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-1-1.5-N	Batch#:	260145
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.4
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	63	31-121
Phenol-d5	72	31-120
2,4,6-Tribromophenol	86	24-120
Nitrobenzene-d5	53	43-120
2-Fluorobiphenyl	62	44-120
Terphenyl-d14	90	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-13-16-F	Batch#:	260145
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,400	480
Phenol	ND	3,400	100
bis(2-Chloroethyl)ether	ND	3,400	600
2-Chlorophenol	ND	3,400	100
1,3-Dichlorobenzene	ND	3,400	570
1,4-Dichlorobenzene	ND	3,400	100
Benzyl alcohol	ND	3,400	110
1,2-Dichlorobenzene	ND	3,400	100
2-Methylphenol	ND	3,400	140
bis(2-Chloroisopropyl) ether	ND	3,400	100
4-Methylphenol	ND	3,400	100
N-Nitroso-di-n-propylamine	ND	3,400	100
Hexachloroethane	ND	3,400	100
Nitrobenzene	ND	3,400	110
Isophorone	ND	3,400	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,400	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,400	100
2,4-Dichlorophenol	ND	3,400	100
1,2,4-Trichlorobenzene	ND	3,400	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,400	95
Hexachlorobutadiene	ND	3,400	90
4-Chloro-3-methylphenol	ND	3,400	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	760
2,4,6-Trichlorophenol	ND	3,400	130
2,4,5-Trichlorophenol	ND	3,400	85
2-Chloronaphthalene	ND	3,400	91
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,400	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,400	91
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,400	100
2,4-Dinitrotoluene	ND	3,400	97
Diethylphthalate	ND	3,400	110
Fluorene	ND	670	100
4-Chlorophenyl-phenylether	ND	3,400	98
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	780
N-Nitrosodiphenylamine	ND	3,400	110
Azobenzene	ND	3,400	87
4-Bromophenyl-phenylether	ND	3,400	110
Hexachlorobenzene	ND	3,400	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-13-16-F	Batch#:	260145
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,400	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,400	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,400	130
Di-n-octylphthalate	ND	3,400	100
Benzo(b)fluoranthene	ND	670	91
Benzo(k)fluoranthene	ND	670	96
Benzo(a)pyrene	ND	670	89
Indeno(1,2,3-cd)pyrene	ND	670	89
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-9-12-F	Batch#:	260145
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,300	470
Phenol	ND	3,300	99
bis(2-Chloroethyl)ether	ND	3,300	590
2-Chlorophenol	ND	3,300	99
1,3-Dichlorobenzene	ND	3,300	560
1,4-Dichlorobenzene	ND	3,300	99
Benzyl alcohol	ND	3,300	110
1,2-Dichlorobenzene	ND	3,300	99
2-Methylphenol	ND	3,300	140
bis(2-Chloroisopropyl) ether	ND	3,300	99
4-Methylphenol	ND	3,300	99
N-Nitroso-di-n-propylamine	ND	3,300	99
Hexachloroethane	ND	3,300	99
Nitrobenzene	ND	3,300	110
Isophorone	ND	3,300	99
2-Nitrophenol	ND	6,600	99
2,4-Dimethylphenol	ND	3,300	140
Benzoic acid	ND	17,000	4,300
bis(2-Chloroethoxy)methane	ND	3,300	99
2,4-Dichlorophenol	ND	3,300	99
1,2,4-Trichlorobenzene	ND	3,300	99
Naphthalene	ND	660	99
4-Chloroaniline	ND	3,300	93
Hexachlorobutadiene	ND	3,300	88
4-Chloro-3-methylphenol	ND	3,300	83
2-Methylnaphthalene	ND	660	99
Hexachlorocyclopentadiene	ND	6,600	740
2,4,6-Trichlorophenol	ND	3,300	120
2,4,5-Trichlorophenol	ND	3,300	83
2-Chloronaphthalene	ND	3,300	89
2-Nitroaniline	ND	6,600	110
Dimethylphthalate	ND	3,300	99
Acenaphthylene	ND	660	89
2,6-Dinitrotoluene	ND	3,300	89
3-Nitroaniline	ND	6,600	420
Acenaphthene	ND	660	99
2,4-Dinitrophenol	ND	6,600	1,500
4-Nitrophenol	ND	6,600	710
Dibenzofuran	ND	3,300	100
2,4-Dinitrotoluene	ND	3,300	95
Diethylphthalate	ND	3,300	110
Fluorene	ND	660	98
4-Chlorophenyl-phenylether	ND	3,300	96
4-Nitroaniline	ND	6,600	420
4,6-Dinitro-2-methylphenol	ND	6,600	760
N-Nitrosodiphenylamine	ND	3,300	100
Azobenzene	ND	3,300	85
4-Bromophenyl-phenylether	ND	3,300	100
Hexachlorobenzene	ND	3,300	110
Pentachlorophenol	ND	6,600	1,300
Phenanthrene	ND	660	100

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-9-12-F	Batch#:	260145
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	660	110
Di-n-butylphthalate	ND	3,300	120
Fluoranthene	ND	660	100
Pyrene	ND	660	110
Butylbenzylphthalate	ND	3,300	99
3,3'-Dichlorobenzidine	ND	6,600	220
Benzo(a)anthracene	ND	660	100
Chrysene	ND	660	110
bis(2-Ethylhexyl)phthalate	ND	3,300	130
Di-n-octylphthalate	ND	3,300	99
Benzo(b)fluoranthene	ND	660	89
Benzo(k)fluoranthene	ND	660	94
Benzo(a)pyrene	ND	660	87
Indeno(1,2,3-cd)pyrene	ND	660	87
Dibenz(a,h)anthracene	ND	660	92
Benzo(g,h,i)perylene	ND	660	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-5-8-F	Batch#:	260145
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	1,700	230
Phenol	ND	1,700	50
bis(2-Chloroethyl)ether	ND	1,700	290
2-Chlorophenol	ND	1,700	50
1,3-Dichlorobenzene	ND	1,700	280
1,4-Dichlorobenzene	ND	1,700	50
Benzyl alcohol	ND	1,700	54
1,2-Dichlorobenzene	ND	1,700	50
2-Methylphenol	ND	1,700	68
bis(2-Chloroisopropyl) ether	ND	1,700	50
4-Methylphenol	ND	1,700	50
N-Nitroso-di-n-propylamine	ND	1,700	50
Hexachloroethane	ND	1,700	50
Nitrobenzene	ND	1,700	54
Isophorone	ND	1,700	50
2-Nitrophenol	ND	3,300	50
2,4-Dimethylphenol	ND	1,700	69
Benzoic acid	ND	8,300	2,200
bis(2-Chloroethoxy)methane	ND	1,700	50
2,4-Dichlorophenol	ND	1,700	50
1,2,4-Trichlorobenzene	ND	1,700	50
Naphthalene	ND	330	50
4-Chloroaniline	ND	1,700	47
Hexachlorobutadiene	ND	1,700	44
4-Chloro-3-methylphenol	ND	1,700	41
2-Methylnaphthalene	ND	330	50
Hexachlorocyclopentadiene	ND	3,300	370
2,4,6-Trichlorophenol	ND	1,700	62
2,4,5-Trichlorophenol	ND	1,700	41
2-Chloronaphthalene	ND	1,700	44
2-Nitroaniline	ND	3,300	53
Dimethylphthalate	ND	1,700	50
Acenaphthylene	ND	330	44
2,6-Dinitrotoluene	ND	1,700	44
3-Nitroaniline	ND	3,300	210
Acenaphthene	ND	330	50
2,4-Dinitrophenol	ND	3,300	740
4-Nitrophenol	ND	3,300	350
Dibenzofuran	ND	1,700	51
2,4-Dinitrotoluene	ND	1,700	48
Diethylphthalate	ND	1,700	56
Fluorene	ND	330	49
4-Chlorophenyl-phenylether	ND	1,700	48
4-Nitroaniline	ND	3,300	210
4,6-Dinitro-2-methylphenol	ND	3,300	380
N-Nitrosodiphenylamine	ND	1,700	52
Azobenzene	ND	1,700	42
4-Bromophenyl-phenylether	ND	1,700	52
Hexachlorobenzene	ND	1,700	53
Pentachlorophenol	ND	3,300	630
Phenanthrene	ND	330	52
Anthracene	ND	330	56

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-5-8-F	Batch#:	260145
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	1,700	60
Fluoranthene	ND	330	51
Pyrene	ND	330	54
Butylbenzylphthalate	ND	1,700	50
3,3'-Dichlorobenzidine	ND	3,300	110
Benzo(a)anthracene	ND	330	51
Chrysene	ND	330	56
bis(2-Ethylhexyl)phthalate	ND	1,700	65
Di-n-octylphthalate	ND	1,700	50
Benzo(b)fluoranthene	ND	330	45
Benzo(k)fluoranthene	ND	330	47
Benzo(a)pyrene	ND	330	43
Indeno(1,2,3-cd)pyrene	ND	330	44
Dibenz(a,h)anthracene	ND	330	46
Benzo(g,h,i)perylene	ND	330	50

Surrogate	%REC	Limits
2-Fluorophenol	67	31-121
Phenol-d5	70	31-120
2,4,6-Tribromophenol	70	24-120
Nitrobenzene-d5	63	43-120
2-Fluorobiphenyl	82	44-120
Terphenyl-d14	96	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-2-4-F	Batch#:	260145
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	3.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	990	120
Phenol	ND	990	51
bis(2-Chloroethyl)ether	ND	990	37
2-Chlorophenol	ND	990	49
1,3-Dichlorobenzene	ND	990	36
1,4-Dichlorobenzene	ND	990	30
Benzyl alcohol	ND	990	46
1,2-Dichlorobenzene	ND	990	28
2-Methylphenol	ND	990	46
bis(2-Chloroisopropyl) ether	ND	990	120
4-Methylphenol	ND	990	52
N-Nitroso-di-n-propylamine	ND	990	98
Hexachloroethane	ND	990	36
Nitrobenzene	ND	990	36
Isophorone	ND	990	32
2-Nitrophenol	ND	2,000	30
2,4-Dimethylphenol	ND	990	41
Benzoic acid	ND	5,000	1,500
bis(2-Chloroethoxy)methane	ND	990	34
2,4-Dichlorophenol	ND	990	37
1,2,4-Trichlorobenzene	ND	990	29
Naphthalene	ND	200	26
4-Chloroaniline	ND	990	120
Hexachlorobutadiene	ND	990	180
4-Chloro-3-methylphenol	ND	990	44
2-Methylnaphthalene	ND	200	29
Hexachlorocyclopentadiene	ND	2,000	180
2,4,6-Trichlorophenol	ND	990	41
2,4,5-Trichlorophenol	ND	990	26
2-Chloronaphthalene	ND	990	160
2-Nitroaniline	ND	2,000	98
Dimethylphthalate	ND	990	28
Acenaphthylene	ND	200	25
2,6-Dinitrotoluene	ND	990	26
3-Nitroaniline	ND	2,000	120
Acenaphthene	ND	200	36
2,4-Dinitrophenol	ND	2,000	480
4-Nitrophenol	ND	2,000	200
Dibenzofuran	ND	990	26
2,4-Dinitrotoluene	ND	990	29
Diethylphthalate	ND	990	25
Fluorene	ND	200	26
4-Chlorophenyl-phenylether	ND	990	29
4-Nitroaniline	ND	2,000	120
4,6-Dinitro-2-methylphenol	ND	2,000	120
N-Nitrosodiphenylamine	ND	990	170
Azobenzene	ND	990	36
4-Bromophenyl-phenylether	ND	990	170
Hexachlorobenzene	ND	990	36
Pentachlorophenol	ND	2,000	440
Phenanthrene	ND	200	28

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-2-4-F	Batch#:	260145
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	3.000		

Analyte	Result	RL	MDL
Anthracene	ND	200	36
Di-n-butylphthalate	ND	990	36
Fluoranthene	ND	200	26
Pyrene	ND	200	28
Butylbenzylphthalate	ND	990	36
3,3'-Dichlorobenzidine	ND	2,000	130
Benzo(a)anthracene	ND	200	26
Chrysene	ND	200	36
bis(2-Ethylhexyl)phthalate	ND	990	26
Di-n-octylphthalate	ND	990	25
Benzo(b)fluoranthene	ND	200	36
Benzo(k)fluoranthene	ND	200	26
Benzo(a)pyrene	ND	200	26
Indeno(1,2,3-cd)pyrene	ND	200	36
Dibenz(a,h)anthracene	ND	200	36
Benzo(g,h,i)perylene	ND	200	26

Surrogate	%REC	Limits
2-Fluorophenol	124 *	31-121
Phenol-d5	135 *	31-120
2,4,6-Tribromophenol	78	24-120
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	94	44-120
Terphenyl-d14	115	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934476	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	8.9
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11
Di-n-butylphthalate	ND	330	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934476	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Result	RL	MDL
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.3
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	88	31-121
Phenol-d5	81	31-120
2,4,6-Tribromophenol	85	24-120
Nitrobenzene-d5	80	43-120
2-Fluorobiphenyl	89	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	2.000
Lab ID:	QC934477	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Spiked	Result	%REC	Limits
Phenol	2,667	2,705	101	40-120
2-Chlorophenol	2,667	2,680	101	51-120
1,4-Dichlorobenzene	2,667	2,640	99	55-120
N-Nitroso-di-n-propylamine	2,667	2,778	104	27-122
1,2,4-Trichlorobenzene	2,667	2,768	104	58-120
4-Chloro-3-methylphenol	2,667	2,942	110	55-136
Acenaphthene	1,000	1,092	109	53-120
4-Nitrophenol	2,667	3,076	115	46-121
2,4-Dinitrotoluene	2,667	3,001	113	56-120
Pentachlorophenol	2,667	2,843	107	18-120
Pyrene	1,000	1,059	106	53-124

Surrogate	%REC	Limits
2-Fluorophenol	89	31-121
Phenol-d5	89	31-120
2,4,6-Tribromophenol	96	24-120
Nitrobenzene-d5	85	43-120
2-Fluorobiphenyl	96	44-120
Terphenyl-d14	102	44-120

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	ZZZZZZZZZZ	Batch#:	260145
MSS Lab ID:	300281-001	Sampled:	06/01/18
Matrix:	Soil	Received:	06/02/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934478

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<17.17	2,679	1,639	61	40-120
2-Chlorophenol	<16.32	2,679	2,043	76	50-120
1,4-Dichlorobenzene	<10.03	2,679	2,011	75	45-120
N-Nitroso-di-n-propylamine	<32.76	2,679	2,020	75	31-120
1,2,4-Trichlorobenzene	<9.584	2,679	2,329	87	53-120
4-Chloro-3-methylphenol	<14.58	2,679	3,182	119	57-127
Acenaphthene	<11.91	1,005	909.7	91	51-120
4-Nitrophenol	<68.18	2,679	2,330	87	45-120
2,4-Dinitrotoluene	<9.609	2,679	2,635	98	56-120
Pentachlorophenol	<147.1	2,679	713.8	27	13-120
Pyrene	<9.284	1,005	1,008	100	53-120

Surrogate	%REC	Limits
2-Fluorophenol	83	31-121
Phenol-d5	65	31-120
2,4,6-Tribromophenol	89	24-120
Nitrobenzene-d5	93	43-120
2-Fluorobiphenyl	90	44-120
Terphenyl-d14	103	44-120

Type: MSD Lab ID: QC934479

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,639	1,886	71	40-120	15	41
2-Chlorophenol	2,639	2,319	88	50-120	14	39
1,4-Dichlorobenzene	2,639	2,220	84	45-120	11	42
N-Nitroso-di-n-propylamine	2,639	2,331	88	31-120	16	51
1,2,4-Trichlorobenzene	2,639	2,550	97	53-120	11	40
4-Chloro-3-methylphenol	2,639	3,468	131 *	57-127	10	42
Acenaphthene	989.8	1,011	102	51-120	12	31
4-Nitrophenol	2,639	2,508	95	45-120	9	39
2,4-Dinitrotoluene	2,639	2,895	110	56-120	11	32
Pentachlorophenol	2,639	762.4	29	13-120	8	67
Pyrene	989.8	1,125	114	53-120	12	33

Surrogate	%REC	Limits
2-Fluorophenol	97	31-121
Phenol-d5	76	31-120
2,4,6-Tribromophenol	99	24-120
Nitrobenzene-d5	103	43-120
2-Fluorobiphenyl	101	44-120
Terphenyl-d14	116	44-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-1-1.5-N	Batch#:	260118
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.11
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	84	30-127
Decachlorobiphenyl	103	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-13-16-F	Batch#:	260118
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/06/18
Diln Fac:	10.00		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	8.6	1.0
beta-BHC	ND	8.6	2.1
gamma-BHC	ND	8.6	1.1
delta-BHC	ND	8.6	1.4
Heptachlor	ND	8.6	0.96
Aldrin	ND	8.6	1.0
Heptachlor epoxide	ND	8.6	1.1
Endosulfan I	ND	8.6	0.88
Dieldrin	ND	8.6	2.0
4,4'-DDE	ND	17	3.0
Endrin	ND	17	2.8
Endosulfan II	ND	17	2.5
Endosulfan sulfate	ND	17	2.6
4,4'-DDD	ND	17	3.7
Endrin aldehyde	ND	17	1.7
4,4'-DDT	ND	17	2.4
alpha-Chlordane	ND	8.6	1.0
gamma-Chlordane	ND	8.6	1.2
Methoxychlor	ND	86	16
Toxaphene	ND	300	46

Surrogate	%REC	Limits
TCMX	DO	30-127
Decachlorobiphenyl	DO	33-136

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-13-16-N	Batch#:	260118
Lab ID:	300213-037	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	55	30-127
Decachlorobiphenyl	115	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-9-12-F	Batch#:	260118
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.20
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.087
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	92	30-127
Decachlorobiphenyl	104	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-9-12-N	Batch#:	260118
Lab ID:	300213-039	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.11
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	61	30-127
Decachlorobiphenyl	104	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-5-8-F	Batch#:	260118
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	2.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.20
beta-BHC	ND	1.7	0.41
gamma-BHC	ND	1.7	0.21
delta-BHC	ND	1.7	0.27
Heptachlor	ND	1.7	0.21
Aldrin	ND	1.7	0.20
Heptachlor epoxide	ND	1.7	0.22
Endosulfan I	ND	1.7	0.17
Dieldrin	ND	1.7	0.39
4,4'-DDE	ND	3.3	0.58
Endrin	ND	3.3	0.55
Endosulfan II	ND	3.3	0.50
Endosulfan sulfate	ND	3.3	0.51
4,4'-DDD	ND	3.3	0.72
Endrin aldehyde	ND	3.3	0.33
4,4'-DDT	ND	3.3	0.47
alpha-Chlordane	ND	1.7	0.20
gamma-Chlordane	ND	1.7	0.24
Methoxychlor	ND	17	3.1
Toxaphene	ND	59	9.0

Surrogate	%REC	Limits
TCMX	93	30-127
Decachlorobiphenyl	100	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-5-8-N	Batch#:	260118
Lab ID:	300213-041	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	65	30-127
Decachlorobiphenyl	94	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-2-4-F	Batch#:	260118
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	88	30-127
Decachlorobiphenyl	99	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-1-4-N	Batch#:	260118
Lab ID:	300213-043	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.15
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.11
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	74	30-127
Decachlorobiphenyl	73	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934353	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/04/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.23
beta-BHC	ND	0.85	0.22
gamma-BHC	ND	0.85	0.23
delta-BHC	ND	0.85	0.20
Heptachlor	ND	0.85	0.25
Aldrin	ND	0.85	0.25
Heptachlor epoxide	ND	0.85	0.20
Endosulfan I	ND	0.85	0.22
Dieldrin	ND	0.85	0.14
4,4'-DDE	ND	1.7	0.37
Endrin	ND	1.7	0.47
Endosulfan II	ND	1.7	0.40
Endosulfan sulfate	ND	1.7	0.49
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.37
4,4'-DDT	ND	1.7	0.43
alpha-Chlordane	ND	0.85	0.20
gamma-Chlordane	ND	0.85	0.27
Methoxychlor	ND	8.5	2.5
Toxaphene	ND	30	8.3

Surrogate	%REC	Limits
TCMX	104	30-127
Decachlorobiphenyl	118	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934354	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/04/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	6.667	7.929 # b	119	41-127
Heptachlor	6.667	7.638 b	115	33-134
Aldrin	6.667	7.183 b	108	39-130
Dieldrin	6.667	7.294 # b	109	44-139
Endrin	6.667	6.374 b	96	39-150
4,4'-DDT	6.667	7.318 # b	110	38-141

Surrogate	%REC	Limits
TCMX	114	30-127
Decachlorobiphenyl	117	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
b= See narrative

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260118
Units:	ug/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18
Diln Fac:	1.000	Prepared:	06/01/18

Field ID: SB-1-1.5-N
Type: SAMPLE
Lab ID: 300213-029

Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	144	26-153

Field ID: COMP-13-16-F
Type: SAMPLE
Lab ID: 300213-036

Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	103	26-153

Field ID: COMP-9-12-F
Type: SAMPLE
Lab ID: 300213-038

Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	139	26-153

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260118
Units:	ug/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18
Diln Fac:	1.000	Prepared:	06/01/18

Field ID: COMP-5-8-F
Type: SAMPLE
Lab ID: 300213-040
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	126	26-153

Field ID: COMP-2-4-F
Type: SAMPLE
Lab ID: 300213-042
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	76	26-153

Type: BLANK
Lab ID: QC934353
Analyzed: 06/01/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	114	26-153

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934357	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	65.75	79	56-152
Aroclor-1260	83.33	54.27	65	52-165

Surrogate	%REC	Limits
Decachlorobiphenyl	106	26-153

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	260118
MSS Lab ID:	300236-002	Sampled:	05/25/18
Matrix:	Soil	Received:	05/31/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934358

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<1.191	83.25	103.0	124	55-170
Aroclor-1260	<0.7785	83.25	91.45	110	44-177

Surrogate	%REC	Limits
Decachlorobiphenyl	113	26-153

Type: MSD Lab ID: QC934359

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	82.89	95.35	115	55-170	7	46
Aroclor-1260	82.89	95.11	115	44-177	4	41

Surrogate	%REC	Limits
Decachlorobiphenyl	100	26-153

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-1-1.5-N	Basis:	as received
Lab ID:	300213-029	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.54 J	2.0	0.072	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	4.3	1.5	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	390	0.26	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.62	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.14 J	0.26	0.017	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	38	0.26	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	13	0.26	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	22	0.26	0.060	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.7	1.0	0.059	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	ND	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.30	0.26	0.027	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	40	0.26	0.045	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.53	0.095	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	40	0.26	0.055	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	46	1.1	0.22	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-13-16-F	Basis:	as received
Lab ID:	300213-036	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.77 J	2.0	0.075	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.073	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	250	0.27	0.033	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.51	0.11	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.22 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	40	0.27	0.054	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.063	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.3	1.0	0.062	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.018	0.018	0.0053	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.27 J	0.27	0.061	260140	06/04/18	06/05/18	EPA 3050B	EPA 6010B
Nickel	44	0.27	0.047	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.21	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.033	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.55	0.099	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.27	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	53	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-13-16-N	Basis:	as received
Lab ID:	300213-037	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.73 J	2.0	0.068	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	2.3	1.5	0.066	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	270	0.25	0.030	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.59	0.099	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.15 J	0.25	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	27	0.25	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	9.6	0.25	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	19	0.25	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.8	0.99	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.0087 J	0.017	0.0050	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.084 J	0.25	0.026	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	38	0.25	0.042	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.19	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.030	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.089	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	22	0.25	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	36	0.99	0.21	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-9-12-F	Basis:	as received
Lab ID:	300213-038	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.66 J	2.0	0.074	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.0	1.5	0.071	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	230	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.45	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.13 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.27	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	21	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.1	1.0	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.018	0.0054	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.31	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	42	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.097	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	37	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	50	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-9-12-N	Basis:	as received
Lab ID:	300213-039	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.62 J	1.9	0.064	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	4.4	1.4	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	210	0.23	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.093	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.11 J	0.23	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	35	0.23	0.045	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.23	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	21	0.23	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	7.5	0.93	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.011 J	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.49	0.23	0.024	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	38	0.23	0.040	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	1.9	0.17	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.46	0.083	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	35	0.23	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	45	0.93	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-5-8-F	Basis:	as received
Lab ID:	300213-040	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.71 J	2.0	0.073	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.4	1.5	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	260	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.15 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	39	0.27	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	12	0.27	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	9.0	1.0	0.060	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.035	0.017	0.0051	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	43	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.53	0.096	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	49	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-5-8-N	Basis:	as received
Lab ID:	300213-041	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.68 J	2.0	0.074	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	3.6	1.5	0.071	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	270	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.63	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.13 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.27	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	13	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	9.2	1.0	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.0088 J	0.015	0.0046	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.13 J	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.097	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	37	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	43	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-2-4-F	Basis:	as received
Lab ID:	300213-042	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.76 J	2.0	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.5	0.068	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	260	0.26	0.031	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.53	0.10	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.16 J	0.26	0.017	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.26	0.050	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.26	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.4	1.0	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.024	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.27	0.26	0.027	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.26	0.044	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.19	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.031	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.51	0.092	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.26	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	49	1.0	0.22	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-1-4-N	Basis:	as received
Lab ID:	300213-043	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.50 J	1.9	0.065	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.4	0.062	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	230	0.24	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.49	0.094	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.16 J	0.24	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	35	0.24	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.24	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	23	0.24	0.054	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	7.7	0.94	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.017	0.0050	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.31	0.24	0.025	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.24	0.040	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	1.9	0.18	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.085	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	38	0.24	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	48	0.94	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934449	Batch#:	260140
Matrix:	Soil	Prepared:	06/04/18
Units:	mg/Kg	Analyzed:	06/04/18

Analyte	Result	RL	MDL
Antimony	ND	1.9	0.064
Arsenic	0.080 J	1.4	0.062
Barium	ND	0.23	0.028
Beryllium	ND	0.093	0.012
Cadmium	ND	0.23	0.015
Chromium	0.11 J	0.23	0.046
Cobalt	ND	0.23	0.014
Copper	ND	0.23	0.053
Lead	ND	0.93	0.053
Molybdenum	ND	0.23	0.024
Nickel	0.14 J	0.23	0.040
Selenium	ND	1.9	0.18
Silver	ND	0.23	0.028
Thallium	ND	0.47	0.084
Vanadium	ND	0.23	0.049
Zinc	1.9 b	0.93	0.20

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260140
Units:	mg/Kg	Prepared:	06/04/18
Diln Fac:	1.000	Analyzed:	06/04/18

Type: BS Lab ID: QC934450

Analyte	Spiked	Result	%REC	Limits
Antimony	50.00	50.99	102	80-120
Arsenic	50.00	51.16	102	80-120
Barium	50.00	51.72	103	80-120
Beryllium	25.00	25.31	101	80-120
Cadmium	50.00	49.51	99	80-120
Chromium	50.00	51.97	104	80-120
Cobalt	50.00	50.82	102	80-120
Copper	50.00	49.93	100	80-120
Lead	50.00	51.31	103	80-120
Molybdenum	50.00	51.49	103	80-120
Nickel	50.00	51.03	102	80-120
Selenium	50.00	50.01	100	80-120
Silver	5.000	4.967	99	80-120
Thallium	50.00	51.84	104	80-120
Vanadium	50.00	50.77	102	80-120
Zinc	50.00	52.05	104	80-120

Type: BSD Lab ID: QC934451

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	46.73	48.71	104	80-120	2	20
Arsenic	46.73	48.58	104	80-120	2	20
Barium	46.73	48.82	104	80-120	1	20
Beryllium	23.36	23.50	101	80-120	1	20
Cadmium	46.73	46.72	100	80-120	1	20
Chromium	46.73	49.13	105	80-120	1	20
Cobalt	46.73	48.04	103	80-120	1	20
Copper	46.73	46.99	101	80-120	1	20
Lead	46.73	48.60	104	80-120	1	20
Molybdenum	46.73	48.51	104	80-120	1	20
Nickel	46.73	48.34	103	80-120	1	20
Selenium	46.73	46.99	101	80-120	1	20
Silver	4.673	4.646	99	80-120	0	22
Thallium	46.73	49.13	105	80-120	1	20
Vanadium	46.73	47.73	102	80-120	1	20
Zinc	46.73	48.95	105	80-120	1	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	260140
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/04/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934452

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.6988	48.54	18.22	36	1-120
Arsenic	3.137	48.54	53.84	104	71-123
Barium	83.37	48.54	129.8	96	48-155
Beryllium	0.2546	24.27	24.59	100	80-120
Cadmium	0.07160	48.54	49.81	102	78-120
Chromium	35.55	48.54	87.11	106	64-135
Cobalt	7.996	48.54	53.97	95	65-120
Copper	16.69	48.54	66.58	103	75-132
Lead	5.188	48.54	50.16	93	53-128
Molybdenum	0.3771	48.54	47.30	97	68-120
Nickel	45.79	48.54	90.58	92	56-128
Selenium	<0.1777	48.54	49.07	101	59-120
Silver	<0.02830	4.854	4.837	100	36-123
Thallium	<0.08483	48.54	45.23	93	55-120
Vanadium	31.26	48.54	81.46	103	73-129
Zinc	40.45	48.54	87.46	97	49-138

Type: MSD Lab ID: QC934453

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	48.54	16.74	33	1-120	8	50
Arsenic	48.54	54.95	107	71-123	2	27
Barium	48.54	138.1	113	48-155	6	41
Beryllium	24.27	24.60	100	80-120	0	20
Cadmium	48.54	50.09	103	78-120	1	21
Chromium	48.54	98.48	130	64-135	12	37
Cobalt	48.54	54.65	96	65-120	1	32
Copper	48.54	69.58	109	75-132	4	33
Lead	48.54	51.28	95	53-128	2	48
Molybdenum	48.54	47.53	97	68-120	0	23
Nickel	48.54	96.75	105	56-128	7	38
Selenium	48.54	49.28	102	59-120	0	30
Silver	4.854	4.883	101	36-123	1	47
Thallium	48.54	45.60	94	55-120	1	22
Vanadium	48.54	81.87	104	73-129	1	27
Zinc	48.54	94.93	112	49-138	8	39

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260191
Lab ID:	QC934650	Prepared:	06/05/18
Matrix:	Soil	Analyzed:	06/05/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0050

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260191
Matrix:	Soil	Prepared:	06/05/18
Units:	mg/Kg	Analyzed:	06/05/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC934651	0.1563	0.1483	95	80-126		
BSD	QC934652	0.1724	0.1641	95	80-126	0	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260191
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/05/18
Basis:	as received	Analyzed:	06/05/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC934653	0.02545	0.1563	0.1808	99	61-157		
MSD	QC934654		0.1695	0.1947	100	61-157	0	57

RPD= Relative Percent Difference

Laboratory Job Number 300213

Subcontracted Products

Forensic Analytical

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010635
Date Received: 06/01/18
Date Analyzed: 06/05/18
Date Printed: 06/05/18

Job ID/Site: 300213 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 5
Total Samples Analyzed: 5

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-1-1.5-N	12039182	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-13-16-F	12039183	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-9-12-F	12039184	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-5-8-F	12039185	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-42

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010635
Date Received: 06/01/18
Date Analyzed: 06/05/18
Date Printed: 06/05/18

Job ID/Site: 300213 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 5
Total Samples Analyzed: 5

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
COMP-2-4-F	12039186	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire	100
Visual estimation percentage:	**None Detected**
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300214
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
WC-SOIL-053018	300214-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/06/2018

Mike Dahlquist
Project Manager
mike.dahlquist@enthalpy.com
(510) 204-2225 Ext 13101

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300214**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 05/30/18. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High recoveries were observed for 1,1-dichloroethene in the MS/MSD for batch 260115; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
High recovery was observed for barium in the MSD of WC-SOIL-053018 (lab # 300214-001); the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody #

C&T LOGIN # 306214

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST: Ti He 22 Metals (6010)	TPH g,d,mo (8015)	VOCs (8260)
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None			
	WC-SOIL-053018	5/30/18	1300		X			1					X	X	X	X

Notes:

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1600
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31 TIME: 8:20
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300214 Client: Terraphase

Date Received: 5.30.18 Project: 0098.003.001

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5-30-18 By (print) KP (sign) KP

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*** **: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used : ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☑ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	✓		
Were Method 5035 sampling containers present?		✓	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	✓		
Are there any missing / extra samples?		✓	
Are samples in the appropriate containers for indicated tests?	✓		
Are sample labels present, in good condition and complete?	✓		
Does the container count match the COC?	✓		
Do the sample labels agree with custody papers?	✓		
Was sufficient amount of sample sent for tests requested?	✓		
Did you change the hold time in LIMS for unpreserved VOAs?			✓
Did you change the hold time in LIMS for preserved terracores?			✓
Are bubbles > 6mm absent in VOA samples?			✓
Was the client contacted concerning this sample delivery?		✓	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			✓
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged in 5/31/18 **By (print)** VC **(sign)** VC

Date Labeled 5/31/18 **By (print)** TKy **(sign)** TKy

ENTHALPY ANALYTICAL

Detections Summary for 300214

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : WC-SOIL-053018 Laboratory Sample ID : 300214-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Motor Oil C24-C36	7.6	Z	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.9		1.4	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	190		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.092	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.28		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.6		0.92	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Molybdenum	0.48		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.0		1.8	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	48		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	51		0.92	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	WC-SOIL-053018	Diln Fac:	1.000
Matrix:	Soil	Batch#:	260087
Units:	mg/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18

Type: SAMPLE Analyzed: 06/01/18
Lab ID: 300214-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-136

Type: BLANK Analyzed: 05/31/18
Lab ID: QC934227

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	65-136

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934224	Batch#:	260087
Matrix:	Soil	Analyzed:	05/31/18
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.128	113	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-136

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	300233-001	Batch#:	260087
Matrix:	Soil	Sampled:	05/31/18
Units:	mg/Kg	Received:	05/31/18
Basis:	as received	Analyzed:	05/31/18

Type: MS Lab ID: QC934225

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.7243	10.20	7.821	70	52-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	65-136

Type: MSD Lab ID: QC934226

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.64	10.02	87	52-120	21	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	65-136

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	WC-SOIL-053018	Batch#:	260102
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 06/04/18
Lab ID: 300214-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	7.6 Z	5.0

Surrogate	%REC	Limits
o-Terphenyl	116	55-133

Type: BLANK Analyzed: 06/01/18
Lab ID: QC934277

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	92	55-133

Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934278	Batch#:	260102
Matrix:	Soil	Prepared:	06/01/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	44.99	90	51-137

Surrogate	%REC	Limits
o-Terphenyl	88	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	260102
MSS Lab ID:	300217-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/31/18
Units:	mg/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	2.000		

Type: MS Lab ID: QC934279

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.964	49.70	46.91	80	36-143

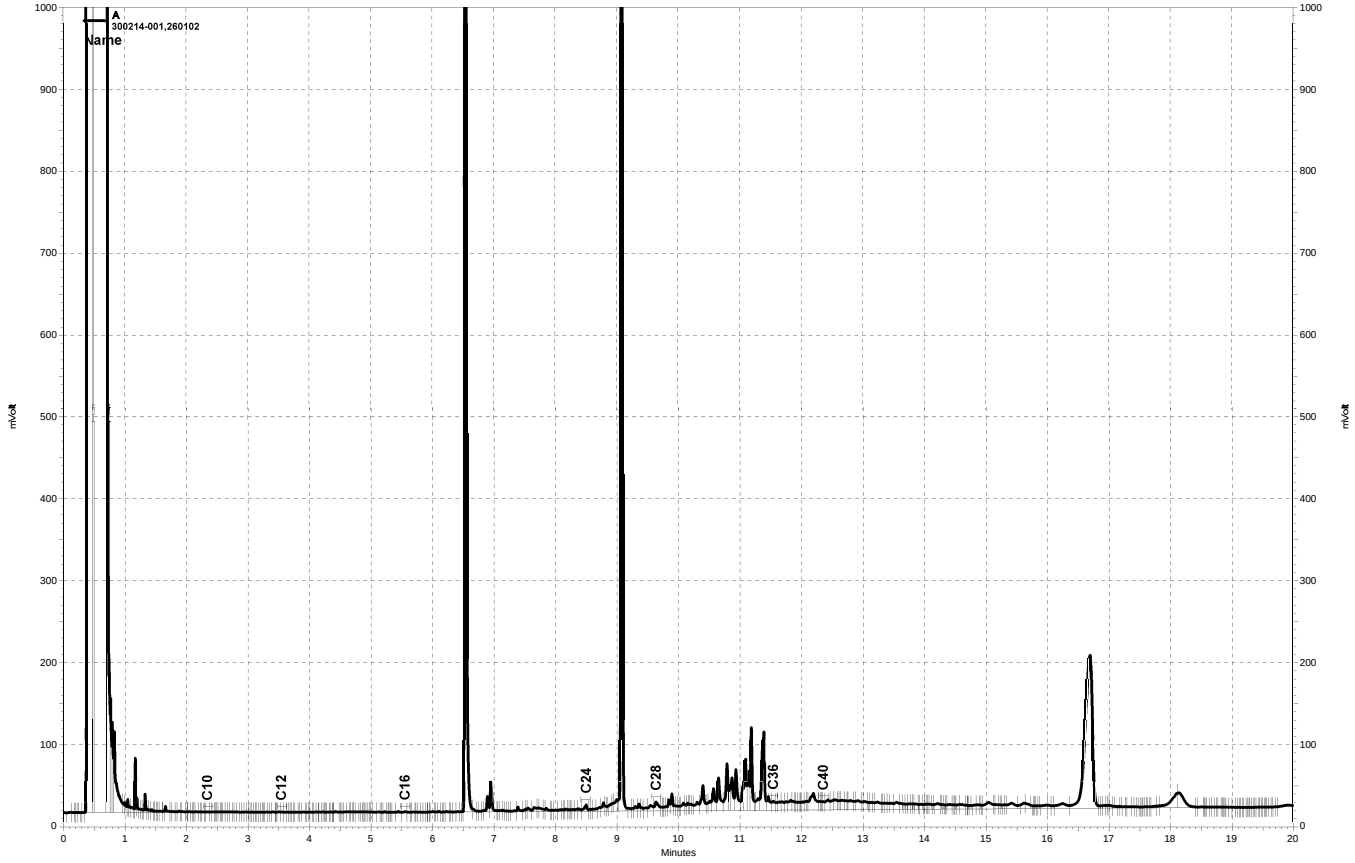
Surrogate	%REC	Limits
o-Terphenyl	84	55-133

Type: MSD Lab ID: QC934280

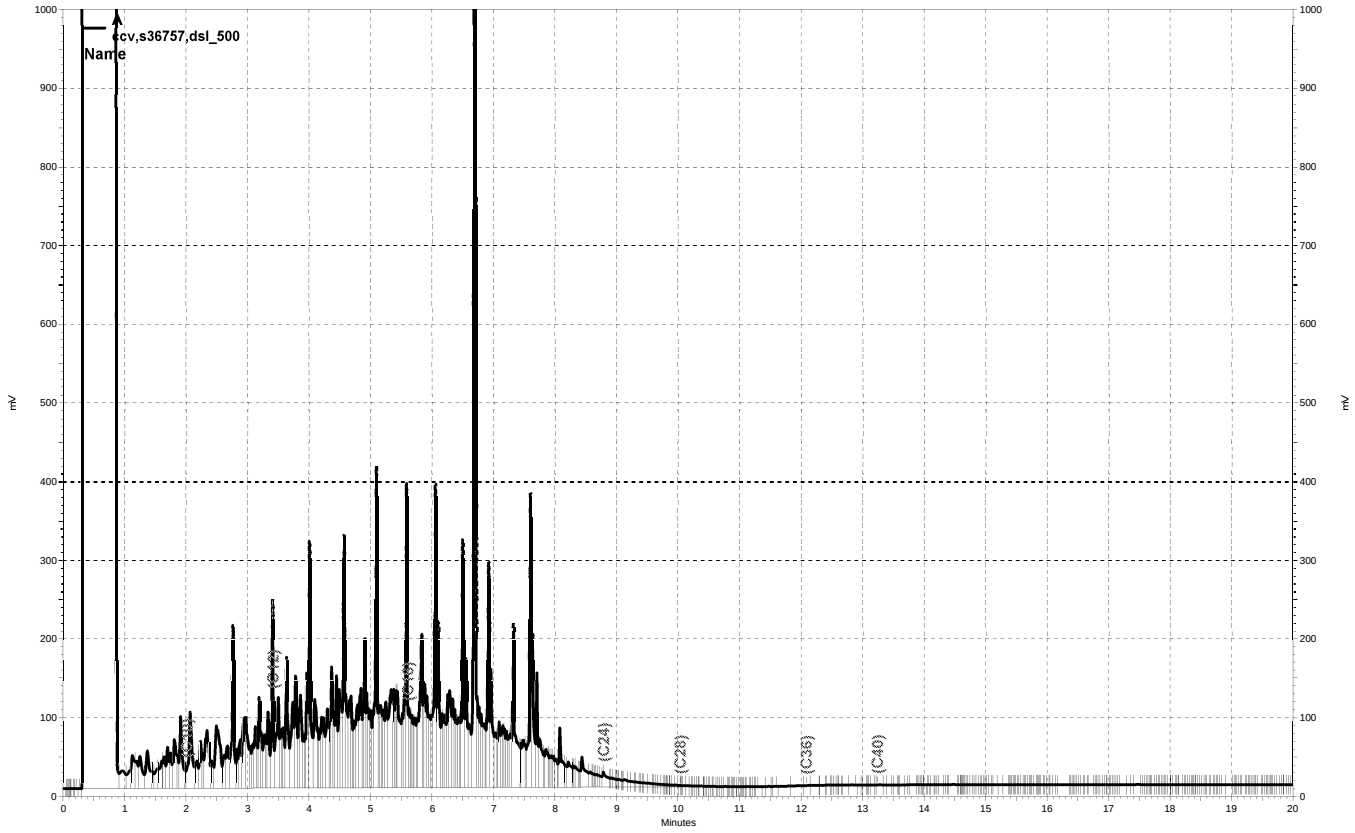
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.02	49.90	86	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl	87	55-133

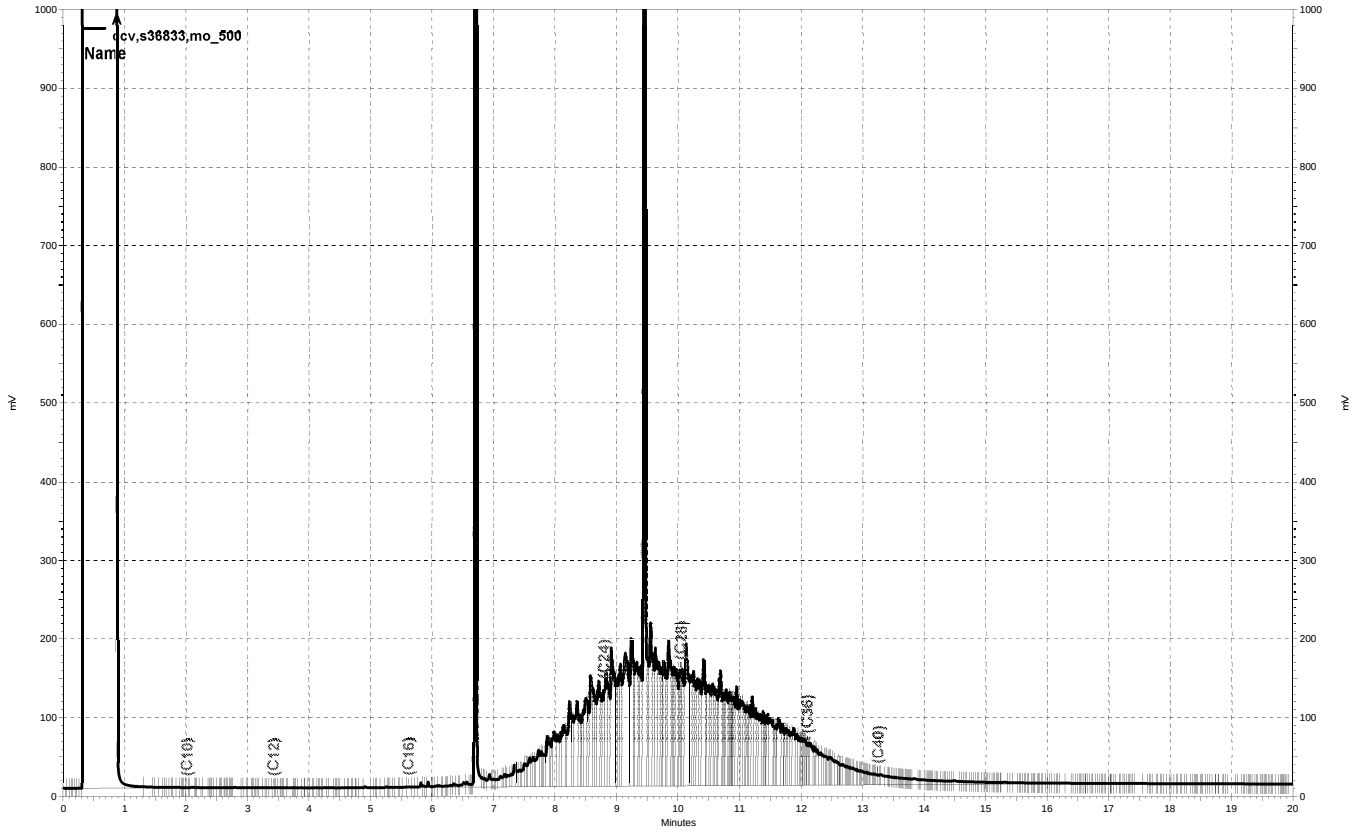
RPD= Relative Percent Difference



\\kraken\gdrive\ezchrom\Projects\GC26\data\2018\155a010, A



\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\152a003, A



\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\152a006, A

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	WC-SOIL-053018	Diln Fac:	0.9276
Lab ID:	300214-001	Batch#:	260115
Matrix:	Soil	Sampled:	05/30/18
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Analyzed:	06/01/18

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	WC-SOIL-053018	Diln Fac:	0.9276
Lab ID:	300214-001	Batch#:	260115
Matrix:	Soil	Sampled:	05/30/18
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Analyzed:	06/01/18

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	107	76-132
1,2-Dichloroethane-d4	133	74-149
Toluene-d8	103	80-120
Bromofluorobenzene	133	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934338	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.88	104	68-132
Benzene	25.00	25.75	103	75-123
Trichloroethene	25.00	25.47	102	75-120
Toluene	25.00	25.84	103	76-120
Chlorobenzene	25.00	24.53	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	119	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	111	78-134

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934339	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934339	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	123	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	131	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	260115
MSS Lab ID:	300236-001	Sampled:	05/25/18
Matrix:	Soil	Received:	05/31/18
Units:	ug/Kg	Analyzed:	06/02/18
Basis:	as received		

Type: MS Diln Fac: 0.9363
Lab ID: QC934351

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4053	46.82	63.45	136 *	64-131
Benzene	<0.4510	46.82	50.59	108	66-122
Trichloroethene	<0.4489	46.82	51.53	110	57-133
Toluene	<0.4394	46.82	49.19	105	61-120
Chlorobenzene	<0.6383	46.82	44.94	96	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	76-132
1,2-Dichloroethane-d4	121	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	104	78-134

Type: MSD Diln Fac: 0.8881
Lab ID: QC934352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	44.41	63.14	142 *	64-131	5	32
Benzene	44.41	50.89	115	66-122	6	32
Trichloroethene	44.41	52.93	119	57-133	8	34
Toluene	44.41	49.79	112	61-120	6	32
Chlorobenzene	44.41	45.23	102	56-120	6	33

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	122	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	105	78-134

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300214	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	WC-SOIL-053018	Basis:	as received
Lab ID:	300214-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.8	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Arsenic	5.9	1.4	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Barium	190	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Beryllium	0.56	0.092	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Cadmium	0.28	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Chromium	39	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Cobalt	10	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Copper	22	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Lead	9.6	0.92	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Mercury	ND	0.017	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.48	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Nickel	41	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Selenium	2.0	1.8	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Thallium	ND	0.46	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Vanadium	48	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Zinc	51	0.92	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934197	Batch#:	260082
Matrix:	Soil	Prepared:	05/31/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Result	RL
Antimony	ND	2.0
Arsenic	ND	1.5
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	1.0
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	2.0
Silver	ND	0.25
Thallium	ND	0.51
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260082
Units:	mg/Kg	Prepared:	05/31/18
Diln Fac:	1.000	Analyzed:	06/01/18

Type: BS Lab ID: QC934198

Analyte	Spiked	Result	%REC	Limits
Antimony	53.19	56.17	106	80-120
Arsenic	53.19	56.97	107	80-120
Barium	53.19	53.15	100	80-120
Beryllium	26.60	26.79	101	80-120
Cadmium	53.19	52.95	100	80-120
Chromium	53.19	55.79	105	80-120
Cobalt	53.19	54.26	102	80-120
Copper	53.19	54.40	102	80-120
Lead	53.19	53.00	100	80-120
Molybdenum	53.19	51.65	97	80-120
Nickel	53.19	51.21	96	80-120
Selenium	53.19	55.35	104	80-120
Silver	5.319	5.330	100	80-120
Thallium	53.19	57.49	108	80-120
Vanadium	53.19	56.53	106	80-120
Zinc	53.19	54.89	103	80-120

Type: BSD Lab ID: QC934199

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.00	53.09	106	80-120	1	20
Arsenic	50.00	53.65	107	80-120	0	20
Barium	50.00	50.23	100	80-120	1	20
Beryllium	25.00	25.63	103	80-120	2	20
Cadmium	50.00	50.48	101	80-120	1	20
Chromium	50.00	53.01	106	80-120	1	20
Cobalt	50.00	52.02	104	80-120	2	20
Copper	50.00	51.35	103	80-120	0	20
Lead	50.00	50.97	102	80-120	2	20
Molybdenum	50.00	49.69	99	80-120	2	20
Nickel	50.00	48.83	98	80-120	1	20
Selenium	50.00	51.87	104	80-120	0	20
Silver	5.000	5.040	101	80-120	1	22
Thallium	50.00	54.15	108	80-120	0	20
Vanadium	50.00	53.98	108	80-120	2	20
Zinc	50.00	54.71	109	80-120	6	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	WC-SOIL-053018	Batch#:	260082
MSS Lab ID:	300214-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	05/31/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934200

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1208	53.76	14.81	28	1-120
Arsenic	5.906	53.76	62.70	106	71-123
Barium	188.1	53.76	260.7	135	48-155
Beryllium	0.5599	26.88	27.17	99	80-120
Cadmium	0.2804	53.76	55.03	102	78-120
Chromium	39.23	53.76	98.56	110	64-135
Cobalt	10.30	53.76	60.78	94	65-120
Copper	22.08	53.76	80.85	109	75-132
Lead	9.582	53.76	62.84	99	53-128
Molybdenum	0.4770	53.76	43.61	80	68-120
Nickel	41.01	53.76	89.19	90	56-128
Selenium	1.977	53.76	57.01	102	59-120
Silver	<0.02752	5.376	5.639	105	36-123
Thallium	<0.1382	53.76	49.41	92	55-120
Vanadium	48.07	53.76	112.3	119	73-129
Zinc	50.52	53.76	105.7	103	49-138

Type: MSD Lab ID: QC934201

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	51.55	13.55	26	1-120	5	50
Arsenic	51.55	60.36	106	71-123	0	27
Barium	51.55	277.7	174 *	48-155	7	41
Beryllium	25.77	25.99	99	80-120	0	20
Cadmium	51.55	53.12	103	78-120	1	21
Chromium	51.55	96.12	110	64-135	0	37
Cobalt	51.55	59.04	95	65-120	1	32
Copper	51.55	79.41	111	75-132	1	33
Lead	51.55	60.51	99	53-128	0	48
Molybdenum	51.55	40.95	79	68-120	2	23
Nickel	51.55	87.79	91	56-128	1	38
Selenium	51.55	54.03	101	59-120	1	30
Silver	5.155	5.290	103	36-123	2	47
Thallium	51.55	47.26	92	55-120	0	22
Vanadium	51.55	109.2	119	73-129	1	27
Zinc	51.55	105.9	107	49-138	2	39

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260191
Lab ID:	QC934650	Prepared:	06/05/18
Matrix:	Soil	Analyzed:	06/05/18
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260191
Matrix:	Soil	Prepared:	06/05/18
Units:	mg/Kg	Analyzed:	06/05/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC934651	0.1563	0.1483	95	80-126		
BSD	QC934652	0.1724	0.1641	95	80-126	0	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260191
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/05/18
Basis:	as received	Analyzed:	06/05/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC934653	0.02545	0.1563	0.1808	99	61-157		
MSD	QC934654		0.1695	0.1947	100	61-157	0	57

RPD= Relative Percent Difference

Table 1

Previous Soil Sample Results - Volatile Organic Compounds

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,4-dichlorobenzene	2-chlorotoluene	2-hexanone	4-chlorotoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dichlorodifluoromethane	Dichloromethane
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			2	-	0.6	1.1	3.6	-	-	-	0.0015	24	-	-	0.46	2.5	-	2.6	-	-	-	-	-	0.33	-	19	-	-	0.098	-	-	0.32	-	-	-	-	1.8
Soil Screening Level - Non-Cancer Endpoint			550	1700	1600	1.5	1600	230	-	63	4.8	58	300	1800	31	16	270	3400	470	200	440	33000	61000	11	290	1600	6.8	770	100	280	14000	200	110	18	-	87	350
1,2,3,4	0.5-1	7/3/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0047	-	-	-	-	-	-	-	-	-	-	-	-	-
6	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.098	<0.098	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.020	<0.0098	<0.0098	<0.020	<0.020
7	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.098	<0.098	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.020	<0.0098	<0.0098	<0.020	<0.020
8	<1	9/15/2009	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.097	**0.01**
9	<1	9/15/2009	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.0051	<0.051	<0.051	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.010	<0.0051	<0.0051	<0.010	<0.010
2D2	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0048	-	-	-	-	-	-	-	-	-	-	-	-	-
C4	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0045	-	-	-	-	-	-	-	-	-	-	-	-	-
C5	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0042	-	-	-	-	-	-	-	-	-	-	-	-	-
C7	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0046	-	-	-	-	-	-	-	-	-	-	-	-	-
1A1	0-1	9/22/2009	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.002	<0.002	<0.010	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.010	<0.0051	<0.0051	<0.010	<0.002	<.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.002	<0.0051	<0.002	<0.0051	<0.002	<0.002	<0.0051	<0.0051
1B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
1C1	0-1	9/22/2009	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0021	<0.0053	<0.011	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0021	<0.0053	<0.0021	<0.0053	<0.0021	<0.0021	<0.0053	<0.0053
1D1	0-1	9/22/2009	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.010	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.010	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0052	<0.0052
1E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
1F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
2A1	0-1	9/22/2009	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0017	<0.0044	<0.0087	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0087	<0.0044	<0.0044	<0.0087	<0.0017	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0017	<0.0044	<0.0017	<0.0044	<0.0017	<0.0017	<0.0044	<0.0044
2B1	0-1	9/22/2009	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0019	<0.0049	<0.0097	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0097	<0.0049	<0.0049	<0.0097	<0.0019	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0019	<0.0049	<0.0019	<0.0049	<0.0019	<0.0019	<0.0049	<0.0049
2C1	0-1	9/22/2009	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0091	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0091	<0.0046	<0.0046	<0.0091	<0.0018	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0046	<0.0046
2D1	0-1	9/22/2009	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.0018	<0.0045	<0.009	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.009	<0.0045	<0.0045	<0.009	<0.0018	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0018	<0.0045	<0.0018	<0.0045	<0.0018	<0.0018	<0.0045	<0.0045
2E1	0-1	9/22/2009	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.0022	<0.0054	<0.011	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0022	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0022	<0.0054	<0.0022	<0.0054	<0.0022	<0.0022	<0.0054	<0.0054
2F1	0-1	9/22/2009	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.011	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0021	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0054	<0.0054
3A1	0-1	9/22/2009	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0092	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0092	<0.0046	<0.0046	<0.0092	<0.0018	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0046	<0.0046
3B1	0-1	9/22/2009	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.010	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.010	<0.0052	<0.0052	<0.010	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0052	<0.0052
3C1	0-1	9/22/2009	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.011	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0021	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0054	<0.0054
4A1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4C1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4D1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5A1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5C1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5D1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
Z3	0-1	10/9/2009	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0096	<0.0048	<0.0048	<0.0096	<0.0096
S1	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0096	<0.0048	<0.0048	<0.0096	<0.0096
S2	0.5-1	12/5/2016	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.047	<0.0047	<0.047	<0.047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0094	<0.0047	<0.0047	<0.0094	<0.0094
S3	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.0097	<0.0097
S4	0.5-1	12/5/2016	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.049	<0.0049	<0.049	<0.049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0097	<0.0097

Table 1

Previous Soil Sample Results - Volatile Organic Compounds

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methyl Ethyl Ketone	Methyl Tertiary Butyl Ether	Naphthalene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Total Xylenes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			5.8	1.2	-	-	47	3.8	-	-	-	-	-	-	0.59	-	-	-	0.94	-	-	0.0087	-
Soil Screening Level - Non-Cancer Endpoint			3400	78	1900	27000	15000	130	3900	3800	-	7800	6000	7800	81	1100	130	-	4.1	1200	910	70	-
1,2,3,4	0.5-1	7/3/2008	<0.0047	-	-	-	-	-	-	-	-	-	-	-	-	<0.0047	-	-	-	-	-	-	<0.0094
6	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020
7	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020
8	<1	9/15/2009	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097
9	<1	9/15/2009	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.010	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.010
2D2	0-1	9/22/2009	<0.0048	-	-	-	<0.0048	-	-	-	-	-	-	-	-	<0.0048	-	-	-	-	-	-	<0.0096
C4	0-1	9/22/2009	<0.0045	-	-	-	<0.0045	-	-	-	-	-	-	-	-	<0.0045	-	-	-	-	-	-	<0.009
C5	0-1	9/22/2009	<0.0042	-	-	-	<0.0042	-	-	-	-	-	-	-	-	<0.0042	-	-	-	-	-	-	<0.0084
C7	0-1	9/22/2009	<0.0046	-	-	-	<0.0046	-	-	-	-	-	-	-	-	<0.0046	-	-	-	-	-	-	<0.0091
1A1	0-1	9/22/2009	<0.002	<0.0051	<0.002	<0.10	<0.0051	<0.0051	<0.002	<0.002	<0.002	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.0051	<0.0051
1B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
1C1	0-1	9/22/2009	<0.0021	<0.0053	<0.0021	<0.011	<0.0053	<0.0053	<0.0053	<0.0021	<0.0021	<0.0053	<0.0021	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0053	<0.0042
1D1	0-1	9/22/2009	<0.0021	<0.0052	<0.0021	<0.010	<0.0052	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<00042
1E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
1F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
2A1	0-1	9/22/2009	<0.0017	<0.0044	<0.0017	<0.0087	<0.0044	<0.0044	<0.0044	<0.0017	<0.0017	<0.0044	<0.0017	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0044	<0.0044	<0.0035
2B1	0-1	9/22/2009	<0.0019	<0.0049	<0.0019	<0.0097	<0.0049	<0.0049	<0.0049	<0.0019	<0.0019	<0.0049	<0.0019	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0049	<0.0039
2C1	0-1	9/22/2009	<0.0018	<0.0046	<0.0018	<0.0091	<0.0046	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0046	<0.0037
2D1	0-1	9/22/2009	<0.0018	<0.0045	<0.0018	<0.009	<0.0045	<0.0045	<0.0045	<0.0018	<0.0018	<0.0045	<0.0018	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.0045	<0.0045	<0.0036
2E1	0-1	9/22/2009	<0.0022	<0.0054	<0.0022	<0.011	<0.0054	<0.0054	<0.0054	<0.0022	<0.0022	<0.0054	<0.0022	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.0054	<0.0054	<0.0044
2F1	0-1	9/22/2009	<0.0021	<0.0054	<0.0021	<0.011	<0.0054	<0.0054	<0.0054	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0054	<0.0043
3A1	0-1	9/22/2009	<0.0018	<0.0046	<0.0018	<0.0092	<0.0046	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0046	<0.0037
3B1	0-1	9/22/2009	<0.0021	<0.0052	<0.0021	<0.010	<0.0052	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<0.0042
3C1	0-1	9/22/2009	<0.0021	<0.0054	<0.0021	<0.011	<0.0054	<0.0054	<0.0054	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0054	<0.0043
4A1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4C1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4D1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5A1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5C1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5D1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
Z3	0-1	10/9/2009	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096
S1	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096
S2	0.5-1	12/5/2016	<0.0047	<0.0047	<0.0047	<0.047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094
S3	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0097
S4	0.5-1	12/5/2016	<0.0049	<0.0049	<0.0049	<0.049	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0097

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
   - Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
   - United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 2

Previous Soil Sample Results - Total Petroleum Hydrocarbons

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	TPH-g	TPH-d	TPH-mo
			mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-
Soil Screening Level - Non-Cancer Endpoint			100	260	1600
1,2,3,4	0.5-1	7/3/2008	<0.24	**13**	**77**
2D2	0-1	9/22/2009	<0.24	<0.99	<50
C1	0-1	9/22/2009	-	**2.1**	<49
C2	0-1	9/22/2009	-	<1.0	<50
C3	0-1	9/22/2009	-	**30**	**270**
C4	0-1	9/22/2009	<0.23	**57**	**420**
C5	0-1	9/22/2009	<0.21	**3.9**	<50
C6	0-1	9/22/2009	-	**19**	**130**
C7	0-1	9/22/2009	<0.23	**190**	**1500**
W1	0-1	10/9/2009	-	<0.99	<50
W2	0-1	10/9/2009	-	**6.6**	<50
W3	0-1	10/9/2009	-	**2.5**	<50
W4	0-1	10/9/2009	-	**1.8**	<50
W5	0-1	10/9/2009	-	<1.0	<50
W6	0-1	10/9/2009	-	**110**	**640**
X1	0-1	10/9/2009	-	**9.4**	**54**
X2	0-1	10/9/2009	-	**11**	**75**
X3	0-1	10/9/2009	-	<0.99	<50
X4	0-1	10/9/2009	-	<0.99	<50
Y1	0-1	10/9/2009	-	**8.2**	**69**
Y2	0-1	10/9/2009	-	**5.9**	<50
Y3	0-1	10/9/2009	-	**2.1**	<50
Y4	0-1	10/9/2009	-	<1.0	<50
S1	0.5-1	12/5/2016	-	**1.7**	<50
S2	0.5-1	12/5/2016	-	**2**	<50
S3	0.5-1	12/5/2016	-	**8.9**	**75**
S4	0.5-1	12/5/2016	-	**5.9**	**55**
S5	0.5-1	12/6/2016	-	**3.8**	-
S6	0.5-1	12/6/2016	-	**1.7**	-
S7	0.5-1	12/6/2016	-	**2.2**	-
S8	0.5-1	12/6/2016	-	**1.5**	-
S9	0.5-1	12/6/2016	-	**3.4**	-
S10	0.5-1	12/6/2016	-	**4.8**	-
S11	0.5-1	12/6/2016	-	**1.7**	-
S12	0.5-1	12/6/2016	-	**1.5**	-
S13	0.5-1	12/6/2016	-	**1.7**	-
S14	0.5-1	12/6/2016	-	**1.3**	-
S15	0.5-1	12/6/2016	-	**2.8**	-
S16	0.5-1	12/6/2016	-	**4.5**	-
S17	0.5-1	12/6/2016	-	**3.9**	-
S18	0.5-1	12/6/2016	-	**1.1**	-
S19	0.5-1	12/6/2016	-	**2.1**	-
S20	0.5-1	12/6/2016	-	**2.2**	-
S21	0.5-1	12/6/2016	-	**1.6**	-
S22	0.5-1	12/6/2016	-	**3.7**	-

Table 2

Previous Soil Sample Results - Total Petroleum Hydrocarbons

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	TPH-g	TPH-d	TPH-mo
			mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-
Soil Screening Level - Non-Cancer Endpoint			100	260	1600
S23	0.5-1	12/6/2016	-	**4.9**	-
S24	0.5-1	12/6/2016	-	**12**	-
S25	0.5-1	12/6/2016	-	**5.9**	-
S26	0.5-1	12/6/2016	-	**6.8**	-
S27	0.5-1	12/6/2016	-	**4.1**	-
S28	0.5-1	12/6/2016	-	**3.3**	-
S29	0.5-1	12/6/2016	-	**2.7**	-
S30	0.5-1	12/6/2016	-	**9.6**	-
S31	0.5-1	12/6/2016	-	**2.9**	-
S32	0.5-1	12/6/2016	-	**32**	-

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Screening levels are derived from San Francisco Regional Water Quality Control Board's Tier 1 Environmental Screening Level (ESL) for residential soil (Revision 1; February 2019)

2. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.

Table 3
Previous Soil Sample Results - Organochlorine Pesticides
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	a-BHC	Aldrin	b-BHC	chlordane	Chlordane (cis) (alpha)	Chlordane (trans) (gamma)	d-BHC	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			0.086	0.039	0.3	0.44	-	-	-	2.3	2	1.9	0.034	-	-	-	-	-		0.57	0.13	0.07	-	0.49
Soil Screening Level - Non-Cancer Endpoint			510	2.3	-	35	-	-	-	1.9	23	37	3.2	-	-	-	19	-		21	39	1	320	5.7
1,2,3,4	0.5-1	7/3/2008	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C1	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C3	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C4	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C5	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C6	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S1	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S2	0.5-1	12/5/2016	<0.0019	<0.0019	<0.0019	<0.039	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.039
S3	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.04	**0.0054**	**0.0054**	<0.002	<0.002	<0.002	<0.002	**0.024**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S4	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.039	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.039

Notes:
Bold text indicates detected concentrations above the laboratory reporting limit
mg/kg= milligrams per kilogram
- = Not analyzed or no screening criteria available
< = analyte not detected above laboratory reporting limit
bgs = below ground surface.
1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
   - Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
   - United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 4

Previous Soil Sample Results - Polychlorinated Bipheynls

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			6.7	0.2	0.17	0.23	0.23	0.24	0.24
Soil Screening Level - Non-Cancer Endpoint			4.1	-	-	-	-	1.2	-
1,2,3,4	0.5-1	7/3/2008	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C1	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C2	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C3	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C4	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C5	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C6	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C7	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S1	0.5-1	12/5/2016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S2	0.5-1	12/5/2016	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048
S3	0.5-1	12/5/2016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S4	0.5-1	12/5/2016	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.

2. Screening levels are derived from the following source:

United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (November 2018)

Table 5
Previous Soil Sample Results - Metals
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	0.11	-	1600	2100	-	420	-	-	-	-	15000	-	-	-	-	-
Soil Screening Level - Non-Cancer Endpoint			31	0.4	15000	15	5.2	-	23	3100	80	1	390	490	390	390	0.78	390	23000
1,2,3,4	0.5-1	7/3/2008	<2.0	**4.8**	**230**	<0.51	<0.51	**36**	**11**	**21**	**7**	<0.050	**1.2**	**42**	<2.0	<1.0	<1.0	**38**	**44**
2D2	0-1	9/22/2009	<9.9	**12**	**210**	<0.49	<0.49	**33**	**8.3**	**21**	**6.1**	**0.043**	<2.0	**41**	<2.0	<0.99	<9.9	**36**	**38**
C1	0-1	9/22/2009	<9.9	**4.5**	**230**	**0.57**	<0.49	**40**	**10**	**22**	**7.7**	<0.020	<2.0	**44**	<2.0	<0.99	<9.9	**44**	**44**
C2	0-1	9/22/2009	<9.9	**4.4**	**230**	**0.54**	<0.49	**36**	**9.1**	**22**	**6.9**	<0.020	<2.0	**41**	<2.0	<0.99	<9.9	**43**	**42**
C3	0-1	9/22/2009	<9.9	**3.7**	**230**	**0.59**	<0.49	**38**	**9.5**	**20**	**7.2**	<0.020	<2.0	**40**	<2.0	<0.99	<9.9	**42**	**41**
C4	0-1	9/22/2009	<9.9	**3.5**	**240**	**0.53**	<0.49	**35**	**9.8**	**20**	**6.8**	<0.020	<2.0	**41**	<2.0	<0.99	<9.9	**45**	**39**
C5	0-1	9/22/2009	<9.9	**4.4**	**290**	**0.67**	<0.49	**44**	**10**	**22**	**8**	**0.025**	<2.0	**43**	<2.0	<0.99	<9.9	**53**	**44**
C6	0-1	9/22/2009	<9.9	**5.2**	**250**	**0.57**	<0.49	**34**	**9.2**	**19**	**7.2**	<0.020	<2.0	**35**	<2.0	<0.99	<9.9	**49**	**43**
C7	0-1	9/22/2009	<9.9	**4.2**	**190**	**0.5**	<0.49	**41**	**9**	**23**	**7.1**	**0.021**	<2.0	**48**	<2.0	<0.99	<9.9	**43**	**46**
S1	0-1	12/5/2016	<1.4	**2.9**	**160**	<0.29	<0.36	**26**	**7.2**	**17**	**4.7**	**0.013**	<1.4	**29**	<2.9	<0.71	<1.4	**30**	**31**
S2	0.5-1	12/5/2016	<1.4	**4.6**	**210**	**0.42**	<0.36	**31**	**9.5**	**16**	**6.3**	**0.014**	<1.4	**37**	<2.9	<0.72	<1.4	**37**	**40**
S3	0.5-1	12/5/2016	<1.9	**4.7**	**220**	<0.38	<0.47	**31**	**9.3**	**15**	**5.9**	**0.029**	<1.9	**32**	<3.8	<0.94	<1.9	**41**	**40**
S4	0.5-1	12/5/2016	<1.3	**4.7**	**260**	**0.32**	<0.32	**26**	**10**	**14**	**6**	**0.023**	<1.3	**32**	<2.6	<0.64	<1.3	**38**	**40**

Notes:
Bold text indicates detected concentrations above the laboratory reporting limit
mg/kg= milligrams per kilogram
- = Not analyzed or no screening criteria available
< = analyte not detected above laboratory reporting limit
bgs = below ground surface.
= sample result exceeds the cancer endpoint soil screening criteria
red font = sample result exceeds the non-cancer endpoint soil screening criteria
1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Arsenic was detected in soil above the risk-based screening levels, but below the background concentration typical of Bay Area soils.
2. Screening levels are derived from the following sources:
- Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
- United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,4-Dinitrotoluene	2,6-dinitrotoluene	2-chloronaphthalene	2-chlorophenol	2-methylphenol	2-nitroaniline	2-nitrophenol	3,3-Dichlorobenzidine	3-nitroaniline	4,6-Dinitro-2-methylphenol	4-bromophenyl phenyl ether
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-	1.1	0.11	1.1	-	11	110	0.11	-	-	1.1	-	-	-	7.5	-	-	-	1.7	0.36	-	-	-	-	-	1.2	-	-	-
Soil Screening Level - Non-Cancer Endpoint			3600	-	18000	-	18	-	-	-	-	-	2400	2400	-	-	1800	6300	63	190	1300	130	130	19	4800	390	3200	630	-	-	-	5.1	-
6	<1	9/15/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
7	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
8	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
9	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
1A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
1B1	0-1	9/22/2009	<3.3	<3.3	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<50	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<8.5	<8.5	<3.3	<8.5
1C1	0-1	9/22/2009	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<5.0	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.85	<0.85	<0.33	<0.85
1D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
1E1	0-1	9/22/2009	<3.3	<3.3	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<50	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<8.5	<8.5	<3.3	<8.5
1F1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2B1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2C1	0-1	9/22/2009	<1.7	<1.7	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<25	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<4.2	<4.2	<1.7	<4.2
2D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2F1	0-1	9/22/2009	<1.7	<1.7	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<25	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<4.2	<4.2	<1.7	<4.2
3A1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
3B1	0-1	9/22/2009	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<5.0	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.85	<0.85	<0.33	<0.85
3C1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
4A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4B1	0-1	9/22/2009	<0.67	<0.67	<0.67	<3.3	<0.67	<0.67	<0.67	<0.67	<10	<0.67	<0.67	<1.7	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67	<3.3	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67	<1.7	<1.7	<0.67	<1.7
4C1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
4D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4F1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5B1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5C1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5D1	0-1	9/22/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<1.0	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
5E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5F1	0-1	9/22/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<1.0	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
S1	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
S2	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
S3	0.5-1	12/5/2016	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.84	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.84	<0.84	<0.33	<0.84
S4	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	4-chloro-3-methylphenol	4-chloroaniline	4-chlorophenyl phenyl ether	4-methylphenol	4-nitroaniline	4-nitrophenol	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Hexachlorobenzene	Hexachlorocyclopentadiene	Hexachloroethane	Isophorone	Nitrobenzene	N-Nitrosodimethylamine	N-nitrosodi-n-propylamine	n-Nitrosodiphenylamine	Pentachlorophenol	Phenol
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	2.7	-	-	27	-	5.6	-	-	0.23	-	39	290	-	-	-	-	-	0.21	-	1.8	570	5.1	0.002	0.078	110	1	-
Soil Screening Level - Non-Cancer Endpoint			6300	250	-	6300	250	-	-	6300	190	-	3100	1300	13000	73	51000	-	6300	630	63	1.8	45	13000	130	0.53	-	-	250	19000
6	<1	9/15/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
7	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
8	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
9	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
1A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
1B1	0-1	9/22/2009	<3.3	<3.3	<8.5	<3.3	<16	<16	<3.3	<8.5	<8.5	<3.3	<3.3	<3.3	<8.5	<3.3	<8.5	<8.5	<8.5	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3
1C1	0-1	9/22/2009	<0.33	<0.33	<0.85	<0.33	<1.6	<1.6	<0.33	<0.85	<0.85	<0.33	<0.33	<0.33	<0.85	<0.33	<0.85	<0.85	<0.85	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
1D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
1E1	0-1	9/22/2009	<3.3	<3.3	<8.5	<3.3	<16	<16	<3.3	<8.5	<8.5	<3.3	<3.3	<3.3	<8.5	<3.3	<8.5	<8.5	<8.5	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3
1F1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2B1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2C1	0-1	9/22/2009	<1.7	<1.7	<4.2	<1.7	<8.2	<8.2	<1.7	<4.2	<4.2	<1.7	<1.7	<1.7	<4.2	<1.7	<4.2	<4.2	<4.2	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7
2D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2F1	0-1	9/22/2009	<1.7	<1.7	<4.2	<1.7	<8.2	<8.2	<1.7	<4.2	<4.2	<1.7	<1.7	<1.7	<4.2	<1.7	<4.2	<4.2	<4.2	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7
3A1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
3B1	0-1	9/22/2009	<0.33	<0.33	<0.85	<0.33	<1.6	<1.6	<0.33	<0.85	<0.85	<0.33	<0.33	<0.33	<0.85	<0.33	<0.85	<0.85	<0.85	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
3C1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
4A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4B1	0-1	9/22/2009	<0.67	<0.67	<1.7	<0.67	<3.3	<3.3	<0.67	<1.7	<1.7	<0.67	<0.67	<0.67	<1.7	<0.67	<1.7	<1.7	<1.7	<0.67	<0.67	<1.7	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67
4C1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
4D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4F1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5B1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5C1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5D1	0-1	9/22/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
5E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5F1	0-1	9/22/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
S1	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
S2	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
S3	0.5-1	12/5/2016	<0.33	<0.33	<0.84	<0.33	<1.6	<1.6	<0.33	<0.84	<0.84	<0.33	<0.33	<0.33	<0.84	<0.33	<0.84	<0.84	<0.84	<0.33	<0.33	<0.84	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
S4	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,4-Dinitrotoluene	2,6-dinitrotoluene	2-chloronaphthalene	2-chlorophenol	2-methylphenol	2-nitroaniline	2-nitrophenol	3,3-Dichlorobenzidine	3-nitroaniline	4,6-Dinitro-2-methylphenol	4-bromophenyl phenyl ether
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-	1.1	0.11	1.1	-	11	110	0.11	-	-	1.1	-	-	-	7.5	-	-	-	1.7	0.36	-	-	-	-	-	1.2	-	-	-
Soil Screening Level - Non-Cancer Endpoint			3600	-	18000	-	18	-	-	-	-	-	2400	2400	-	-	1800	6300	63	190	1300	130	130	19	4800	390	3200	630	-	-	-	5.1	-

Notes:
Bold text indicates detected concentrations above the laboratory reporting limit
mg/kg= milligrams per kilogram
- = Not analyzed or no screening criteria available
< = analyte not detected above laboratory reporting limit
bgs = below ground surface.
= screening level result exceeds the cancer endpoint soil screening criteria
red font = screening level exceeds the non-cancer endpoint soil screening criteria
1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
- Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
- United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT THE NEW 2ND COMPREHENSIVE HIGH SCHOOL DUBLIN BOULEVARD AND CHANCERY LANE DUBLIN, CALIFORNIA 94568

Prepared for

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May 6, 2020

Project Number 0098.003

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L EDR Vapor Encroachment Screen
M EDR Environmental Lien and AUL Search
N Site Reconnaissance Photograph Log
O Boring Logs
P Laboratory Analytical Reports

ACRONYMS AND ABBREVIATIONS

ACDEH	Alameda County Department of Environmental Health
ACHCS	Alameda County Health Care Services
APN	Assessor's Parcel Number
AST	aboveground storage tank
ASTM	American Society for Testing and Materials International
AUL	Activity and Land Use Limitation
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BGC	Berlogar Geotechnical Consultants
Berlogar Stevens	Berlogar Stevens & Associates
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CCR	California Code of Regulations
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERS	California Environmental Reporting System
CDCDOGGR	California Department of Conservation, Division of Oil, Gas and Geothermal Resources
CDE	California Department of Education
CDPH	California Department of Public Health
CFR	Code of Federal Regulations
CIWQS	California Integrated Water Quality System
CGS	California Geological Survey
COC	chain-of-custody
COPCs	contaminant of potential concern
CORRACTS	RCRA Corrective Action Sites
CREC	controlled recognized environmental condition
CSM	conceptual site model
CUPA	Certified Unified Program Agency
the District	Dublin Unified School District

DSRSD	Dublin San Ramon Services District
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
DTSC-SL	Department of Toxic Substances Control Human Health and Ecological Risk Office Modified Screening Levels
DUSD	Dublin Unified School District
DWR	Department of Water Resources
EDR	Environmental Data Resources, Inc.
EDR Report	EDR Radius Map™ with Geocheck® report
Enthalpy	Enthalpy Analytical
EPA	United States Environmental Protection Agency
EPC	exposure point concentration
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
FEMA	Federal Emergency Management Agency
Forensic	Forensic Analytical Laboratories
Gibbs	Alan D. Gibbs Environmental Consultant
HAZ WASTE	hazardous waste
HERO	Human and Ecological Risk Office
HI	hazard index
HQ	hazard quotient
HREC	historical recognized environmental condition
IC/EC	Institutional control / engineering control
LOP	Local Oversight Program
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram
NC	neighborhood commercial
NFRAP	no further remedial action planned
NPL	National Priorities List
NPDES	National Pollutant Discharge Elimination System
NPMS	National Pipeline Mapping System

OCPs	organochlorine pesticides
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
pCi/L	picocuries per liter
PD	planned development
PEA	Preliminary Environmental Assessment
PEST LIC	pesticides licensing
PG&E	Pacific Gas & Electric
Phase II Report	Phase II Investigation Report
PVC	polyvinyl chloride
QAC	Qualified Applicator Certificate
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Concern
RSL	Regional Screening Level
SFRWQCB	San Francisco Bay Regional Water Quality Control Board
the Site	the Promenade site, located on the north side of Dublin Boulevard and east side of Chancery Lane, Dublin, California
SLIC	Spills Leaks and Investigation Cleanup
SPCC	Spill Prevention Control and Countermeasure
SQG	small quantity generator
SSI	Supplemental Site Investigation
SVOCs	semi-volatile organic compounds
SWRCB	State Water Resources Control Board
Terraphase	Terraphase Engineering Inc.
TOC	top of casing
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TPH-g	total petroleum hydrocarbons as gasoline
TPH-mo	total petroleum hydrocarbons as motor oil
TSD	treatment, storage, or disposal
USCS	Unified Soil Classification System

UST	underground storage tank
VCP	Voluntary Cleanup Program
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	volatile organic compounds

EXECUTIVE SUMMARY

On behalf of the Dublin Unified School District ("the District"), Terraphase Engineering Inc. (Terraphase) has prepared this Preliminary Environmental Assessment (PEA) Report ("the PEA Report") for the property located at the intersection of Dublin Boulevard and Chancery Lane in Dublin, California ("the Site"; Figure 1). ~~The District is interested in acquiring the property for future development as a new high school.~~ The District is in the process of acquiring the property for future development as a new high school. The Site was previously named Promenade, but is now referred to by the District at the New 2nd Comprehensive High School.

Purpose and Objectives

The purpose of this PEA was to identify whether a release or threatened release of hazardous substances exists at the Site and to evaluate the potential risk to human health or the environment posed by exposure to identified site-related hazardous substances.

Site Background

The Site is six parcels, APNs 985-78-2 through 985-78-7, comprising approximately 24 acres of former agricultural land with underground utility improvements, bounded to the north by Central Parkway, bounded to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane in Dublin, Alameda County, California. The Site is owned by Grafton Station LLC. A Site location map is included as Figure 1.

The Site is surrounded by residential communities to the north (across Central Parkway), west (adjoining and across Chancery Lane), and east (adjoining), Devany Square park to the west, and vacant land to the southeast (across Dublin Boulevard). The Grafton Street retail center is located to the south-southwest of the Site (Figure 2).

The Site was historically used for agricultural purposes from approximately 1939 to the mid-1990s. Information indicates the area was likely used for livestock grazing and/or dry-farmed for hay or barley cultivation. From approximately 2005 to 2009, the Site appears to have been used for equipment and materials staging and for temporary trailers and offices in relation to the surrounding residential construction that occurred from 2005 to 2009. Utilities were installed (water, sewer, and storm water lines) and preliminary grading conducted as part of planned residential development at the Site, but the proposed development activities were ceased in 2009 and not completed. The investigative work conducted on the Site by Terraphase focused on these prior uses. No other use or development has occurred at the Site since 2009, with the exception of limited import of clean soil by the District.

In February 2020, the District imported approximately 600 cubic yards of soil from the nearby Dublin High School site and placed it on the southeastern corner of the Site. The soil was excavated from the footprint of the former auto/wood shop called Building EE, located at the nearby Dublin High School. Building EE received unrestricted clearance from DTSC after review of a PEA and subsequent addenda were prepared for that site. The soil excavation occurred as part of the construction of a new Science and Engineering Building at the former location of

Building EE. Building EE was demolished in 2017, but was included in a number of assessments historically completed at the Dublin High School site under the oversight of DTSC including a Phase I ESA, a PEA, and Supplemental Site Investigation (SSI), which were completed for the larger site from 2006 to 2008, and a Phase I ESA Addendum which was completed in 2017 for the construction of the new science and engineering building and focused specifically on Building EE (LFR 2006; LFR 2008a; LFR 2008b; Gibbs 2017). Based on the review of the available information compiled for Building EE, DTSC did not feel additional soil sampling was warranted for the imported soil when it was still located at the Dublin High School site. Based on our review of those files, and DTSC's recommendation, Terraphase did not collect additional samples of that soil.

Based on the review of historical information for the Site, the following list of contaminants of potential concern (COPCs) were identified at the Site:

- The Site was formerly used for agricultural purposes. Therefore, there was a potential for agricultural chemicals (i.e., organochlorine pesticides [OCPs] and arsenic) to be present in shallow soil at the Site.

- Fill material was previously imported to the Site. Based on information reviewed, it appears the soil may have been imported from the surrounding area as part of development activities that occurred prior to 2005. While Berlogar Geotechnical Consultants (BGC) conducted sampling of the fill material brought to the Site, the majority of the soil samples were composited prior to analysis. Additionally, BGC did not collect samples of the fill for asbestos analysis in previous investigations.

Investigation Activities and Results

Terraphase completed Phase I and Phase II due diligence investigations at the Site on behalf of the District in 2018 and 2019. A Phase II Report was prepared by Terraphase for submittal to DTSC as part two of a PEA Equivalent. Part one of the PEA equivalent, a Phase I ESA Report, was submitted to DTSC with an Environmental Oversight Program Application Agreement application on April 29, 2019.

During the Phase II investigation, conducted in May 2018, soil sampling was performed by Terraphase based on the Recognized Environmental Conditions (RECs) identified in the Phase I ESA (Terraphase 2019). These RECs were developed after review of extensive soil sampling conducted at the Site on behalf of the former owner by BGC and was intended to supplement and confirm their sampling results. The soil sampling included collection of discrete samples from 16 soil borings spaced evenly across the site. At each of the 16 locations, one sample was collected from the import fill, and one from the underlying shallow native soil. The samples were composited by the analytical laboratory prior to analysis into four-point composites, according to soil type (fill or native; and detailed in Section 6.1). The fill samples were analyzed for OCPs, metals, polyaromatic hydrocarbons (PAH), semi-volatile organic compounds (SVOCs), PCBs, TPH as diesel (TPH-d), TPH as motor oil (TPH-mo), and asbestos. The native soil samples were analyzed for OCPs and metals.

COPCs were not detected in native soil or imported fill at levels exceeding conservative risk-based screening values for residential land use, with the exception of arsenic. However, the detections of arsenic in native soil and imported fill were below the established background concentration for arsenic in Bay Area soils of 11 mg/kg (Duverge 2011).

In a scoping meeting held with Terraphase on March 16, 2020, DTSC concurred that Terraphase's Phase II investigation was considered satisfactory, and that no further environmental sampling is required at the Site.

Human Health Screening Evaluation

A human health screening evaluation was performed in general accordance with DTSC's PEA Guidance Manual (DTSC 2015). In accordance with the PEA Guidance Manual, the risk/hazard characterization assumed potential human exposure under an unrestricted residential use scenario. Based on the results of the PEA investigation and associated preliminary human health screening, the estimated upper-bound cumulative cancer risk for exposure to COPCs in soil at the Site is 7.5×10^{-7}, below the cumulative cancer risk management goal of 1.0×10^{-6}. The estimated upper-bound noncancer hazard index (HI) for exposure to COPCs in soil is 1, which is equal to the noncancer HI risk management goal of 1. Therefore, the upper-bound risk and HI estimates for residential exposure to soil would not pose an unacceptable risk to human health a the new school, especially since residential exposure time frame assumptions (24 hours per day; 350 days per year; for 26 years) are far more conservative than typical school occupancy time frames, even for staff.

Conclusions and Recommendations

Based on the results of the Phase II investigation, COPCs have not been detected in soil at the Site at levels exceeding conservative risk-based screening values for residential land use. Based on the results of previous investigations performed by BGC and the May 2018 Phase II investigation performed by Terraphase, and associated human health screening, the calculated upper-bound risk and HI estimates for residential exposure to soil would not pose an unacceptable risk to human health. In addition, based on the information reviewed for the Dublin High School site, the small amount of soil imported to the Site from there poses no significant risk to human health or the environment. Therefore, Terraphase recommends that DTSC issue a "No Further Action" determination for the Site.

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1.0 INTRODUCTION

On behalf of Dublin Unified School District ("the District"), Terraphase Engineering Inc. (Terraphase) has prepared this Preliminary Environmental Assessment (PEA) Report ("the PEA Report") for the former Promenade site located at the intersection of Dublin Boulevard and Chancery Lane in Dublin, California ("the Site"). The Site was previously named Promenade but is now referred to by the District at the New 2nd Comprehensive High School. ~~The District is interested in acquiring the property for future development as a new high school.~~ The District is in the process of acquiring the property for future development as a new high school.

The Site consists of vacant parcels located in Dublin, Alameda County, California. The property is approximately 24-acres and is identified with Assessor's Parcel Numbers (APNs): 985-78-2, 985-78-3, 985-78-4, 985-78-5, 985-78-6, and 985-78-7 by the Alameda County Assessor's Office. A Site Location Map is included as Figure 1, and the assessor's parcel map is included as Appendix A. The Site is bounded to the north by Central Parkway, bounded to the east by multi-tenant housing, to the south by Dublin Boulevard, and to the west by Chancery Lane (Figure 2).

This PEA Report was prepared by Terraphase for submittal to the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). This PEA Report was prepared in general accordance with the guidelines of the DTSC, as detailed in the PEA Guidance Manual (DTSC 2015).

1.1 Purpose and Objectives

The PEA is intended to identify whether a release or threatened release of hazardous substances exists at the Site and to evaluate the potential risk to human health or the environment.

The overall objectives of the PEA include the following:

- Evaluate historical information regarding the past use, storage, disposal, or release of hazardous wastes/substances at the Site;
- Conduct an additional field sampling and analysis program to characterize the nature, concentration, and extent of any hazardous wastes/substances present at the Site; and
- Estimate the potential threat to public health and/or the environment posed by identified hazardous constituents at the Site using a residential land use scenario.

Using information developed during the PEA and the conservative human risk evaluation, conducted in accordance with DTSC's PEA Guidance Manual (DTSC 2015), the DTSC can make an informed decision regarding potential risks, if any, posed by the Site. Possible outcomes of the PEA decision include the following:

- The requirement for further assessment through the remedial investigation/feasibility study process if the Site is found to be significantly affected by hazardous substances;

- The need to perform a removal action for areas where localized impacts by hazardous substance(s) release(s) are found; or

- Issuance of a "No Further Action" finding if the Site is found not to be affected or if risks to human health and the environment are found to be within acceptable levels based on the conservative screening-level risk assessment.

1.2 Scope of Work

To meet the PEA objectives, Terraphase completed a Phase I Environmental Site Assessment (ESA) and a Phase II subsurface investigation at the Site on behalf of the District in 2018 and 2019. Together the Phase I ESA and the Phase II investigation findings have been combined into this PEA document.

The Phase I ESA was completed in accordance with the methodology of American Society for Testing and Materials (ASTM) Standard Practice E 1527-13 (ASTM 2013). The site reconnaissance was conducted by Ms. Laurie Israel, Associate Scientist with Terraphase. Ms. Israel also conducted interviews with representatives of the previous and current landowner and the information is included in Section 3.9 of this report. The following recognized environmental conditions (RECs) were identified in the Phase I ESA:

- Fill material was previously imported to the Site. Based on information reviewed (and presented in Section 2.0), it appears that the soil may have been imported from the surrounding area as part of development activities in the area that occurred prior to 2005. While Berlogar Geotechnical Consultants (BGC) and Berlogar Stevens (herein referred to as BGC) conducted sampling of the fill material brought to the Site, most of the soil samples were composited prior to analysis. Additionally, BGC did not collect samples of the fill for asbestos analysis.

- According to the Site owner's representative, the Site was historically used for hay or barley cultivation and livestock grazing. Historical aerial photos also suggest evidence of either disking or row crops at the Site between the late 1970s and late 1990s. Since the Site was historically used for dryland farming, there is a potential for agricultural chemicals to be present in shallow soil at the Site, beneath the layer of fill material imported to the Site. It is unlikely that the Site was ever irrigated. The underlying native soils were not assessed for organochlorine pesticides (OCPs) by Berlogar Geotechnical Consultants (BGC) in previous environmental investigations.

Based on the findings of the Phase I ESA, additional investigation of the Site was recommended to address the above RECs, as follows:

- Per DTSC Interim Guidance for Sampling Agricultural Properties, Third Revision (DTSC 2008), for sites that were dryland farmed, one soil sample should be collected from each quadrant of the Site within the native soil. The samples should be analyzed for OCPs and arsenic. Sampling of the native soil for lead was also recommended.

- Soil samples of the import fill should be further assessed for total petroleum hydrocarbons (TPH), metals, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and asbestos.

To meet the above objectives and address the RECs identified in the Phase I, Terraphase performed soil sampling investigation activities at the Site. The soil sampling included collection of discrete samples from 16 soil borings spaced evenly across the site. At each of the 16 locations, one sample was collected from the import fill, and one from the underlying shallow native soil. The samples were composited by the analytical laboratory prior to analysis into four-point composites, according to soil type (fill or native; and detailed in Section 6.1). The fill samples were analyzed for OCPs, metals, polyaromatic hydrocarbons (PAH), SVOCs, PCBs, TPH as diesel (TPH-d), TPH as motor oil (TPH-mo), and asbestos. The native soil samples were analyzed for OCPs and metals. After receipt of initial four-point composite results, which did not show chemical problems in either the fill or native soils, which might cause the District to reject the site, the discrete fill and native soil samples were analyzed to satisfy DTSC frequency requirements. Each of the discrete samples was therefore analyzed within hold times for the same analytical suite as the composites were. The analytical suite and composite groupings are described in detail in Section 6.1.

1.3 Significant Assumptions

This report provides appropriate inquiry into the previous ownership and use of the Site consistent with good commercial and customary practice. Terraphase also assumes that the information provided by the District, previous landowners, the regulatory database provider, and regulatory agencies is true and reliable.

1.4 Modifications or Deviations

No significant deviations from ASTM 1527-13 guidelines occurred.

1.5 Information Provided by the Current Owner Representative

Mr. James Tong with Grafton Street, LLC, the current owner's representative, was interviewed by Terraphase on March 14, 2019. Mr. Tong stated that he owned the property for 17 years. Historically, the property has been used for agricultural purposes, including hay production and grazing. Mr. Tong noted that no corrals, barns, or other structures related to agriculture were located on the property during his ownership. Mr. Tong reported that from 2005 to 2009, Toll Brothers set up a temporary sales office and construction trailers in the southern and northwestern portions of the Site for onsite and adjacent residential construction projects. No fueling or maintenance activities were conducted onsite. Clearance soil sampling, which was performed by BGC on behalf of the Toll Brothers, was conducted after the office trailers were

removed from the property and is detailed in Section 3.2. Completed copies of the Phase I ESA Owner Questionnaire are included in Appendix B.

1.6 Other Site Information

Several investigations were conducted at the Site from 2008 to 2016 by BGC on behalf of the Toll Brothers. The results of previous analytical testing performed by BGC on samples of imported fill material were detailed in the Phase I ESA (Terraphase 2019) and are summarized below. Appendix C contains a Site Map showing the locations of the previous soil sampling locations. Analytical results from the previous Site assessments were compared to screening levels identified as the DTSC's Human and Ecological Risk Office (HERO) Modified Screening Levels (DTSC-SLs) provided in the DTSC HERO Note 3 (2018) for residential soil screening levels. This data was reviewed again, as described in Section 7.0 using 2019 screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011).

On July 3, 2008, BGC collected soil samples from four locations at a depth of 0.5 to 1 feet bgs. The samples were collected in an area north of Dublin Road within parcel APN 985-78-6. The four soil samples were composited and submitted for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons as gasoline (TPH-g) using United State Environmental Protection Agency (EPA) Method 8260; TPH-d and TPH-mo using EPA Method 8015; OCPs using EPA Method 8081, PCBs using EPA Method 8082, and CAM 17 metals using EPA Method 6010/7470/7471 (Appendix D). With the exception of arsenic, analytes were not detected above applicable screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011).

In September and October 2009, BGC collected numerous soil/fill samples at several locations within a portion of the Site that included the 17-acre area between Central Parkway and Dublin Boulevard at the intersection with Grafton Street (Appendix C and Appendix D). In September 2009, soil samples were collected from 32 locations (6, 7, 8, 9, 2D2, 1A-1F, 2A-2F, 3A-3C, 4A-4F, and 5A-5F) from 0 to 1-foot bgs. Discrete samples 6, 7, 8, 9, 2D2, 1A-1F, 2A-2F, 3A-3C, 4A-4F, and 5A-5F were submitted for laboratory analysis of VOCs using EPA Method 8260 and SVOCs using EPA Method 8270. Discrete sample 2D2 was also submitted for laboratory analysis of TPH-g using EPA Method 8260, TPH-d and TPH-mo using EPA Method 8015, and metals using EPA Method 6010/7470/7471. In addition, several composite samples (C1 through C7[1]) were submitted for analysis of BTEX and TPH-g using EPA Method 8260, TPH-d and TPH-mo using EPA Method 8015, OCPs using EPA Method 8081, PCBs using EPA Method 8082, and CAM 17 metals using EPA Method 6010/7470/7471. With the exception of arsenic, analytes were not detected above the screening levels defined above. In general, the detection limits were below the

[1] C1 was formed by compositing soil from sample locations 5A and 5B; C2 was formed by compositing soil from sample locations 5C, 5D, 5E, and 5F; C3 was formed by compositing soil from sample locations 3C, 4A, 4B, 4C, 4E, and 4F; C4 was formed by compositing soil from sample locations 2C, 3A, and 3B; C5 was formed by compositing soil from sample locations 2A, 2B, and 4D; C6 was formed by compositing soil from sample locations 1C, 1F, and 2F; and C7 was formed by compositing soil from sample locations 1A, 1B, 1D, and 1E.

screening levels, with the exception of several SVOCs, which are detailed on Table 6 of the Phase I ESA (Terraphase 2019) and included herein as Appendix D. Low levels of TPH-d and TPH-mo were detected in the composite soil samples (Table 2 of the Phase I ESA; Terraphase 2019), which BGC attributed to asphalt being present in the samples submitted for analysis. In October 2009, discrete samples were collected from select locations where higher concentrations of TPH-d and TPH-mo were detected during the September 2009 sampling and analyzed for TPH-d and TPH-mo.[2] TPH-d and TPH-mo were not detected in the discrete soil samples above the screening levels defined above (Table 2 of the Phase I ESA; Terraphase 2019).

In December 2016, BGC completed a Phase I ESA for the Site, and as part of the Phase I, soil sampling and analysis for general soil quality was performed. Four discrete samples were collected along the eastern side of the Site in areas that were not previously sampled (S1 through S4) and submitted for analysis of VOCs using EPA Method 8260, TPH-d and TPH-mo using EPA Method 8015, OCPs using EPA Method 8081, PCBs using EPA Method 8082, metals using EPA Method 6010/7470/7471, and SVOCs using EPA Method 8270 (Appendix D). In addition, discrete samples S5 through S32 were collected from areas of previous sample locations (collected in 2008 and 2009) and submitted for analysis of TPH-d using EPA Method 8015 (Appendix D). With the exception of arsenic, analytical results were consistent with previous investigations and were not detected above the screening levels defined above. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011). In general, the detection limits were below the screening levels defined above, with the exception of several SVOCs, which are detailed on Table 6 of the Phase I ESA (Terraphase 2019) and included herein in Appendix D.

The BGC Phase I and Terraphase's 2019 Phase I ESA and 2018 Phase II Investigationdid not identify any RECs or other indications of hazardous material contamination at the Site, and no further investigation was recommended.

In February 2020, the District imported approximately 600 cubic yards of soil from the nearby Dublin High School site and placed it on the southeastern corner of the Site. The soil was excavated from the footprint of the former auto/wood shop called Building EE, located at the nearby Dublin High School, which had received unrestricted clearance from DTSC after review of a PEA and subsequent addenda were prepared for that site. The soil excavation occurred as part of the construction of a new Science and Engineering Building at the former location of Building EE. Building EE was demolished in 2017, but was included in a number of assessments historically completed at the Dublin High School site under the oversight of the DTSC including a Phase I ESA, a PEA, and Supplemental Site Investigation (SSI), which were completed for the larger site from 2006 to 2008, and a Phase I ESA Addendum which was completed in 2017 for the construction of the new science and engineering building and focused specifically on

[2] W1 through W6 were discrete samples that were re-collected from locations that made up the soil composite sample C3; Y1 through Y4 were discrete samples that were re-collected from locations that made up the soil composite sample C4; and X1 through X4 were discrete samples that were re-collected from locations that made up the soil composite sample C7.

Building EE (LFR 2006; LFR 2008a; LFR 2008b; Gibbs 2017). Based on the review of the available information compiled for Building EE, DTSC did not feel additional soil sampling was warranted for the imported soil when it was still located at the Dublin High School site. Based on our review of those files, and DTSC's recommendation, Terraphase did not collect additional samples of that soil.

2.0 SITE DESCRIPTION

This section describes the location and ownership of the Site.

2.1 Site Identification

The Site consists of six parcels, APNs 985-78-2 through 985-78-7, comprising approximately 24-acres of former agricultural land with underground utility improvements. The Site is located in Dublin, Alameda County, California. The average elevation of the Site is approximately 356 feet above mean sea level (amsl) and the topography slopes gently to the southwest. No EPA Identification numbers were identified for the Site. Mailing addresses and other Site names are provided in Sections 2.1.2 and 2.1.1. The approximate latitude and longitude (North American Datum of 1983) of the Site are identified as:

Latitude (North) 37° 42' 25.79"
Longitude (West) 121° 51' 53.17"

2.1.1 Site Name and History

The Site was previously named Promenade but is now referred to by the District at the New 2nd Comprehensive High School.

The Site was mostly undeveloped and used for agricultural purposes from approximately 1939 to the mid-1990s. Information indicates the area was likely used for livestock grazing and/or dry-farmed for hay or barley cultivation. From approximately 2005 to 2009, the Site appears to have been used for equipment and materials staging and for temporary trailers and offices in relation to the surrounding residential construction that occurred from 2005 to 2009. Utilities were installed (water, sewer, and storm water lines) and preliminary grading conducted as part of planned residential development at the Site, but the proposed development activities were ceased in 2009 and not completed. No other use or development appears to have occurred at the Site since 2009.

The Site is currently vacant land and is owned by Grafton Street, LLC. Previous use codes indicate that the parcels were once part of a housing development project. Per the City of Dublin Zoning Land Use, the Site is zoned as a planned development and general land use as neighborhood commercial.

2.1.2 Contact People

The contact person for the current site owner is:

Joe Sorrera
~~Assistant~~ Associate Superintendent Business Services~~/CBO~~
Dublin Unified School District

7471 Larkdale Avenue, Dublin, CA 94568
Office: (925) 828-2551

2.1.3 Site Description

The Site currently consists of six vacant parcels (APNs 985-78-2 through 985-78-7) comprising approximately 24-acres, on the corner of Dublin Boulevard and Chancery Lane in Dublin, California in Alameda County. A Site Map is included as Figure 2. The Site is surrounded by residential communities to the north (across Central Parkway), west (adjoining and across Chancery Lane), and east (adjoining), Devany Square park to the west, and vacant land to the southeast (across Dublin Boulevard). The Grafton Street retail center is located to the south-southwest of the Site (Figure 2). The Site is proposed for development as a school containing approximately 94 classrooms with a capacity for 2,585 students.

~~The District is interested in acquiring the property for future development as a new high school.~~ The District is in the process of acquiring the property for future development as a new high school.

2.2 Site Geology and Hydrogeology

The Site is located within the San Ramon Valley, a northwest-trending depression extending north from the western terminus of the Amador Valley structural basin which nearly bisects the Diablo Range of the Coast Range Geomorphic Province. The local topography consists of northwest-trending ridges and valleys dominated by the San Andreas Fault System where the ridges are typically composed of resistant sandstones or marine volcanics, and the valley areas are relatively deep alluvial deposits.

During Terraphase's Phase II investigation, fill material generally consisting of gravelly sand with debris was encountered from the ground surface to depths ranging between approximately 0.5 and 3.5 feet bgs. Shallow native soils consisting of brown to black clayey sand and clays with organic material were encountered below the fill materials at depths of up to 9.5 feet bgs. According to information provided in a PEA conducted for the nearby Dublin High School Campus, located approximately 3.4 miles to the northwest of the Site, the Site is underlain by alluvium deposited from the surrounding highlands during the Holocene (5,000 to 7,000 years before the present) to late Pleistocene (11,000 to 70,000 years before the present). The alluvium underlying the site consists of unconsolidated, permeable sand and silt generally extending 20 to 30 feet deep deposited over older, weakly-consolidated irregularly interbedded clay, silt, sand, and gravel. Permeability decreases in the older, more consolidated sediments compared to the surficial site soil (LFR 2008a).

Per the California Geological Survey's Fault Activity Map of California, the northwest-trending Calaveras Fault, which lies at the western edge of the San Ramon and Amador Valleys, is the nearest active fault and located approximately 3.5 miles west of the Site (CGS 2010). The Site does not lie within an Alquist-Priolo Special Studies Zone for known active faulting.

The nearest significant surface-water body is Tassajara Creek which is located approximately 0.8 mile west of the Site. The Site is located outside the 100- and 500-year flood plain areas.

According to LFR's 2008 PEA investigation report prepared for the nearby Dublin High School, groundwater may vary in depth as a result of seasonal variations and municipal withdrawal (LFR 2008a). In an updated conceptual site model (CSM) prepared by ENGEO for a site approximately 0.2 mile northeast from the site, groundwater was present in thin, perched, laterally discontinuous lenses (ENGEO 2013). BGC reported that groundwater was present between 16.5 and 18 feet bgs on the Site at the time of their geotechnical investigation (BGC 2008). According to ENGEO's 2013 CSM, regional groundwater is expected to flow south-southwest considering the surface topography for the region, as interpreted from the Livermore Quadrangle map (ENGEO 2013).

3.0 BACKGROUND

3.1 Site Status/Historical Site Information

The Site was mostly undeveloped and used for agricultural purposes from approximately 1939 to the mid-1990s. Information indicates the area was likely used for livestock grazing and/or dry-farmed for hay or barley cultivation. From approximately 2005 to 2009, the Site appears to have been used for equipment and materials staging and for temporary trailers and offices in relation to the surrounding residential construction that occurred from 2005 to 2009. Utilities were installed (water, sewer, and storm water lines) and preliminary grading conducted as part of planned residential development at the Site, but the proposed development activities ceased in 2009 and were not completed. No other use or development appears to have occurred at the Site since 2009, except for the import of fill material from the nearby Dublin High School as discussed in Section 3.2.7.

According to Terraphase's Phase I ESA, fill material has reportedly been imported and placed at the Site as part of past development plans for the Site. As reported in the Phase I ESA, (Terraphase 2019), it appears the soil may have been imported from the surrounding area as part of development activities in the area that occurred prior to 2005. However, the source of the fill material was never confirmed.

3.2 Prior Site Assessments

Several investigations have previously been conducted at the Site from 2008 to 2016. The following sections briefly summarize the previous activities. Where analytical data was collected and the results are representative of soil remaining at the Site, the sample results were compared to applicable screening levels identified as the DTSC-SLs provided in the DTSC HERO Note 3 for residential soil (DTSC 2018) or the EPA's Regional Screening Levels (RSLs) for residential soil developed by the EPA for analytes that do not have a DTSC-SL developed (EPA 2018). In addition, the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels Environmental Screening Levels (ESLs) for residential soil were used as screening levels for petroleum hydrocarbons (TPH-g, TPH-d, and TPH-mo; SFRWQCB 2019).

The results of previous analytical testing performed by BGC on samples of fill soil and are summarized in Tables 1 to 6 in the Phase I ESA (Appendix D), previous soil sample locations are shown on the Figure in Appendix C, and previous analytical laboratory reports are provided in Appendix E. In general, a review of the sample handling procedures and laboratory quality control results did not result in any of the data being rejected.

3.2.1 BGC Soil Stockpile Sampling - 2008

In June 2008, BGC collected 13 soil samples (A1-A3, B1-B2, C1-C2, D1-D2, and E1-E4) from the

northeastern corner of the Site that included a portion of parcels 986-78-3, 985-78-4, and 985-78-5 (BGC 2008a; see the Figure in Appendix C for sample locations). At the time of the sampling in 2008, soil from mass grading of the adjacent residential and commercial development had been stockpiled and graded relatively flat in the area of sampling. The stockpile averaged about 2 feet deep and ranged from about 1-foot thick at the southern end to about 4-feet thick in the northwest corner. The thirteen soil samples were obtained at random locations from the soil stockpile from depths of 0.5 to 2 feet bgs. The samples were analyzed for VOCs using EPA Method 8260, SVOCs using EPA Method 8270, TPH-d and TPH-mo using EPA Method 8015, OCPs using EPA Method 8081, polychlorinated biphenyls (PCBs) using EPA Method 8082, and CAM 17 metals using EPA Method 6010/7470/7471. The analytical results were reportedly below the ESLs for residential soil (BGC 2008a). BGC concluded that the stockpiled soil at this Site was not considered to be contaminated and could be utilized as fill at most sites provided the receiver of the soil confirmed final acceptance of the soil. The soil associated with this stockpile was later reportedly removed from the Site (BGC 2009). Since these samples were associated with fill that was removed from the Site, the results are not tabulated in this report.

3.2.2 BGC Soil Testing - 2008

On July 3, 2008, BGC collected soil samples from four locations at a depth of 0.5 to 1 feet bgs (BGC 2008b). The samples were collected in an area north of Dublin Road within parcel APN 985-78-6 of the Site; see the Figure in Appendix C for sample locations. The four soil samples were composited and submitted for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) and TPH-g using EPA Method 8260; TPH-d and TPH-mo using EPA Method 8015; OCPs using EPA Method 8081, PCBs using EPA Method 8082, and CAM 17 metals using EPA Method 6010/7470/7471. The composite sample results are reported on Table 1 (BTEX), Table 2 (TPH), Table 3 (OCPs), Table 4 (PCBs), and Table 5 (metals) in the Phase I ESA (Appendix D). Copies of the analytical reports are included in Appendix E. With the exception of arsenic, analytes were not detected above applicable screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil.

3.2.3 BGC Geotechnical Investigation – December 2008

In December 2008, BGC completed a geotechnical investigation at Promenade Parcel 5 (BGC 2008c). Although the copy of the report reviewed did not include a full site map, it appears that Promenade Parcel 5 coincided with APN 985-78-7 of the Site (BGC 2008c). As part of BGC's geotechnical investigation, ten borings were advanced across Parcel 5 to depths ranging from 5.5 feet to 46.5 feet bgs. BGC's report identified that Parcel 5 was generally covered by about 1.5 to 6 feet of engineered fill that was previously placed on Parcel 5 under BGC's oversight and testing during the surrounding Dublin Ranch development. The engineered fill generally consisted of stiff to very stiff, silty and sandy clay. The engineered fill was reported to be underlain by native soils generally consisting of stiff to very stiff silty clay to depths ranging from about 9.5 to 12 feet bgs, followed by medium stiff clayey silt that extended to depths up to 19.5 feet bgs. The deepest boring depth was extended to a depth of 46.5 feet. At location B7, the native stiff to very stiff clay was underlain by interbedded layers of generally medium dense

clayey sand, medium stiff to stiff clayey silt and silty clay, and medium dense silty sand to a depth of approximately 29 feet bgs. The interbedded layers were in turn underlain by very stiff to hard silty clay and sandy clay to the maximum depth explored.

3.2.4 BGC Soil Testing – 2009

In September and October 2009, BGC collected soil samples using a hand auger or drilling rig at several locations within a portion of the Site that included the 17-acre area between Central Parkway and Dublin Boulevard at the intersection with Grafton Street (BGC 2009). The area sampled included APNs 985-78-2, 985-78-3, 985-78-4, 985-78-5, and 985-78-6 of the Site. At the time of the soil sampling, the Site was reported as undeveloped with remnants of demolished aggregate base and gravel surface treatment located in various parts of the Site. In addition, a portion of the southern end of the Site was covered with aggregate base and remnant asphalt concrete and was being used for material storage.

On September 15 and 22, 2009, soil samples were collected from 32 locations (6, 7, 8, 9, D2A2, 1A-1F, 2A-2F, 3A-3C, 4A-4F, and 5A-5F) using a drilling rig from 0 to 1 foot below grade within a 150-foot grid; see the Figure in Appendix C for sample locations. Discrete samples 6, 7, 8, 9, D2A2, 1A-1F, 2A-2F, 3A-3C, 4A-4F, and 5A-5F were submitted for laboratory analysis of VOCs using EPA Method 8260 and SVOCs using EPA Method 8270. In addition, several composite samples were submitted for analysis of BTEX and TPH-g using EPA Method 8260, TPH-d and TPH-mo using EPA Method 8015, OCPs using EPA Method 8081, PCBs using EPA Method 8082, and CAM 17 metals using EPA Method 6010/7470/7471. The sample results are reported on Table 1 (BTEX), Table 2 (TPH), Table 3 (OCPs), Table 4 (PCBs), Table 5 (metals), and Table 6 (SVOCs) included in the Phase I ESA (Appendix D). Copies of the analytical reports are included in Appendix E. With the exception of arsenic, analytes were not detected above applicable screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil. In general, the detection limits were below the screening levels, with the exception of a few SVOCs.

Low levels of TPH-d and TPH-mo were detected in the soil samples which BGC attributed to asphalt being present in the samples submitted for analysis. In October 2009, select locations from the September 2009 sampling were resampled and analyzed for TPH-d and TPH-mo using EPA Method 8015. The results from the sampling are summarized in Table 2 in the Phase I ESA (Appendix D); see the Figure in Appendix C for sample locations. Copies of the analytical reports are included in Appendix E. TPH-d and TPH-mo were not detected in the soil samples above the screening levels.

3.2.5 Berlogar Stevens 2016 Phase I ESA

In December 2016, Berlogar Stevens completed a Phase I ESA for the Site (the Berlogar Phase I; Berlogar Stevens 2016). The Berlogar Phase I reported that some grading, soil stockpiling, and construction equipment staging had previously occurred on the property from approximately

2005 to 2009. The Site was undeveloped at the time of Berlogar Phase I site visit, with only vegetation and perimeter fencing.

As part of the Berlogar Phase I, soil sampling and analysis for general soil quality was performed. Four samples were collected along the eastern side of the Site in areas that were not previously sampled (S1 through S4) and submitted for analysis of VOCs using EPA Method 8260, TPH-d and TPH-mo using EPA Method 8015, OCPs using EPA Method 8081, PCBs using EPA Method 8082, metals using EPA Method 6010/7470/7471, and SVOCs using EPA Method 8270. The sample results are reported on Table 1 (VOCs), Table 2 (TPH), Table 3 (OCPs), Table 4 (PCBs), Table 5 (metals), and Table 6 (SVOCs) in the Phase I ESA (Appendix D); see the Figure in Appendix C for sample locations. Copies of the analytical reports are included in Appendix E. In addition, several samples (S5 through S32) were collected from areas of previous sample locations (collected in 2008 and 2009) and submitted for analysis of TPH-d using EPA Method 8015. The sample results are reported on Table 2 in the Phase I ESA (Appendix D); see the Figure in Appendix C for sample locations. Copies of the analytical reports are included in Appendix E. With the exception of arsenic, analytes were not detected above applicable screening levels. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil. In general, the detection limits were below the screening levels, with the exception of a few SVOCs.

The Berlogar Phase I did not identify any RECs or other indications of hazardous material contamination were identified at the Site, and no further investigation was recommended.

3.2.6 Terraphase Phase I ESA

Terraphase completed a Phase I ESA for the Site in April 2019 (Terraphase 2019). Terraphase identified the following RECs in connection with the Site during the Phase I ESA:

- According to the Site owner's representative, the Site was historically used for hay or barley cultivation and livestock grazing. Historical aerial photos also suggest evidence of either disking or row crops at the Site between the late 1970s and late 1990s. Since the Site was historically used for dryland farming, there is a potential for agricultural chemicals to be present in shallow soil at the Site, beneath the layer of fill material imported to the Site. It is unlikely that the Site was ever irrigated. The underlying native soils were not assessed for OCPs by BGC in previous environmental investigations.

- Fill material was previously imported to the Site. Based on information reviewed, it appears the soil may have been imported from the surrounding area as part of development activities in the area that occurred prior to 2005. While BGC conducted sampling of the fill material brought to the Site, the majority of the soil samples were composited prior to analysis. Additionally, BGC did not collect samples of the fill for asbestos analysis in previous investigations.

3.2.7 Current Site Conditions and Imported Soils

As reported by Chris Stevens, DUSD ~~Director of Facilities~~ Chief Facilities Operations Officer, the District used the southeast corner of the Site to stockpile approximately 600 cubic yards of soil imported from the nearby Dublin High School site, located at 8151 Village Parkway, Dublin, California, in February 2020. The soil was excavated from the footprint of the former auto/wood shop called Building EE, located at the nearby Dublin High School. Trucking logs for the imported soils are included in Appendix F.

The soil excavation occurred as part of the construction of a new Science and Engineering Building at the former location of Building EE. Building EE was demolished in 2017, but was included in a number of assessments historically completed at the Dublin High School site including a Phase I ESA, a PEA, and Supplemental Site Investigation (SSI), which were completed for the larger site from 2006 to 2008, and a Phase I ESA Addendum which was completed in 2017 for the construction of the new science and engineering building and focused specifically on Building EE (LFR 2006; LFR 2008a; LFR 2008b; Gibbs 2017).

The previous environmental assessments, which were reviewed by DTSC, have identified that the Dublin High School site was historically used for dry-farming until it was developed as the High School in approximately 1969 (LFR 2006). Specific to Building EE, the prior assessments at the High School have identified that the former Building EE was: constructed in 1969; a structure of concrete tilt-up construction; placed on footings with a concrete slab-on-grade floor; surrounded by pavement since construction; and used as an auto and woodshop (LFR 2006).

As part of the environmental assessments conducted within the area of Building EE, soil samples were collected from within or in close proximity to the building footprint. The features investigated included: soil near the former drain of the sink in the wood shop and soil in the vicinity of a former hydraulic lift and associated hydraulic reservoir associated with the auto shop (LFR 2008a; 2008b). The results of previous soil investigations conducted in this area were summarized in a 2017 Phase I Addendum (Gibbs 2017). The 2017 Phase I Addendum reviewed the Site conditions, including proximity to ultramafic rock formations, and concluded that no further investigation of Building EE was warranted (Gibbs 2017). DTSC concurred with these findings in a letter dated December 28, 2017 (DTSC 2017). Based on our review of this information and because the 2017 Phase I Addendum concluded that no further investigation of the soil was warranted for Building EE, Terraphase did not collect additional samples of the imported soil at the Site.

3.3 Owner, Property Manager and Occupant Information

The Site is currently vacant land owned by Grafton Street, LLC. Previous use codes indicate that the parcels were once part of a housing development project. Per the City of Dublin Zoning Land Use, the Site is zoned as a planned development and general land use as neighborhood commercial.

According to the current site owner's representative, Mr. James Tong with Grafton Street, LLC, the Site was historically used for hay or barley cultivation and livestock grazing. Historical aerial

photos also suggest evidence of either disking or row crops at the Site between the late 1970s and late 1990s. Mr. Tong noted that no corrals, barns, or other structures related to agriculture were located on the property during his ownership. Mr. Tong reported that from 2005 to 2009, Toll Brothers set up a temporary sales office and construction trailers in the southern and northwestern portion of the Site for onsite and adjacent residential construction projects. Utilities were installed (water, sewer, and storm water lines) and preliminary grading conducted as part of planned residential development at the Site, but the proposed development activities were ceased in 2009 and not completed. No other use or development appears to have occurred at the Site since 2009. No fueling or maintenance activities were conducted on the Site. Clearance soil sampling was conducted by Toll Brothers after the office trailers were removed from the property. Mr. Tong indicated that current Site owner has owned the property for the past 17 years. Mr. Tong did not identify any other specialized knowledge or information regarding the Site.

3.4 Hazardous Material/Substance/Waste Management Information

No manufacturing activities were identified as having historically occurred at the Site. The Site is not currently, nor has it been in the past, subject to any federal, state, or local permits. Other than activities documented in this PEA Report, Terraphase found no evidence of prior assessments, sampling, or cleanup activities that have been conducted at the Site.

3.5 Current and Historical Uses of Surrounding Properties

The Site is in a densely populated residential area, and is surrounded to the north, west, and east by multi-family houses (apartments and/or condominiums). The Site is bound to the west by Devany Square park, to the south-southwest by Dublin Boulevard and a commercial shopping center, Grafton Station, and to the southeast by an undeveloped lot and a newly constructed hotel (Aloft Hotel).

Based on a review of historical aerial photographs (included in Appendix G), the properties located in the vicinity of the Site were predominantly used for agricultural purposes until the mid-1990s. In the early 2000s, the use of the surrounding properties shifted to predominantly residential purposes. During the reconnaissance, Terraphase observed the adjoining properties from public roadways and the Site. The purpose of these observations was to identify obvious uses or conditions at the adjoining properties likely indicative of a REC at the Site. No RECs were noted at the adjoining properties during the Site reconnaissance.

Of the databases searched in accordance with the ASTM Practice E1527-13, several nearby properties were found and listed within the ASTM-prescribed search radii. A list of the government records searched, including the definition of the acronyms used, is provided in the EDR Report and discussed in detail below in Section 3.7.5.2. No soil or groundwater conditions identified at the nearby properties in the regulatory records search pose an environmental concern to the Site.

3.6 All Appropriate Inquiries Information

3.6.1 Specialized Knowledge

As part of the Phase I ESA, a questionnaire was completed by the current owner's representative, Mr. James Tong, with Grafton Street, LLC (Appendix B). The questionnaire noted that Mr. Tong has been associated with the Site since 1995 and the current operations are as vacant land holding for future development. Mr. Tong did not identify any other specialized knowledge or information regarding the Site on the completed questionnaire.

3.6.2 Commonly Known or Reasonably Ascertainable Information

No additional commonly known or reasonably ascertainable information exists for the Site, beyond that which is available to the public through public agencies and freedom of information act requests.

3.6.3 Valuation Reduction for Environmental Liens

No information was provided to ascertain if the price of the property reasonably reflects the fair market value; however, no environmental liens have been found for the property.

3.7 Records Review Information

A report on previous uses of the Site and potential offsite sources of environmental concerns was prepared by EDR of Milford, Connecticut ("the EDR Report"; Appendix H). The EDR Report findings were presented in the Phase I ESA Report (Terraphase 2019) along with RECs, and are summarized in the following sections.

Although requested by Terraphase, no Certified Sanborn® fire insurance maps were available for the Site (EDR 2019a).

3.7.1 Land Records

The approximate latitude and longitude of the Site are identified to be:

3.7.1.1

Latitude (North) 37° 42' 25.79"
Longitude (West) 121° 51' 53.17"

Title Record

The Environmental Lien and Activity and Land Use Limitation (AUL) Search report provided by EDR (EDR 2019a) indicated that the last transfer of parcels with APNs 985-78-4, was recorded on May 7, 2013, when the property was transferred from James and Mei F. Tong to Grafton Station LLC, the current owner. Information obtained from the Alameda County Assessor's office concurred with the parcel information described above. Parcel maps are provided in Appendix I.

Environmental Liens and Activity and Use Limitations

It is unknown if the property owner has any knowledge of environmental liens or AULs associated with the Site. A review of the EDR Environmental Lien and AUL Search report did not indicate any environmental liens or AULs associated with the Site.

3.7.1.2 3.7.2 Aerial Photograph Review

Terraphase reviewed aerial photographs, provided by EDR, dated 1939, 1940, 1949, 1958, 1966, 1968, 1979, 1982, 1993, 1998, 2006, 2009, 2012, and 2016 (EDR 2019d). A copy of the historical aerial photographs are included in Appendix G.

1939 – 1968 Photographs: The Site appears to be undeveloped or agricultural land, with the adjoining area to the northwest showing a few smaller structures. A road in the approximate alignment as present-day Highway 580 is shown to the south of the Site (Highway 580 was constructed in 1947). Undeveloped or agricultural land surrounds the property to the north, south, west, and east. A ravine or stream appears to bisect the property (running north to southeast) in the 1939, 1940, 1949, 1966, and 1968 aerial photographs. In the 1949 photograph, a dense set of structures is located further to the northwest, possibly for agriculture. Hay baling appears to be taking place on the eastern side of the Site in the 1939 and 1940 aerial photographs. The remainder of the Site appears to be used for grazing. By 1949, the entire Site appears to be used for grazing and this use appears to continue in the 1966 and 1968 photographs.

1979 – 1998 Photographs: The Site appears to be either disked agricultural land or row crops. Residential development is present to the south of the Site (on the southern side of Highway 580)

beginning in 1979 with further development expanding south of the highway in 1993. By 1998, the structures to the northwest of the Site are gone, and Dublin Boulevard appears as an improved roadway bordering the southern end of the Site.

2006 Photograph: In 2006 the Site contains multiple trailers and asphalt pads and appears to have been graded for development; a front entry structure is shown along Dublin Boulevard within a landscaped parking area. Additional trailers are shown along the Central Parkway and Chancery Lane portion of the Site. Residential structures are developed on adjoining properties to the west and east; undeveloped land still exists to the north and south. Devany Square (to the west along Finnian Way and Chancery Lane) is being developed. Grading and development to the north along Central Parkway is visible with no development of property to the south across Dublin Boulevard.

2009 Photograph: In 2009, all trailers and equipment that were previously on the Site (visible in the 2006 aerial photograph) have been removed, and the Site appears to be vacant. Devany Square is completed (adjoining property to the west), new residential houses are visible across

Central Parkway to the north, and a commercial shopping center is shown to the south-southwest, across Dublin Boulevard (Grafton Station).

2012 – 2016 Photographs: The Site is in its current configuration and appears to be vacant, undeveloped land. The Site is surrounded to the east, north, and west by residential properties and a park (to the west), and to the south of Dublin Boulevard by a commercial shopping center (Grafton Station).

2019 Google Earth satellite image: The Site is vacant land with disturbed areas in the northwest portion and south-central portion near Dublin Boulevard. Surrounding the Site to the east, north, and west is residential properties and a park (to the west), and to the south of Dublin Boulevard is a commercial shopping center (Grafton Station).

3.7.3 Historical USGS Topographic Map

Terraphase reviewed topographic maps, United States Geological Survey (USGS) Pleasanton, California 15-Minute Quadrangle, dated 1906 and 1941; and USGS Livermore and West Dublin, California, 7.5-Minute Quadrangles, dated 1953, 1961, 1968, 1973, 1980, and 2012 (EDR 2019e). A copy of the topographic maps are included in Appendix J.

1906, 1941, and 1947 Historical Topographic Maps: The Site and the general vicinity is mostly undeveloped land in an area located east of Tassajara Creek, in Santa Rita. An unpaved access road is shown to traverse through the Site from Dublin Boulevard to the north. There is little development in the surrounding area.

1953, 1961, 1968, and 1973 Historical Topographic Maps: An unpaved access road is shown to traverse through the Site from Dublin Boulevard to the north. A creek is also identified traversing through the Site in a southeasterly direction. A general increase in urban development to the distant west and southwest of the Site was observed. The Parks Air Force Base, Santa Rita Rehabilitation Center, and main hospital are shown to the west of the Site (across Tassajara Road) in the topographic maps from 1953 to 1973. Highway 580 is labeled Highway 50 (two lanes each direction) until 1973, when it is shown with the current highway number.

1980 Historical Topographic Map: The unpaved access road is present along the western boundary of the Site. The creek is identified traversing through the Site in a southeasterly direction. Highway 580 is shown in its current configuration, and the Camp Parks Base is no longer identified. There is continued urban development south of Highway 580 and along Tassajara Road to the west.

2012 Historical Topographic Map: The creek is identified traversing through the Site in a southeasterly direction. The Site is surrounded by the current configuration of streets.

3.7.4 City Directories

Terraphase reviewed city directories, provided by EDR, dated 1975, 1980, 1985, 1989, 1994, 2001, 2006, 2010, and 2014 (EDR 2019f). A copy of the city directory report is included in Appendix K.

According to the the EDR-City Directory Image Report, the Site has several proposed addresses; however, it has never been developed. Onebaddress associated with the Site was identified as the following:

- 3501 Dublin Blvd: "Toll Brothers Inc" (2010)

Adjacent listings included individual residences on Grafton Street and Finnian Way and both residential and commercial properties on Dublin Boulevard.

3.7.5 Standard Environmental Record Sources

The regulatory agency database report discussed in this section, provided by EDR, was reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the property. The EDR Report, including a description of all regulatory databases and associated acronyms, is included in Appendix H.

Terraphase reviewed applicable and reasonably ascertainable federal, state, and local environmental-related databases as part of the Phase I ESA. Specific records and search distances (measured from the approximate property boundary of the Site) for the environmental databases were reported by EDR to be consistent with ASTM Practice E 1527-13 and are discussed in the EDR Report, dated March 4, 2019. The EDR Radius Map™ Report is presented as Appendix H.

3.7.5.1

Site

One address associated with the Site was identified in one of databases searched by EDR as follows:

3553 Finnian Way
City West Structures Inc.
The Site is listed on the HAZNET database for two listings of off-site disposal of hazardous wastes in 2005. One listing was for 0.1 tons of an unspecified solvent mixture and the other listing was for 0.54 tons of hydrocarbon solvents. Both waste streams were disposed of at a transfer station. Based on the lack of information regarding a release to soil or groundwater, and cross gradient location, this site is not considered a REC or environmental concern for the Site.

Although the address is identified as associated with the Site, the listing is identified as approximately 52 feet west of Site in the EDR report. It is possible the waste disposal described in the database listing was associated with the construction and equipment materials storage

that occurred as part of the surrounding construction activities in 2005. No other listings were identified for the Site in the databases reviewed.

Nearby Listed Properties

Of the databases searched in accordance with the ASTM Practice E1527-13, the following additional listings were found within the ASTM-prescribed search radii. A list of the government records searched, including the definition of the acronyms used, is provided in the EDR Report.

3.7.5.2

Central Parkway and Grafton Street
Arrivare
Approximate Distance from the Property: 38 feet north-northeast of the Site
The site is listed on the California Integrated Water Quality System Project (CIWQS) and National Pollutant Discharge Elimination System (NPDES) databases for construction that was terminated on April 18, 2014. No violations were reported in the database listings. Given the listing is associated with a permit for stormwater runoff control related to construction activities and no violations were reported, this site is not considered a REC or environmental concern for the Site.

Central Parkway Grafton Street and Lee Thompson Street
Sorrento East Neighborhood 9
Approximate Distance from the Property: 54 feet north-northeast of the Site
The site is listed on the CIWQS database for a storm water construction permit related to a construction project that occurred from 2012 until 2015. No violations were reported in the database listing. Given the listing is associated with a permit for stormwater runoff control related to construction activities and no violations were reported, this site is not considered a REC or environmental concern for the Site.

3637 Dublin Blvd
Matthew Grimes
Approximate Distance from the Property: 104 feet southwest of the Site
The name and address are listed on the Pesticide Licensing database (PEST LIC database) as a Qualified Applicator Certificate (QAC), Category B meaning the license holder is permitted to apply or supervise the application of restricted and general use pesticides, substances, methods or devices to control pests in: natural or planted ornamental and turf landscaped areas and other outside areas around buildings; residential yards (including home gardens and orchards), recreation areas, schoolyards, vacant lots, storage yards, greenbelts, golf courses, cemeteries, parks, landscaped street medians, sidewalk areas and walkways, and parking lots directly related to landscaped areas; and landscaped areas in enclosed shopping malls and indoor plants. The listing identifies the license has an expiration date of December 31, 2018. Since the listing appears to be associated with a license for a business and/or person, this listing is not considered a REC or environmental concern for the Site.

3448 Finnian Way

Terraces Home Owner's Association

Approximate Distance from the Property: 187 feet east-southeast of the Site

The site is listed on the EMI and FINDS databases for the Bay Area Air Quality Management District (BAAQMD) in 2009-2016 for air emissions. Additional information obtained from the BAAQMD indicate this listing is associated with an emergency generator located at the property. Based on the lack of information regarding a release to soil or groundwater, this site is not considered a REC or environmental concern for the Site.

3448 Finnian Way

Toll Bros Inc.

Approximate Distance from the Property: 178 feet east-southeast of the Site

The site is listed on the HAZNET database for two listings of off-site disposal of hazardous wastes in 2005. One listing was for 0.68 tons of an unspecified organic liquid mixture disposed at a landfill. The other listing was for treatment of 0.07 tons of contaminated soil from site clean-up via incineration. Based on the downgradient location, this site is not considered a REC or environmental concern for the Site.

4405 Chancery Lane

Devany Square

Approximate Distance from the Property: 276 feet west of the Site

The site is listed on the CIWQS database for a storm water construction permit related to a construction project that occurred from 2007 until 2008. No violations were reported in the database listing. Given the listing is associated with a permit for stormwater runoff control related to construction activities and no violations were reported, this site is not considered a REC or environmental concern for the Site.

3750 Dublin Blvd

Lowe's #2273

Approximate Distance from the Property: 283 feet southwest of the Site

The site is listed on the Aboveground Storage Tank (AST), FINDS, ECHO, California Environmental Reporting System (CERS) Hazardous Waste (HAZ WASTE), CERS TANKS, CERS, HAZNET, and RCRA-Small Quantity Generator (SQG) databases. The listing in the AST Database is for a 1,500-gallon diesel-fuel AST associated with an emergency generator. Violations were noted in the CERS HAZ WASTE, CERS TANKS, and CERS databases listings for: failures in compliance associated with manifest/bill of lading retention in 2015 (returned to compliance in March 2015) and 2016 (returned to compliance in May 2018), Spill Prevention Control and Countermeasure (SPCC) Plan violations for not completing required 5-year reviews, failing to designate an accountable person for discharge prevention, and deficiencies in facility diagram and SPCC Plan information (returned to compliance in March 2015), failures for improper labeling of hazardous waste containers and portable tanks (returned to compliance in March 2015), failure to implement a Hazardous Materials Business Plan in 2015 and 2018 (returned to compliance in

May 2018), and failure to provide annual safety and hazmat training (returned to compliance in May 2018). Based on the lack of information regarding a release to soil or groundwater, this site is not considered a REC or environmental concern for the Site.

Southeast Corner of Grafton Street at Dublin Blvd
Grafton Plaza Residential
Approximate Distance from the Property: 306 feet south-southwest of the Site
The site is listed on the CIWQS database for a storm water construction permit related to a construction project dated 2017; the listing is identified as active. No violations were reported in the database listing. Given the listing is associated with a permit for stormwater runoff control related to construction activities and no violations were reported, this site is not considered a REC or environmental concern for the Site.

4162 Clarenbridge Circle
Approximate Distance from the Property: 53 feet west of the Site
The site is listed on the CHMIRS database for a 2010 release of mineral oil from a transformer. The oil release was confined to a vault. Based on the information provided, it does not appear this release impacted soil or groundwater. Therefore, this site is not considered a REC or environmental concern for the Site.

3309 Monaghan Street
Chenchu Gu
Approximate Distance from the Property: 573 feet east-northeast of the Site
The site is listed on the PEST LIC database as a QAC, Category B meaning the license holder is permitted to apply or supervise the application of restricted and general use pesticides, substances, methods or devices to control pests in: natural or planted ornamental and turf landscaped areas and other outside areas around buildings; residential yards (including home gardens and orchards), recreation areas, schoolyards, vacant lots, storage yards, greenbelts, golf courses, cemeteries, parks, landscaped street medians, sidewalk areas and walkways, and parking lots directly related to landscaped areas; and landscaped areas in enclosed shopping malls and indoor plants. The listing identifies the license has an expiration date of December 31, 2018. Since the listing appears to be associated with a license for a business and/or person, this listing is not considered a REC or environmental concern for the Site.

Palmero Way
Proposed Kolb Elementary School
Approximate Distance from the Property: 1,746 feet northeast of the Site
The site is listed on the Envirostor database as a school investigation site. In 2007, a Phase I ESA was prepared for the property and submitted to the DTSC (ENGEO 2007). The Phase I ESA identified that the property, as well as the general vicinity, had been historically dry farmed, likely for hay and barley cultivation. The property had also reportedly been used for livestock grazing (ENGEO 2007). Following their review and a site visit, the DTSC issued a letter of approval for the Phase I agreeing with the findings that no additional investigation of the

property was necessary (DTSC 2007). Based on the DTSC's findings of no further investigation required, this site is not considered a REC or environmental concern for the Site.

4460 Tassajara Road, Suite A
Petco #5318
Approximate Distance from the Property: 1,754 feet west-southwest of the Site
The site is listed on the CERS HAZ WASTE and CERS databases as a generator of hazardous waste. No violations were reported in the listings. Based on the lack of information regarding a release to soil or groundwater, this site is not considered a REC or environmental concern for the Site.

4440 Tassajara Road
Safeway #1932
Approximate Distance from the Property: 1,781 feet west-southwest of the Site
The site is listed on the CERS HAZ WASTE and CERS databases as a generator of hazardous waste. Violations were noted for: failures in compliance associated with manifest/bill of lading retention in 2015 (returned to compliance in August 2015), failures for improper labeling and storage of hazardous waste containers (returned to compliance in August 2015), failure to implement a Hazardous Materials Business Plan in 2015 (returned to compliance in August 2015), and failure to provide annual safety and hazmat training (returned to compliance in August 2015). Based on the lack of information regarding a release to soil or groundwater, this site is not considered a REC or environmental concern for the Site.

Parcel A-Tract 6960/Antone Way
E-2 Elementary School
Approximate Distance from the Property: 2,098 feet northeast of the Site
The site is listed on the Envirostor database as a school investigation site. In 2000, a Phase I ESA was prepared for the property and submitted to DTSC (MECA 2000). The Phase I ESA identified that the historical use of the property had been vacant land used for grazing. Following DTSC review and a site visit, the DTSC issued a letter of approval for the Phase I agreeing with the findings that no additional investigation of the property was necessary (DTSC 2001b). In 2002, a Phase I ESA update was prepared for the property and submitted to the DTSC (Krazan & Associates Inc. 2002) which also concluded no further investigation of the property was necessary. Based on the DTSC's findings of no further investigation required, this site is not considered a REC or environmental concern for the Site.

Parcel O-Tract 6725/South Dublin Ranch Drive
M-1 Middle School
Approximate Distance from the Property: 2,100 feet northeast of the Site
The site is listed on the Envirostor database as a school investigation site. In 2000, a Phase I ESA was prepared for the property and submitted to DTSC (MECA 2000). The Phase I ESA identified that the historical use of the property had been vacant land used for grazing. Following DTSC review and a site visit, the DTSC issued a letter of approval for the Phase I agreeing with the

findings that no additional investigation of the property was necessary (DTSC 2001c). Based on the DTSC's findings of no further investigation required, this site is not considered a REC or environmental concern for the Site.

5020 Tassajara Road
Castle Rand Property
Approximate Distance from the Property: 2,543 feet northwest of the Site
This property is on the Spills Leaks and Investigation Cleanup (SLIC), CERS and Alameda County CS databases for a cleanup of lead and diesel contaminated soil identified during a Phase II site assessment (BGC 1997). The Site was granted closure by the Alameda County Health Care Services (ACHCS) in 1998 (EDR 2019b). Based on the case closure status, this site is not considered a REC or environmental concern for the Site.

Three "unmappable" (or "orphan") listings were identified within the database report. Unmappable sites are listings that could not be plotted with confidence but are potentially in the general area of the property based on the partial street address, city, or zip code. These sites were ALCO East County Hall of Justice, an unnamed site at 660 Donlon Way, and Santa Rita Property, which are all too distant, not related to, or do not pose a concern to the Site.

3.7.6 Vapor Encroachment Screening

ASTM Standard E2600-10 Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions (ASTM 2010) was used as guidance for conducting a VES for the Site. The purpose of the screening is to determine whether a Vapor Encroachment Condition (VEC) exists from chemicals of concern that may migrate as vapors onto a property because of contaminated soil and groundwater on or near the Site.

Soil vapor is one of the pathways of contamination to the Site, along with groundwater and soil. ASTM E1527-13 requires that vapor migration be treated no differently than contaminated groundwater. The soil-vapor contaminant pathway needs to be considered in evaluation of RECs or other environmental concerns. The estimated groundwater flow direction is to the south, southwest. The two listed sites identified on the EDR VES, Arrivare and Sorrento East Neighborhood 9 are listed for construction stormwater discharge permits and do not appear to have the potential to cause a VEC at the Site.

In accordance with ASTM E2600-10 (Tier 1; Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions), there are no potential petroleum hydrocarbon sources (active leaking underground storage tank [LUST] cases) for vapor intrusion within 1/10 mile of the Site or volatile organic compounds (VOCs) sources (active SLIC cases) within ⅓ mile. There were no properties identified with the potential to cause a VEC at the Site (Appendix L, EDR 2019c).

3.7.7 Additional Environmental Record Sources

In addition to the EDR review, Terraphase contacted additional local, county, state, and federal environmental record sources, as described in the following subsections.

Property Tax Files

3.7.7.1 The EDR Property Tax Report indicated that the Site consists of six parcels comprising 25.37 acres, identified as APN 985-78-2 through 985-78-7 (EDR 2019h, Appendix I). The City of Dublin online GIS Portal parcel viewer (https://gis.dublin.ca.gov/Html5Viewer/) provided information on each parcel, including addresses, hazards, Federal Emergency Management Agency (FEMA) flood hazard, and land use. Addresses associated with the Site in the City of Dublin online GIS Portal parcel viewer were as follows:

- Parcel 985-78-2: Proposed alignment for private street. No associated addresses.
- Parcel 985-78-3: Proposed alignment for private street. No associated addresses.
- Parcel 985-78-4: 3553 Finnian Way, 3646 Central Parkway, 3644 Central Parkway, 4449 Chancery Lane, and 4451 Chancery Lane.
- Parcel 985-78-5: 3501 Finnian Way.
- Parcel 985-78-6: 3501 Dublin Boulevard.
- Parcel 985-78-7: 3448 Finnian Way, 3460 Finnian Way, 4205 Grafton Street, 4263 Grafton Street, 4255 Grafton Street, 4267 Grafton Street, 4243 Grafton Street, 4259 Grafton Street, 4239 Grafton Street, 4247 Grafton Street, 4251 Grafton Street.

All of the parcels were identified in Flood Zone X meaning the parcels are not identified within the 1 percent or 0.2 percent chance (100 year and 500 year, respectively) floodplains. All of the parcels were identified with the zoning land use of Planned Development. Per EDR's Environmental Lien and AUL Search Report, the Site is currently owned by Grafton Station LLC (Appendix M).

The County of Alameda Assessors and Recorders Office online search provided information on the history of the parcels for the Site, and is summarized below:

- **APNs # 985-78-2, 985-78-3, 985-78-4, 985-78-5, 985-78-6, and 985-78-7**: Grantor – James and Mei F. Tong and Grantee – Grafton Station LLC recorded May 7, 2013 (Grant Deed 2013160396). Six parcels associated with the Grafton Station LLC parcel: 985-78-2 through 985-78-7, and seven parcels associated with James and Mei F. Tong: 985-78-2 through 985-78-7, and 985-9-9-2, all listed as vacant commercial land use (3000). A Memorandum of Agreement was signed on February 20, 2012, between James Tong and Mei Fong Tong (Seller) and KB HOME South Bay Inc., a California corporation (buyer) recorded on February 24, 2012 (MA 2012061653). A Quitclaim Deed was recorded on May 2, 2013, between

James Tong and Mei Fong Tong and KB HOME South Bay Inc., a California corporation (Quitclaim Deed 2013153929).

Local Regulatory Records

City of Dublin Building and Planning Departments

3.7.7.2 Terraphase contacted the City of Dublin Building and Planning Departments on March 4, 2019, to review documents or records pertaining to the Site. Several addresses were found online from the City of Dublin Parcel Report, as described above in Section 3.7.7.1, for four of the six parcels that comprise the Site.

It is believed that these addresses were created for the temporary construction and sales office trailers previously located at the Site that were associated with the surrounding housing development. The addresses associated with the Site with information obtained from the Building Department files are discussed below.

- **3644 Central Pkwy** – a temporary power pole was installed at the Site in August and October 2005 and again in August 2006; building permits for installation of eight site signs for Toll Brothers in September 2006; all for residential construction under the ownership/developer Toll Brothers, Inc.

- **4449 Chancery Lane** – installation of kiosk sign at Dublin Boulevard and Tassajara Road for Dublin Ranch Villages in February 2003; applications for the installation of land use signs for Area G Dublin Ranch Villages were submitted in March 2003; building plans were submitted in July 2007 for Sorrento, Trevi Village 2, floor truss calculations and plans (this is not related to the Promenade, rather a residential development north of the Site); all for residential construction under the ownership/developer Toll Brothers Inc.

- **3448 Finnian Way** – the Terraces west parking structure shoring permit was filed in August 2004; in July 2004, the west building temporary shoring and earth retention plan review was prepared for the Toll Brothers; the west building super pad was checked for elevation on September 2004 (grading plans by MacKay & Somps dated July 2004); the shoring for the west parking garage was inspected by Construction Testing Services in September 2004; in April 2008, BGC provided an opinion on geotechnical aspects of construction of the West Terraces at Dublin Ranch per reports from April 1999 and October 2003; and a report from PB&A Structural Engineers Inc. was prepared and titled Engineering Calculations – Temporary Soil nailed Shoring System – Terraces at Dublin Ranch Villages in June 2004; drawings for the temporary soil nail wall shoring for the Terraces at Dublin Ranch was submitted in October 2004; all for residential construction under the ownership/developer Toll Brothers Inc.

- **3501 Dublin Blvd** – The Dublin Ranch Area G corporation/sales yards (sales trailers and locations) and sales office layout drawings were submitted to the building department for approval in December 2001 under the ownership of James Tong/DR Acquisition II (corner of Grafton and Dublin Blvd) for Toll Brothers Inc.; The Dublin Ranch Area G permit for a

modular building (modular temporary sales trailer with exterior pediment) was submitted to the building department in December 2001 for the Toll Brothers residential development; in October 2004 temporary shoring and earth retention system for H-2 (as built) Terraces at Dublin Ranch Villages Area G were prepared by PB&A Inc. for Toll Brothers; all for residential construction under the ownership/developer Toll Brothers Inc.

The files for the addresses researched indicated preliminary drawings and permits for temporary trailers and equipment were filed for the Site in 2006.

County Regulatory Records

Alameda County Environmental Health Hazardous Materials/CUPA

3.7.7.3 On March 4, 2019, Terraphase submitted a request to the Alameda County Department of Environmental Health (ACDEH) Certified Unified Program Agency (CUPA) for records pertaining to related to hazardous waste generators, Hazardous Materials Business Plans, underground storage tanks (USTs), tiered permitting (including Fire Department records), and AST programs for the Site APNs and addresses. No documents were identified in the system for the Site.

Alameda County Department of Environmental Health LOP/SLIC/LUST

On March 4, 2019, Terraphase researched the online ACDEH SLIC, Local Oversight Program (LOP), and leaking UST (LUST) regulatory database (http://www.co.alameda.ca.us/aceh/lop/index.htm), to review records pertaining to petroleum product storage, usage, release, USTs, ASTs, and/or leaking underground fuel tanks for the Site APNs and addresses. No documents were identified in the system for the Site.

3.7.7.4

State Regulatory Records

Department of Toxic Substances Control

On March 4, 2019, Terraphase reviewed the DTSC's EnviroStor database (DTSC 2019a), which houses information on permits and corrective action at hazardous waste facilities, as well as site cleanup projects, for relevant records related to the Site and/or adjoining properties. The Site and immediately adjacent properties were not identified in the database search results.

State Water Resources Control Board

On March 4, 2019, Terraphase reviewed the GeoTracker database (SWRCB 2019), the SWRCB data management system for sites that impact groundwater or have the potential to impact groundwater. The Site and adjacent properties were not identified in the database search results.

Division of Oil, Gas, and Geothermal Resources Files

Oil and gas wells were not observed within the Site during our reconnaissance on March 14, 2019. A review of the California Division of Oil, Gas, and Geothermal Resources website for oil and gas fields in California and Alaska (CDCDOGGR 2019) indicated that there are no oil or gas wells located on or within 0.5 mile of the Site (Section 4, Township 3 South, and Range 1 East).

Federal Regulatory Records

National Pipeline Mapping System

3.7.7.5 Terraphase reviewed the National Pipeline Mapping System (NPMS) public viewer website[3] for gas transmission pipelines and hazardous liquid trunk lines on or close to the Site. Per the information on the NPMS, a natural gas transmission pipeline operated by Pacific Gas & Electric (PG&E) Company is located approximately 1/3 mile south of the Site. No spills or incidents were reported by NPMS for the Site (NPMS 2019).

United States Environmental Protection Agency

On March 6, 2019, a review of the United States Environmental Protection Agency (EPA) Envirofacts website[4] revealed that the Site is not listed in the searched databases. These sources of information, as well as interviews conducted, previous environmental reports, and Site observations (discussed in Sections 3.9, 3.7, and 3.8, respectively) were found to be sufficient for Terraphase to evaluate for the existence of RECs, historical RECs (HRECs), controlled RECs (CRECs), and/or de minimis conditions as part of this Phase I ESA.

3.8 Site Reconnaissance

On March 14, 2019, Ms. Laurie Israel of Terraphase conducted a reconnaissance visit of the Site to assess current land-use activities and environmental conditions. On April 15, 2019, Mr. Ryan Glenn of Terraphase conducted a follow up reconnaissance visit to the Site to verify the PG&E transformer numbers, which are shown on Figure 2. The Site reconnaissance visit was documented with notes and photographs. Observations made during the reconnaissance visits are discussed below and a photograph log is provided in Appendix N. The purpose of the reconnaissance was to identify conditions that have the potential to cause adverse environmental impacts.

As part of the reconnaissance, Terraphase searched for evidence of the presence, use, or storage of hazardous substances, including but not limited to the following:

- areas of disturbed or discolored soil;
- suspect equipment and/or building materials which may contain hazardous substances;
- areas of distressed vegetation;
- wastewater discharge areas;
- evidence of storage tanks/septic systems;
- waste management/disposal areas;
- lagoons, pits, or sumps;
- surface water management areas; and
- stained surfaces, etc.

[3] https://www.npms.phmsa.dot.gov/PublicViewer/
[4] http://www.epa.gov/envirofw/

3.8.1 Site Reconnaissance Observations

Current Use of the Property and General Observations

3.8.1.1 The Site is currently vacant land with utility improvements. The entrance to the Site is located at Grafton Street and Dublin Boulevard, and has barricades before the cyclone fence (Photographs 1 and 2). Views of the southwestern portion (Photo 3), western central portion (Photo 4), the northwestern portion (Photo 5), central northern portion (Photo 6), northeast portion (Photo 7), the central portion (Photo 8), and southeastern portion (Photo 9) show it to be predominantly vacant grassy land. Standing rainwater was observed along the southeastern boundary of the Site (Photo 10). A former electrical equipment concrete pad with polyvinyl chloride (PVC) caps and a wooden post was observed at the southwestern corner of the Site (Photo 11). Storm drain covers are present on the Site, one is in alignment with Grafton Street (Photo 12). Broken well boxes in concrete, utility vaults, and fenced areas were observed in the eastern portion of the Site (Photos 13 and 14). Concrete caps and recycled water vaults were observed in the western portion of the Site (Photos 15 and 16). A large concrete ring was observed near Devany Park in the western portion of the Site (Photo 17).

Two transformers (owned by PG&E), a gear box, and other electrical equipment were observed on or near the perimeter of the Site, as shown on Figure 2. The Site is bound to the east, north, and west with multi-family residential adjoining properties, and to the south by a commercial shopping center and undeveloped lot. The perimeter of the Site contains cyclone fencing, with additional fencing between the northern and southern extents of the Site.

The Site is located within the service areas of the following utility service and materials management providers:

Utility Service	**Service Provider**
Electricity	PG&E
Natural gas	PG&E
Sanitary wastewater disposal	Dublin San Ramon Services District (DSRSD)
Drinking water supply	DSRSD

3.8.1.2

Additional details regarding Terraphase's observations are provided below.

Site Interior and Exterior Observations

No buildings exist at the Site. Only exterior observations were made.

Element	Observation
Current or former USTs	None observed.
Current or former ASTs and silos	None observed.
PCB-containing equipment	None observed.
Hazardous materials and/or petroleum product use/storage	None observed.
Hazardous waste	None observed.
Drums or other containers	None observed.
Non-hazardous solid waste	Some trash and debris were observed, including a fire extinguisher, bicycle frame, and concrete rings.
Wastewater	None observed.
Floor drains, sumps, and drywells	None observed.
Odors	None observed.
Stains, pitting, or corrosion (interior areas)	None observed.
Stained or corroded exterior surfaces	None observed.
Pools of liquid	Pools of rainwater were observed along the south eastern boundary.
Pits, ponds, or lagoons	None observed.
Stressed vegetation	None observed.
Storm water	None observed. Storm water drains were observed on the Site.
Onsite water wells	None observed.
Septic systems	None observed.
Other petroleum product transmission/storage	None observed.

3.8.2 Adjoining Property Observations

During the reconnaissance, Terraphase observed the adjoining properties from public roadways and the Site. The purpose of these observations was to identify obvious uses or conditions at the adjoining properties likely indicative of a REC at the Site.

The Site is in a densely populated residential area, and is surrounded to the north, west, and east by multi-family houses (apartments and/or condominiums). The Site is bound to the west by Devany Square park, to the south-southwest by Dublin Boulevard and a commercial shopping center, Grafton Station, and to the southeast by an undeveloped lot and a newly constructed hotel (Aloft Hotel).

3.9 Interviews

3.9.1 Interview with Current Owner Representative

On March 14, 2019, an interview with the current owner's representative, Mr. James Tong with Grafton Street LLC. was conducted. Mr. Tong said that he owned the property for 17 years. Historically, the property has been used for agricultural purposes, including hay production and grazing. Mr. Tong noted that no corrals, barns, or other structures related to agriculture were located on the property during his ownership. Mr. Tong reported that from 2005 to 2009, Toll Brothers set up a temporary sales office and construction trailers in the southern and northwestern portion of the Site for onsite and adjacent residential construction projects. However, no fueling or maintenance activities were conducted on the Site. Clearance soil sampling was conducted by Toll Brothers after the office trailers were removed from the property. Mr. Tong also identified the existence of the Berlogar Stevens & Associates (Berlogar Stevens) Phase I ESA dated December 21, 2016 (See Section 3.2). No RECS or environmental concerns were identified. Mr. Tong indicated that he has no knowledge of the following:

- any environmental records or specialized knowledge associated with the Site
- environmental liens or AULs associated with the Site
- chemical uses or releases associated with the Site
- contamination and/or environmental cleanups associated with the Site.

A questionnaire completed by Mr. Tong on March 7, 2019 is provided in Appendix B. The questionnaire noted that Mr. Tong has been associated with the Site since 1995 and the current operations are as vacant land holding for future development.

3.9.2 Interview with Former Owner Representative

Interviews with the Site owners prior to Mr. Tong were not conducted.

3.9.3 Interviews with Regulatory Representatives

Terraphase contacted local, county, and state agencies via telephone, electronic mail, letter, or in person to inquire as to whether they possessed relevant records regarding the Site, as discussed in Section 3.9.

4.0 APPARENT PROBLEM

Based on the review of historical information, the following potential environmental concerns and COPCs were identified:

- OCPs and arsenic in shallow soil from historical agricultural use of the Site. Agricultural properties are lands where pesticides were uniformly applied for agricultural purposes consistent with normal application practices. Each field of the same crop is assumed to have been watered, fertilized, treated with agricultural chemicals, and tilled to the same degree across the field. Because of this homogeneous application and the stable nature of OCPs in soil, contaminant levels are expected to be similar across the field and limited to the shallow depth of tilling.

- Fill material has reportedly been imported and placed at the Site as part of past development plans for the Site. As reported in the Phase I ESA (Terraphase 2019), it appears the soil may have been imported from the surrounding area as part of development activities in the area that occurred prior to 2005. However, because the source of the fill material was not confirmed, the following COPCs are identified for the fill material at the Site: OCPs, CAM 17 metals, TPH, SVOCs, PCBs, and asbestos. VOCs were not detected above laboratory reporting limits in soil samples previously collected from the fill material by BGC.

In May 2018, Terraphase conducted a Phase II investigation to address the RECs identified in the Phase I ESA[5]. Based on the findings of the Phase I ESA, Terraphase performed additional investigation of the Site as follows:

- Per DTSC Interim Guidance for Sampling Agricultural Properties, Third Revision (DTSC 2008), for sites that were dryland farmed, one soil sample should be collected from each quadrant of the Site within the native soil. The samples should be analyzed for OCPs and arsenic. Sampling of the native soil for lead was also recommended.

- Soil samples of the import fill should be further assessed for total petroleum hydrocarbons (TPH), metals, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and asbestos.

To meet the above objectives and address the RECs identified in the Phase I, Terraphase performed one phase of soil sampling work and two phases of sample analysis. The following section describes the investigation activities completed at the Site by Terraphase as part of the Phase II investigation conducted in May 2018.

As discussed further in Sections 5.0 and 7.0 and identified on Figure 3, the primary exposure pathways to the identified COPCs are dermal contact with Site soil and inhalation of airborne dust. The receptor population for the future use of the Site would include school children, staff,

[5] Terraphase conducted the initial Phase I ESA in March 2017, prior to conducting the Phase II investigation in May 2018, but did not submit the final Phase I ESA report until April 29, 2019.

and visitors but for the purposes of risk screening was assumed to be a hypothetical residential exposure.

5.0 ENVIRONMENTAL SETTING

5.1 Conceptual Site Model

A CSM depicting the potential sources of contamination, transport mechanisms, exposure routes, and receptors is depicted on Figure 3. The current CSM identifies the potential sources of contamination discussed in Section 3.0. Potential exposure routes to the identified receptors include ingestion, inhalation, and/or direct contact with affected soil.

5.2 Factors Related to Soil Pathways

The Site is relatively flat with a slight downward slope to the southwest. The elevation of the Site is approximately 356 feet above mean sea level.

As detailed in Section 2.2, the Site is located in the Coast Ranges Geomorphic Province of California, an area characterized by a series of northwestern trending ridges and valleys dominated by the San Andreas Fault System. The soil type identified in the EDR report is Clear Lake clay, which has very slow infiltration rates.

During Terraphase's Phase II investigation at the Site, fill material generally consisting of gravelly sand with debris was encountered from the ground surface to depths ranging between approximately 0.5 and 3.5 feet bgs. Shallow native soils consisting of brown to black clayey sand and clays with organic material were encountered below the fill materials at depths of up to 9.5 feet bgs. The soil type identified was Clear Lake clay, with very slow infiltration rates. The alluvium underlying the surficial soils at the Site consists of unconsolidated, permeable sand and silt generally extending 20 to 30 feet deep deposited over older, weakly-consolidated irregularly interbedded clay, silt, sand, and gravel.

The Site is currently fenced and vacant. The nearest current sensitive receptors to the Site are the local residences surrounding the Site. The possible routes of exposure for the surface soil pathway would be dermal contact and incidental soil ingestion.

5.3 Factors Related to Water Pathways

Currently, residual concentrations of COPCs are likely to be limited to shallow soil. Because the COPCs identified at the Site are related to surface soil releases, the potential for COPCs to impact groundwater at the Site is considered to be minimal. In addition, groundwater is not used as a drinking water source at the Site and no surface water features were identified at the Site. Therefore, no exposure pathways related to water were currently identified at the Site.

5.4 Factors Related to Air Pathways

Historical data regarding wind speed and direction for the Dublin area is available from Weather Spark (https://weatherspark.com/y/1074/Average-Weather-in-Dublin-California-United-States-Year-Round). The average wind direction varies seasonally, but is generally from the west from February to November and to the north from November to February; receptors to the west and

north of the Site are potentially downwind and could be exposed to dust containing COCs from the Site. As discussed in Section 3.5, the surrounding uses of the Site are primarily residential and the closest residential receptors are located immediately adjacent to the western boundary of the Site and eastern boundaries of the Site.

According to the U.S. Climate Data website (nearest reporting station in Livermore, California; https://www.usclimatedata.com/climate/livermore/california/united-states/usca0618), the mean annual precipitation is 15.23 inches, with most of the precipitation occurring during the months of November through March. The mean high temperature is listed at 73°F and the mean low temperature is listed at 48°F.

The COPCs identified at the Site are not likely to volatilize and become airborne. Inhalation of chemically impacted dust that is not covered by pavement or landscaping is a potential exposure pathway.

6.0 SAMPLING ACTIVITIES AND RESULTS

The following subsections describe the activities completed at the Site by Terraphase as part of the Phase II Investigation conducted in May 2018. The sampling locations are shown on Figures 4, 5, and 6. Soil samples collected as part of the Phase II investigation were submitted for laboratory analysis to Enthalpy Analytical (Enthalpy) in Berkeley, California, with the exception of soil samples analyzed for asbestos which were submitted to Forensic Analytical Laboratories (Forensic) located in Hayward, California.

6.1 Sampling Activities

A total of sixteen soil borings (SB-1 through SB-16) were advanced by Gregg Drilling, Inc., a California-licensed (C-57) driller under the supervision of Terraphase field personnel, for the collection of both imported fill samples and native soil samples. Borings SB-1 through SB-11 were advanced to a total depth of 5 feet bgs using a hand auger. SB-12 through SB-16 were advanced to 5 feet bgs using a hand auger and to total depths ranging from 6.5 feet bgs to 12 feet bgs using a direct-push rig equipped with a dual-tube sampling system.

Samples were collected from the 16 borings for both imported fill and native soil using a hand auger or dual-tube sampler. In addition to retaining discrete samples, the following discrete import fill and discrete native soil samples were composited for laboratory analysis (Figure 4):

<u>Import Fill Samples</u>

- Samples SB-2-0.5-F, SB-3-0.5-F and SB-4-1.5-F were composited as COMP-2-4-F;
- Samples SB-5-0.5-F, SB-6-1.5-F, SB-7-1.5-F and SB-8-1.5-F were composited as COMP-5-8-F;
- Samples SB-9-1.5-F, SB-10-1.5-F, SB-11-1.5-F and SB-12-1.5-F were composited as COMP-9-12-F; and
- Samples SB-13-1.5-F, SB-14-1.5-F, SB-15-1.5-F and SB-16-1.5-F were composited as COMP-13-16-F.

<u>Native Soil Samples</u>

- Samples SB-1-1.5-N, SB-2-1.5-N, SB-3-1.5-N and SB-4-5-N were composited as COMP-1-4-N;
- Samples SB-5-1.5-N, SB-6-5-N, SB-7-5-N and SB-8-5-N were composited as COMP-5-8-N;
- Samples SB-9-5-N, SB-10-5-N, SB-11-5-N and SB-12-5-N were composited as COMP-9-12-N; and
- Samples SB-13-5-N, SB-14-5-N, SB-15-5-N and SB-16-5-N were composited as COMP-13-16-N.

At each boring location, soils were described by a Terraphase field geologist under the supervision of a Terraphase California-licensed Professional Geologist, in general accordance

with the visual-manual procedures of the ASTM International Standard D2488 for guidance (ASTM International 2009) which is based on the Unified Soil Classification System (USCS). Borings logs are included in Appendix O. The soil samples were placed in laboratory-supplied glass jars.

6.1.1 Imported Fill Material Sampling

During the Phase II Investigation, the samples collected from the imported fill, from depths of approximately 0.5 to 1.5 feet bgs, were analyzed for the following:

- 4 four-point composite samples for analysis of OCPs by U.S. EPA Method 8081A; and
- 4 four-point composite samples and 15 discrete samples for analysis of metals by U.S. EPA Method 6010, PCBs by U.S. EPA Method 8082, TPH-d and TPH-mo by U.S. EPA Method 8015, SVOCs by U.S. EPA Method 8270, PAHs by U.S. EPA Method 8270C, and asbestos using the California Air Resources Board 435 polarized light microscopy 400 point count Method.

6.1.2 Native Soil Sampling

During the Phase II Investigation, the samples collected from the native soil, from depths of approximately 1.5 to 5 feet bgs, were analyzed for the following:

- 4 four-point composite soil samples for analysis of OCPs by U.S. EPA Method 8081A and metals by U.S. EPA Method 6010;
- 16 discrete samples for analysis of OCPs by U.S. EPA Method 8081A, lead and arsenic by U.S. EPA Method 6010; and
- 1 discrete sample for analysis of metals by U.S. EPA Method 6010, PCBs by U.S. EPA Method 8082, TPH-d and TPH-mo by U.S. EPA Method 8015, SVOCs by U.S. EPA Method 8270, PAHs by U.S. EPA Method 8270C, and asbestos using the California Air Resources Board 435 polarized light microscopy 400 point count Method.

6.1.3 Surveying

Terraphase located each sampling location using a Trimble GeoX handheld global positioning system unit which has an approximate horizontal accuracy of +/- 30 centimeters during the field activities. Sampling locations are shown in Figures 5 and 6.

6.1.4 Decontamination Procedures

Equipment that came in contact with potentially contaminated soil was decontaminated and rinsed with distilled water before and between use at each sampling location. Disposable equipment intended for one-time use was packaged for appropriate disposal and was not decontaminated or reused. Non-disposable sampling devices used were decontaminated using the following procedures:

- Laboratory-grade detergent and tap water wash, in a 5-gallon plastic bucket, using a brush;
- Initial tap water rinse, in a 5-gallon plastic bucket; and
- Final deionized water rinse, in a 5-gallon plastic bucket.

At the completion of sampling activities, the rinse water was containerized in a Department of Transportation-approved 55-gallon steel drum with the drilling cuttings. The rinse water consisted of water, non-phosphate detergent, and a small amount of surface soil.

6.1.5 Screening Levels

The applicable screening levels used to evaluate the Terraphase Phase II data include DTSC-SLs provided in DTSC's HERO Note 3 for residential soil (DTSC 2019b) or the EPA's RSLs for residential soil developed by the EPA for analytes that do not have a DTSC-SL developed (EPA 2019). Consistent with the PEA Guidance Manual, the SFRWQCB ESLs for residential soil were used as screening levels for TPH-d and TPH-mo (SFRWQCB 2019).

The residential DTSC-SL of 0.11 milligrams per kilogram (mg/kg) for arsenic is below generally accepted background concentrations of arsenic naturally occurring in soil in northern California. Metals are naturally occurring and ubiquitous in soils and other geological materials of the San Francisco Bay Area. Multiple studies have been conducted to document background concentrations of arsenic in Bay Area soils.

The background concentration for Bay Area soils has been established as 11 mg/kg, which is the proposed upper estimate for background arsenic (99th percentile) within undifferentiated flatland soils of the Bay Area, in accordance with the 2011 *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region* (Duverge 2011). The Terraphase Phase II soil data were evaluated using this accepted value for arsenic.

6.2 Discussion of Soil Sampling Results

The following sections describe the results of both the historical investigations conducted at the Site and the Phase II investigation activities performed by Terraphase in May 2018. Certified analytical laboratory reports and COC documentation for the May 2018 Phase II are provided in Appendix P. Analytical data for samples collected by BGC are presented in Appendix D, and data for samples collected by Terraphase are provided in Tables 1 through 16. Screening levels used in the discussion below of BGC and Terraphase data were previously presented in Sections 3.2 and 6.1.5, respectively.

6.2.1 Imported Fill Material Sampling Results

The analytical results for the imported fill material soil samples are summarized below and compared to their respective screening levels. The screening levels are presented in detail in the corresponding tables.

OCPs

Four 4-point composite samples from imported fill were analyzed for OCPs (Table 8). No OCPs were detected above their respective reporting limits. The reporting limits were at/or below the screening levels discussed in Section 6.1.5.

6.2.1.1 ### *Metals*

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for metals (Tables 2 and 9). Antimony, barium, beryllium, cadmium, cobalt, copper,
6.2.1.2 lead, mercury, molybdenum, nickel, selenium, vanadium, and/or zinc were detected above laboratory reporting limits at concentrations below the applicable screening levels. Although total chromium concentrations were detected above the screening level of 0.3 mg/kg for hexavalent chromium, hexavalent chromium is not a COPC, as wood treatment has never been conducted at the Site.

Arsenic

6.2.1.3 Each of the 15 discrete samples and 4 composite samples analyzed for arsenic had concentrations above the reporting limit, ranging from 4.7 mg/kg to 6.5 mg/kg (Tables 2 and 9). However, all concentrations of arsenic in the discrete and composite fill samples were less than the established background concentration in Bay Area soils of 11 mg/kg (Duverge 2011).

6.2.1.4 ### *PCBs*

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for PCBs (Tables 3 and 10). Aroclor 1260 was detected in three of the discrete samples at concentrations ranging from 0.00078 mg/kg to 0.0012 mg/kg (Table 3), which are below the applicable screening level. No other PCBs were detected in the discrete or composite soil
6.2.1.5 samples collected.

TPH

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for TPH-d and TPH-mo (Tables 4 and 11). Although concentrations of TPH-d (ranging
6.2.1.6 from 3.3 mg/kg to 17 mg/kg) and TPH-mo (ranging from 22 mg/kg to 210 mg/kg) were detected in all soil samples, no concentrations detected were above the applicable ESLs of 260 mg/kg and 12,000 mg/kg, respectively.

PAHs

Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for PAHs (Tables 6 and 13). No concentrations of PAHs were detected above laboratory reporting limits in any of the samples analyzed. However, the reporting limits for the following PAHs were higher than their respective screening levels, as shown on Tables 6 and 13.

- Benz(a)anthracene;
- Benzo(a)pyrene;
- Benzo(b)fluoranthene;
- Dibenz(a,h)anthracene; and
- Indeno(1,2,3-c,d)pyrene.

SVOCs

6.2.1.7 Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for SVOCs (Tables 5 and 12). Bis(2-ethylhexyl)phthalate and 4-methylphenol were each detected in one discrete sample at concentrations of 0.015 mg/kg and 0.02 mg/kg, respectively, which are below the applicable screening criteria. No other SVOCs were detected at or above their respective reporting limits. However, the reporting limits for the following SVOCs were higher than their respective screening levels, as shown on Tables 5 and 12.

- 2,4-Dinitrotoluene;
- 2,6-Dinitrotoluene;
- 3,3-Dichlorobenzidine;
- 4,6-Dinitro-2-methylphenol;
- 4-Chloroaniline
- Bis(2-chloroethyl)ether;
- Hexachlorobenzene;
- Hexachlorocyclopentadiene;
- Hexachloroethane
- Nitrobenzene
- N-Nitrosodimethylamine;
- N-Nitrosodi-n-propylamine; and

6.2.1.8
- Pentachlorophenol.

Asbestos

6.2.1.9 Discrete samples from 15 locations, and four 4-point composite samples of imported fill were analyzed for asbestos. As shown on Tables 7 and 14 asbestos was not detected at or above the reporting limit of 0.25% in the fill samples.

Historic Imported Fill Sampling Results Summary

Based on review of the analytical data, the imported fill material at the Site contains low concentrations of TPH-d, TPH-mo, metals, PCBs, and SVOCs. However, the detected COPC concentrations are below applicable screening levels, indicating that previous uses of the Site and/or the fill material have not resulted in impacts that adversely affect current site conditions.

6.2.2 Native Soil Sampling Results

The analytical results for the native soil samples are summarized below and compared to their respective screening levels. The screening levels are presented in detail in the corresponding tables.

OCPs

6.2.2.1 Discrete samples of native soil from 16 locations and four 4-point composite samples of native soil were analyzed for OCPs (Tables 1 and 8). Of the 16 discrete samples, there was one detection of chlordane (trans) (gamma) at a concentration of 0.00014 mg/kg, and six detections of endrin aldehyde at concentrations ranging from 0.00042 to 0.0012 mg/kg, all of which are below their respective screening levels. No other OCPs were detected at or above their respective reporting limits or screening levels in the discrete or composite samples.

Metals

6.2.2.2 Discrete samples of native soil from 16 locations were analyzed for lead, as well as four 4-point composite samples (Tables 2 and 9). Additionally, one discrete sample and four 4-point composite samples were analyzed for metals. Each of the 16 discrete samples and 4 composite samples analyzed for lead had concentrations above the reporting limit, ranging from 7.5 mg/kg to 11 mg/kg. However, all concentrations of lead in the discrete native soil samples were less than the screening level of 80 mg/kg.

6.2.2.3 In the one discrete native soil sample and four composite samples analyzed for additional metals, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, mercury, molybdenum, nickel, vanadium, and/or zinc were detected above laboratory reporting limits. However, no metal concentrations were above the applicable screening levels, with the exception of total chromium (Tables 2 and 9). Although total chromium concentrations were detected above the screening level of 0.3 mg/kg for hexavalent chromium, hexavalent chromium is not a COPC, as wood treatment has never been conducted at the Site.

Arsenic

6.2.2.4 Each of the 16 discrete samples and 4 composite samples analyzed for arsenic had concentrations above the reporting limit, ranging from 2.3 mg/kg to 7.1 mg/kg. However, all concentrations of arsenic in the discrete native soil samples were less than the established background concentration for Bay Area soils of 11 mg/kg (Duverge 2011; Table 2).

PCBs

One discrete native soil sample was analyzed for PCBs. No concentrations of PCBs were detected above laboratory reporting limits in the sample (Table 3).

TPH

One discrete native soil sample was analyzed for TPH-d and TPH-mo (Table 4). TPH-d and TPH-mo were detected above the laboratory reporting limits at concentrations of 1.6 mg/kg and 12 mg/kg, respectively. Both concentrations are below SFRWQCB ESLs for TPH-d and TPH-mo of

6.2.2.5 260 mg/kg and 12,000 mg/kg, respectively.

PAHs

One discrete native soil sample was analyzed for PAHs. No concentrations of PAHs were detected above laboratory reporting limits in the sample (Table 6). However, the reporting limit

6.2.2.6 for dibenz(a,h)-anthracene was higher than the respective screening level, as shown on Table 6.

SVOCs

6.2.2.7 One discrete native soil sample was analyzed for SVOCs. No concentrations of SVOCs were detected above laboratory reporting limits in the sample (Table 5). However, the reporting limits for the following SVOCs were higher than their respective screening levels, as shown on Table 5.

- 3,3-Dichlorobenzidine;
- Bis(2-chloroethyl)ether;
- Hexachlorobenzene;
- N-nitrosodi-n-propylamine; and
- N-nitrosodimethylamine.

6.2.2.8

Asbestos

One discrete native soil sample was analyzed for asbestos. As shown on Table 7 asbestos was

6.2.2.9 not detected at or above the reporting limit of 0.25% in the native soil samples.

Native Soil Sampling Results Summary

Based on a review of the data collected, the native soil at the Site does not contain COPCs at concentrations exceeding risk-based screening criteria. OCPs were not detected above screening criteria, and arsenic concentrations were consistent with background concentrations for Bay Area soils, suggesting that previous agricultural activities at the Site did not significantly impact the Site soils.

6.3 Investigation Derived Waste

The investigation-derived waste was transported by American Integrated Services Inc. to the Potrero Hills Landfill located in Suisun, California, and disposed of as non-hazardous waste.

6.4 Quality Assurance/Quality Control

A QA/QC Program was implemented as part of the PEA process. The primary QC feature of the program included the validation of analytical data. Enthalpy provided the required chemical analyses for soil samples collected at the Site. Enthalpy is certified (No. 2896) by the State of

California Environmental Laboratory Accreditation Program Branch to provide the required chemical analyses.

6.4.1 Sample Handling

Following sample collection, sample labels with unique identifiers were affixed to each sample container. Each sample was placed in a resealable plastic bag to keep the sample container and the label dry. All glass sample containers were protected with foam cushioning material and bubble wrap to prevent breakage.

Samples were packed securely in a cooler with a laboratory-supplied temperature blank. Wet ice (double-bagged in resealable bags) was added to the cooler in sufficient quantity to keep the samples cooled to at least 4 degrees Celsius, for the duration of the shipment to the laboratory.

A chain-of-custody (COC) record accompanied the sample shipment for laboratory analysis. The COCs recorded the contents of each shipment and maintained the custodial integrity of the samples. Information contained on the COC record included the sampler's name; date and project number of the sampling event; sample number; date and time of sample collection; sample type; number of containers associated with each sample; analyses requested; and the names, dates, and times of custody.

Completed COCs were provided with the samples and copies were included in the final analytical reports (Appendix P). No discrepancies were noted by the analytical laboratory.

Samples were received within the acceptable temperature range upon arrival at the laboratory. Samples were received in good condition and were analyzed within the proper holding times for the analyses requested.

6.4.2 Reporting Limits

Method detection limits were generally met by the analytical laboratory. However, the reporting limits for the following PAHs and SVOCs were higher than their respective screening levels, as shown on Tables 5, 6, 12, and 13:

<u>PAHs</u>

- Benz(a)anthracene;
- Benzo(a)pyrene;
- Benzo(b)fluoranthene;
- Dibenz(a,h)anthracene; and
- Indeno(1,2,3-c,d)pyrene.

SVOCs

- 2,4-Dinitrotoluene;
- 2,6-Dinitrotoluene;
- 3,3-Dichlorobenzidine;
- 4,6-Dinitro-2-methylphenol;
- 4-Chloroaniline
- Bis(2-chloroethyl)ether;
- Hexachlorobenzene;
- Hexachlorocyclopentadiene;
- Hexachloroethane
- Nitrobenzene
- N-Nitrosodimethylamine;
- N-Nitrosodi-n-propylamine; and
- Pentachlorophenol.

6.4.3 Data Qualifiers

Approximately 3% of the data were qualified by the laboratory as “estimated” and flagged as estimated concentrations (”J-flag”). Results with J-flags are indicated on the data tables (Tables 1 through 14). Data qualified as detected and estimated in the chemical dataset are useable at their reported estimated values for the risk screening.

6.4.4 Precision

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the sample process under similar conditions.

Analytical precision is a measurement of the variability associated with duplicate or replicate analyses of the same sample in the laboratory and is determined by analysis of laboratory quality control samples such as duplicate control samples, matrix spike duplicates (MSDs), or sample duplicates. If the recoveries of analytes in the specified control samples are comparable within established control limits, then precision is within limits.

Total precision is a measurement of the variability associated with the entire sampling and analytical process. It is determined by analysis of duplicate or replicate field samples, and measures variability introduced by other than laboratory and field operations. Field duplicate samples are analyzed to assess field and analytical precision.

Duplicate results are assessed using the relative percent difference (RPD) between duplicate measurements. RPDs were calculated for duplicate sample pairs using the following formula:

$$\text{RPD } = 100\% \times \frac{|\text{X2} - \text{X1}|}{(\text{X2} + \text{X1})/2}$$

Where X2 is the duplicate sample result, and X1 is the primary sample result.

Laboratory analytical precision is evaluated by laboratory QC sample RPD calculations using the matrix spike/matrix spike duplicate (MS/MSD), blank spike/blank spike duplicate (BS/BSD), or laboratory duplicate sample results. The results of RPD calculations for MS/MSD, BS/BSD, and laboratory duplicate sample pairs were within the laboratory's acceptable range.

6.4.5 Accuracy

For SVOCs and pesticides, the surrogates were diluted out of many samples and percent recovery could not be calculated for the following samples:

- SB-8-1.5-F; SVOCs
- SB-11-1.5-F; SVOCs
- SB-13-1.5-F; SVOCs
- SB-14-1.5-F; SVOCs
- SB-15-1.5-F; SVOCs
- COMP-13-16-F; SVOCs
- COMP-9-12-F; SVOCs
- COMP-13-16-F; Pesticides

High surrogate recovery was observed for phenol-d5 in samples SB-5-0.5-F and COMP-2-4-F; terphenyl-d14 in samples SB-3-0.5-F and SB-5-0.5-F; and 2-fluorophenol in sample COMP-2-4-F, but target analytes were not detected in the samples. All other percent recovery values for surrogate compounds were within acceptable ranges.

The recoveries for BS/BSD and MS/MSD samples were within acceptable ranges except for the following:

- High recovery for 4-chloro-3-methylphenol observed in the MSD of for laboratory batch 260145, however the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the reporting limit in the associated sample.

- High recoveries were observed for 1,1-dichloroethene in the MS/MSD for laboratory batch 260115, however the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the reporting limit in the associated sample.

It should be noted that matrix spikes were not reported for some sample batches for SVOCs (QC935647 and QC935648 in laboratory batch 260436), PCBs (QC935535 and QC935536 in laboratory batch 260410), and pesticides (QC935601, QC935602 [in laboratory batch 260424], QC934355, and QC934356 [in laboratory batch 260118]) because the parent sample required a

dilution that could have diluted out the spikes. All other RPDs were within acceptable range limits, and this does not impact the usability of the analytical results.

6.4.6 Representativeness

Representativeness is the degree to which data accurately and precisely represent selected characteristics of the media sampled. Representativeness of data collection is addressed by the preparation of sampling and analyses programs. The Phase II investigation had a sufficient number of sample locations, incorporated the proper sampling methodologies, utilized the proper sample collection techniques and decontamination procedures, utilized the proper laboratory methods to prepare and analyze soil and water samples, and performed proper field and laboratory QA/QC protocols.

6.4.7 Completeness

Completeness is the amount of valid data obtained compared to the amount that was expected under ideal conditions. The number of valid results divided by the number of possible results, expressed as a percentage, determines the completeness of the data set. The objective for completeness is to recover at least 90 percent of the planned data to support field efforts. No data were rejected as a result of the data validation conducted; therefore, the analytical data for the samples is 100% complete.

6.4.8 Comparability

Comparability is an expression of confidence with which one data set can be compared to another data set. The objective of comparability is to ensure that data developed during the Phase II investigation are comparable to site knowledge and adequately address applicable criteria or standards established by DTSC or the EPA. The laboratory methods that were utilized during this Phase II investigation are consistent with the current standards of practice as approved by the DTSC and the EPA.

7.0 HUMAN HEALTH SCREENING EVALUATION

Terraphase completed a human health risk screening evaluation for the COPCs detected in soil at the Site. The methods used in the evaluation are in accordance with the PEA Guidance Manual (DTSC 2015) and current guidance issued by the DTSC HERO (DTSC 2019c). The purpose of the risk screening evaluation was to determine whether present site conditions pose a potential health risk to future site users. The following subsections discuss the four components of the human health screening evaluation described in the PEA Guidance Manual: the exposure pathways identified for the Site and on Figure 3; exposure concentrations of COPCs which conservatively included any chemical detected in at least one soil sample collected from the Site during previous investigations and/or this Phase II Investigation, with the exception of arsenic; a discussion of toxicity values (the screening levels described in Section 6.1.5 were utilized to perform the human health screening evaluation and risk/hazard characterization for COPCs; therefore, the selection and compilation of specific toxicity values was not necessary); and the risk/hazard characterization. The screening values and the cumulative risk screening summary, as well as the uncertainty in the risk screening, are also presented.

7.1 Soil Exposure Pathways

As discussed in the preceding sections, the Site is proposed for development of a school. The receptor population for this future use would include school children, staff, and visitors. However, potential future land use of the Site was assumed to be residential which, given the exposure time frame assumption (24 hours per day; 350 days per year; for 26 years) is a significantly more conservative assumption than 4-year occupancy during high school years use. It should be noted that the Site is not currently used for residential purposes, and the District does not intend at any time for the property to be used for residential purposes.

COPCs detected in soil at the Site during previous investigations and/or the Phase II conducted in 2018 include metals, OCPs, PCBs, TPH, VOCs, and SVOCs. Under the hypothetical future unrestricted use scenario, the potential exposure scenarios for these chemicals in soil are through direct contact (i.e., incidental ingestion of and dermal contact with surface soil) and inhalation of soil-derived windborne particulates.

7.2 Exposure Concentrations and Chemicals in Soil

The COPCs in soil considered for the human health screening evaluation and risk/hazard characterization conservatively included any chemical detected in at least one soil sample collected from the Site during previous investigations and/or this Phase II Investigation, with the exception of arsenic. Although arsenic was detected above screening levels, the detected concentration was within a range of background concentrations typically detected in Bay Area soil (Duverge 2011). Results from previous investigations are included in Appendix D.

Table 15 presents the list of chemicals detected in onsite fill and/or native soil and identifies which of those chemicals were included as COPCs for the human health screening evaluation and risk/hazard characterization. As indicated in the table, the risk screening was completed

using the discrete sampling results, not the composite sample results. The maximum detected concentration of each COPC was conservatively used as the exposure point concentration (EPC).

7.3 Screening Levels

As discussed in Section 6.1.5, the screening levels in soil were generally identified as the DTSC-SLs provided in DTSC's HERO Note 3 for residential soil (DTSC 2019b) or the EPA's RSLs for residential soil developed by the EPA for COPCs that do not have a DTSC-SL developed (EPA 2019). The SFRWQCB ESLs for residential soil were used as screening levels for TPH-d, and TPH-mo (SFRWQCB 2019). Human health risks from lead in soil at the Site were evaluated using default residential soil screening level of 80 mg/kg derived by DTSC using DTSC's Lead Risk Assessment Spreadsheet.

7.4 Toxicity Values

The screening levels described in Section 6.1.5 were utilized to perform the human health screening evaluation and risk/hazard characterization for COPCs; therefore, the selection and compilation of specific toxicity values was not necessary.

7.5 Soil Risk/Hazard Characterization

A risk/hazard screening evaluation was performed for the Site. In doing so, estimated cumulative cancer risks associated with potential human exposure to COPCs in soil at the Site were compared to the cumulative risk management goal of 1 in 1 million (i.e., 1 x 10-6) for supporting decisions regarding the Site. Similarly, the estimated noncancer hazard index (HI) associated with potential human exposure to COPCs in soil at the Site was compared to the noncancer HI risk management goal of 1.0. In order to evaluate potential human exposures to lead in soil, concentrations detected were compared to DTSC's generic residential screening level of 80 mg/kg.

Overall, the risks from COPCs were evaluated and then combined to obtain an upper-bound estimate of cumulative cancer risk and noncancer HI for the Site. To streamline the risk calculations, single-chemical cancer risks and noncancer hazard quotients (HQs) were calculated by comparing the EPC to the carcinogenic and non-carcinogenic-based screening levels for each COPC as follows:

For a carcinogenic chemical:

$$\frac{EPC}{Screening\ Level\ Cancer\ Endpoint} x\ 10^{-6} = Chemical\ Cancer\ Risk$$

For a non-carcinogenic chemical:

$$\frac{EPC}{Screening\ Level\ NonCancer\ Endpoint} = Hazard\ Quotient$$

The single-chemical cancer risks and noncancer HQs were then summed to obtain cumulative cancer risks and noncancer HIs, respectively.

Lead in soil was evaluated separately by comparing to DTSC's generic default screening level as discussed below.

7.6 Cumulative Risk Screening Summary

As shown on Table 16, the estimated upper-bound cumulative cancer risk for exposure to COPCs in soil at the Site is 7.5×10^{-7}, which is below the cumulative cancer risk management goal of 1.0×10^{-6}. The estimated upper-bound noncancer HI for exposure to COPCs in soil is 1 which is equal to the noncancer HI risk management goal of 1.

7.6.1 Lead in Soil Risk Screening Summary

The EPC for lead was conservatively defined as the maximum detected concentrations in the Phase II soil samples, or 11 mg/kg. This EPC is below the screening level of 80 mg/kg.

7.7 Uncertainty Analysis

Potential future land use of the Site was assumed to be residential regardless of the actual proposed use. Because the planned future use of the Site as a school, the assumption of an unrestricted land use likely overestimates the risks for the intended future use of the Site.

Due to limitation of available scientific data and in the amount and type of site investigation data collected, every risk assessment will have some degree of uncertainty. Uncertainties in exposure parameter assumptions are related to the general lack of quantitative studies describing important aspects of human behavior such as incidental soil ingestion rates (particularly adults), length of time spent at one residence, time spent outdoors, etc. In general, this uncertainty has been dealt with by erring on the conservative side and using upper-bound exposure assumptions that will tend to overestimate the exposure occurring to most individuals.

Incorporating slightly less conservative exposure parameters into the assessment would reduce the predicted carcinogenic risk considerably. In addition, the predicted risks and hazards are based on the maximum COPC concentrations detected in the soil samples that were collected during this Phase II. This significantly conservative assumption results in an overestimation of health risks.

Important uncertainties in toxicity criteria include: 1) the complete absence of reference doses or colony-stimulating factors for some chemicals, 2) the lack of an adequate toxicological basis for some toxicity criteria, 3) the uncertainty associated with applying oral route toxicity criteria to the inhalation route or dermal route, and 4) the complete lack of toxicity criteria for the dermal route. The general lack of toxicity criteria based on a solid database of underlying toxicological data results in a reduced ability to accurately quantify both non-cancer and cancer risks. This may result in both under- and over-estimation of health risks.

In addition, although PAHs and SVOCs (except for one detection each of bis-[2-ethylhexylphthalate and 4-methylphenol) were not detected in soil samples above the reporting limits, the reporting limits for several SVOCs and PAHs exceeded the screening criteria as summarized in Section 6.2. Given that PAHs and SVOCs were not detected in the majority of soil samples collected from the Site at concentrations exceeding the reporting limits, and the reporting limits were below the screening criteria in those samples, it is unlikely that PAHs and/or SVOCs are present in soil at the Site at concentrations exceeding screening criteria; therefore, PAHs and SVOCs were not included in the risk estimate calculations, except for bis(2-ethylhexyl)phthalate and 4-methylphenol.

8.0 ECOLOGICAL SCREENING EVALUATION

The Site will be developed into a high school. Proposed redevelopment activities would not maintain any potential wildlife habitat on the Site. Therefore, an ecological screening evaluation was not completed for the Site given its intended future use.

8.1 Biological Characterization

The Site is currently vacant and undeveloped and is proposed for development for use as a high school. The existing conditions and proposed development activities would not maintain any potential wildlife habitat on the Site.

8.2 Ecological Pathway Assessment

Because the Site would not have significant numbers of wildlife based on proposed development activities, no assessment of potential exposure to sensitive ecological receptors is necessary.

8.3 Ecological Screening Evaluation Summary

An ecological screening evaluation was not conducted for the Site given its current condition and intended future use.

9.0 COMMUNITY PROFILE

According to the City of Dublin's 2019 Community Profile, the population of the City of Dublin is 63,659. The average household income is $192,947 and the median age of residents is 35. The profile sheet indicates the following ethnic composition: 42.3% White; 36.8% Asian; 8.0% Black/African American; 7.2% two or more races; 4.6% some other race. In addition, the median home value was $957,106 (https://dublin.ca.gov/238/Community-and-Economic-Profile).

In accordance with Education Code§ 17213.1, subd. (a)(6)(A) the District will post a notice in the local newspaper providing details on the 30-day public comment period for this PEA report, the public hearing, and the locations of repositories for site documents. The DTSC will review the PEA Report concurrently with the public comment period.

10.0 OPINION OF ENVIRONMENTAL PROFESSIONAL

Terraphase conducted the assessment for the Site according to the scope and limitations of ASTM Practice E1527-13 for a Phase I Environmental Site Assessment. Because RECs were identified early on, the findings of the background investigation were incorporated into this PEA. The environmental professionals who prepared this PEA Report, Laurie Israel and Andrew Lojo, are of the opinion that this PEA sufficiently identifies environmental conditions at the Site.

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Summary and Conclusions

During the Terraphase Phase II investigation, soil sampling was performed based on RECs identified in the Phase I ESA (Terraphase 2019). These RECs were developed after review of extensive soil sampling conduct at the Site on behalf of the former owner by BGC, and was intended to supplement and confirm their results. Shallow native soil samples and import fill samples were collected from approximately evenly spaced areas across the Site and analyzed for OCPs, metals, PCBs, TPH, SVOCs, PAHs, and asbestos. As summarized in Tables 1 through 14, COPCs were not detected in native soil or imported fill at levels exceeding conservative risk-based screening values for residential land use, with the exception of arsenic. However, the detections of arsenic in native soil and imported fill were below the established background concentration for arsenic in Bay Area soils of 11 mg/kg (Duverge 2011). Based on Terraphase's review of investigation results conducted on the Dublin High School site where the recent imported soil originated, which was conducted under DTSC review, no sampling of the recently imported soil was warranted.

The risk/hazard characterization assumes potential human exposure under the very conservative residential use scenario. Based on the results of previous and Phase II investigations, and associated preliminary human health screening, the estimated upper-bound cumulative cancer risk for exposure to COPCs in soil at the Site is 7.5×10^{-7}, which is below the cumulative cancer risk management goal of 1.0×10^{-6}. The estimated upper-bound noncancer HI for exposure to COPCs in soil is 1 which is equal to the noncancer HI risk management goal of 1. Therefore, the upper-bound risk and HI estimates for residential exposure to soil would not pose an unacceptable risk to human health, especially given the significantly lower exposure time frame assumptions used in the residential exposure evaluation (24 hours per day; 350 days per year; for 26 years).

11.2 Recommendations

Based on the results of previous investigations as well as the Phase II investigation, no further action is recommended for the Site. Terraphase recommends that the DTSC issue a "No Further Action" determination for the Site.

11.3 Data Gaps

A data gap is a lack or inability to obtain information required despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required. No significant data gaps were identified.

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13.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONALS STATEMENT

Information, conclusions, and recommendations in this document have been prepared by a California Professional Engineer. The environmental assessment described herein was conducted by the undersigned employees of Terraphase. The assessment consisted solely of the activities described in the Introduction of this report, and was performed in accordance with the ASTM Designation E 1527-13 guidelines for Phase I ESAs and the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable. The assessment was conducted in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, professional geologists and environmental scientists.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312, and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

May 6, 2020

Laurie Israel
Associate Scientist

Date

REGISTERED PROFESSIONAL GEOLOGIST
ANDREW M. LOJO
6034
EXP. 2/28/21
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May 6, 2020

Andrew M. Lojo Professional Geologist, P.G.6034

Date

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TABLES

Table 1
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	a-BHC	Aldrin	b-BHC	Chlordane (cis) (alpha)	Chlordane (trans) (gamma)	d-BHC	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin
U.S. EPA Regional Screening Levels for Residential Soil [2]				**0.086**	**0.039**	**0.3**	**-**	**-**	**-**	**1.9**	**2.0**	**1.9**	**0.034**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**0.086**	**0.039**	**0.3**	**-**	**-**	**-**	**1.9**	**2.0**	**1.9**	**0.034**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-02	SB-2-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-2-1.5-N	1.5	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085	**0.00014J**	<0.00085	<0.0017	<0.0017	<0.0017	<0.00085
SB-03	SB-3-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-3-1.5-N	1.5	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085	<0.00085	<0.00085	<0.0017	<0.0017	<0.0017	<0.00085
SB-04	SB-4-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-4-5-N	5.0	5/30/2018	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.0016	<0.0016	<0.0016	<0.00084
SB-05	SB-5-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-5-1.5-N	1.5	5/30/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-06	SB-6-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-6-5-N	5.0	5/30/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-07	SB-7-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-7-5-N	5.0	5/30/2018	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.0016	<0.0016	<0.0016	<0.00084
SB-08	SB-8-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-8-5-N	5.0	5/29/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-09	SB-9-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-9-5-N	5.0	5/29/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-10	SB-10-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-10-5-N	5.0	5/30/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-11	SB-11-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-11-5-N	5.0	5/29/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-12	SB-12-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-12-5-N	5.0	5/29/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-13	SB-13-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-13-5-N	5.0	5/29/2018	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.0016	<0.0016	<0.0016	<0.00084
SB-14	SB-14-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-14-5-N	5.0	5/29/2018	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.0016	<0.0016	<0.0016	<0.00084
SB-15	SB-15-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-15-5-N	5.0	5/29/2018	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.0017	<0.0017	<0.0017	<0.00086
SB-16	SB-16-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-16-5-N	5.0	5/29/2018	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	<0.0016	<0.0016	<0.0016	<0.00084

Table 1
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
U.S. EPA Regional Screening Levels for Residential Soil [2]				-	-	**380**	**19**	-	**0.57**	**0.13**	**0.07**	**320**	**0.49**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				-	-	-	**19**	-	**0.57**	**0.13**	**0.07**	**320**	**0.45**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-02	SB-2-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-2-1.5-N	1.5	5/30/2018	<0.00085	<0.0017	<0.0017	<0.0017	<0.0017	<0.00085	<0.00085	<0.00085	<0.0085	<0.03
SB-03	SB-3-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-3-1.5-N	1.5	5/30/2018	<0.00085	<0.0017	<0.0017	<0.0017	**0.00099#J**	<0.00085	<0.00085	<0.00085	<0.0085	<0.03
SB-04	SB-4-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-4-5-N	5.0	5/30/2018	<0.00084	<0.0016	<0.0016	<0.0016	<0.0016	<0.00084	<0.00084	<0.00084	<0.0084	<0.03
SB-05	SB-5-0.5-F	0.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-5-1.5-N	1.5	5/30/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-06	SB-6-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-6-5-N	5.0	5/30/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-07	SB-7-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-7-5-N	5.0	5/30/2018	<0.00084	<0.0016	<0.0016	<0.0016	**0.0012#J**	<0.00084	<0.00084	<0.00084	<0.0084	<0.03
SB-08	SB-8-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-8-5-N	5.0	5/29/2018	<0.00086	<0.0017	<0.0017	<0.0017	**0.00092#J**	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-09	SB-9-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-9-5-N	5.0	5/29/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-10	SB-10-1.5-F	1.5	5/30/2018	-	-	-	-	-	-	-	-	-	-
	SB-10-5-N	5.0	5/30/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-11	SB-11-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-11-5-N	5.0	5/29/2018	<0.00086	<0.0017	<0.0017	<0.0017	**0.00099#J**	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-12	SB-12-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-12-5-N	5.0	5/29/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-13	SB-13-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-13-5-N	5.0	5/29/2018	<0.00084	<0.0016	<0.0016	<0.0016	<0.0016	<0.00084	<0.00084	<0.00084	<0.0084	<0.03
SB-14	SB-14-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-14-5-N	5.0	5/29/2018	<0.00084	<0.0016	<0.0016	<0.0016	**0.00042J**	<0.00084	<0.00084	<0.00084	<0.0084	<0.03
SB-15	SB-15-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-15-5-N	5.0	5/29/2018	<0.00086	<0.0017	<0.0017	<0.0017	<0.0017	<0.00086	<0.00086	<0.00086	<0.0086	<0.03
SB-16	SB-16-1.5-F	1.5	5/29/2018	-	-	-	-	-	-	-	-	-	-
	SB-16-5-N	5.0	5/29/2018	<0.00084	<0.0016	<0.0016	<0.0016	**0.00043J**	<0.00084	<0.00084	<0.00084	<0.0084	<0.03

Table 1
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Detected results shown in **bold**.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
J = The analyte was postively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
= The continuing calibration verification (CCV) drift was outside limits, but the average CCV drift was within limits per method requirements.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 2

Summary of Analytical Results for Metals

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead
U.S. EPA Regional Screening Levels for Residential Soil [2]				**31**	**0.68**	**15,000**	**160**	**71**	**-**	**23**	**3,100**	**400**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**-**	**0.11**	**-**	**16**	**-**	**-**	**-**	**-**	**80**
SB-01	SB-1-1.5-N	1.5	5/30/2018	**0.54J**	**4.3**	**390**	**0.62**	**0.14J**	**38**	**13**	**22**	**8.7**
SB-02	SB-2-0.5-F	0.5	5/30/2018	<2.0	**5.8**	**260**	**0.65**	**0.31**	**42**	**11**	**23**	**10**
	SB-2-1.5-N	1.5	5/30/2018	-	**7.1**	**-**	**-**	**-**	**-**	**-**	**-**	**9.1**
SB-03	SB-3-0.5-F	0.5	5/30/2018	<1.9	**5.2**	**290**	**0.67**	**0.28**	**40**	**13**	**23**	**11**
	SB-3-1.5-N	1.5	5/30/2018	-	**4.5**	**-**	**-**	**-**	**-**	**-**	**-**	**11**
SB-04	SB-4-1.5-F	1.5	5/30/2018	<2.0	**5.3**	**280**	**0.65**	**0.33**	**41**	**12**	**22**	**9.7**
	SB-4-5-N	5.0	5/30/2018	-	**6.1**	**-**	**-**	**-**	**-**	**-**	**-**	**9.6**
SB-05	SB-5-0.5-F	0.5	5/30/2018	<1.9	**5.5**	**300**	**0.67**	**0.27**	**40**	**13**	**21**	**11**
	SB-5-1.5-N	1.5	5/30/2018	-	**4**	**-**	**-**	**-**	**-**	**-**	**-**	**9**
SB-06	SB-6-1.5-F	1.5	5/30/2018	<2.0	**5.8**	**260**	**0.68**	**0.33**	**41**	**12**	**24**	**11**
	SB-6-5-N	5.0	5/30/2018	-	**3.6**	**-**	**-**	**-**	**-**	**-**	**-**	**11**
SB-07	SB-7-1.5-F	1.5	5/30/2018	<2.0	**5.7**	**270**	**0.65**	**0.32**	**41**	**12**	**21**	**9.9**
	SB-7-5-N	5.0	5/30/2018	-	**3.6**	**-**	**-**	**-**	**-**	**-**	**-**	**10**
SB-08	SB-8-1.5-F	1.5	5/29/2018	<2.0	**6.1**	**330**	**0.66**	**0.26**	**42**	**12**	**22**	**10**
	SB-8-5-N	5.0	5/29/2018	-	**4.2**	**-**	**-**	**-**	**-**	**-**	**-**	**9.5**
SB-09	SB-9-1.5-F	1.5	5/29/2018	<1.9	**4.7**	**320**	**0.73**	**0.25**	**43**	**12**	**21**	**10**
	SB-9-5-N	5.0	5/29/2018	-	**5.2**	**-**	**-**	**-**	**-**	**-**	**-**	**9.3**
SB-10	SB-10-1.5-F	1.5	5/30/2018	<2.0	**5**	**340**	**0.73**	**0.31**	**42**	**11**	**22**	**11**
	SB-10-5-N	5.0	5/30/2018	-	**5.9**	**-**	**-**	**-**	**-**	**-**	**-**	**9.2**
SB-11	SB-11-1.5-F	1.5	5/29/2018	<2.0	**6.3**	**210**	**0.58**	**0.27J**	**38**	**11**	**20**	**10**
	SB-11-5-N	5.0	5/29/2018	-	**4**	**-**	**-**	**-**	**-**	**-**	**-**	**9.1**
SB-12	SB-12-1.5-F	1.5	5/29/2018	<2.0	**5.4**	**280**	**0.57**	**0.32**	**36**	**11**	**19**	**8.9**
	SB-12-5-N	5.0	5/29/2018	-	**3.3**	**-**	**-**	**-**	**-**	**-**	**-**	**9.3**
SB-13	SB-13-1.5-F	1.5	5/29/2018	<1.9	**6**	**270**	**0.55**	**0.31**	**36**	**9.7**	**19**	**8.8**
	SB-13-5-N	5.0	5/29/2018	-	**3.1**	**-**	**-**	**-**	**-**	**-**	**-**	**11**
SB-14	SB-14-1.5-F	1.5	5/29/2018	<2.0	**6.1**	**280**	**0.59**	**0.33**	**35**	**12**	**20**	**9**
	SB-14-5-N	5.0	5/29/2018	-	**2.9**	**-**	**-**	**-**	**-**	**-**	**-**	**9.5**
SB-15	SB-15-1.5-F	1.5	5/29/2018	<2.0	**6.5**	**250**	**0.66**	**0.33**	**48**	**11**	**26**	**11**
	SB-15-5-N	5.0	5/29/2018	-	**4.1**	**-**	**-**	**-**	**-**	**-**	**-**	**9.5**
SB-16	SB-16-1.5-F	1.5	5/29/2018	<2.0	**6.5**	**240**	**0.56**	**0.34**	**38**	**11**	**20**	**8.6**
	SB-16-5-N	5.0	5/29/2018	-	**4.2**	**-**	**-**	**-**	**-**	**-**	**-**	**10**

Table 2

Summary of Analytical Results for Metals

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
U.S. EPA Regional Screening Levels for Residential Soil [2]				**11**	**390**	**1,500**	**390**	**390**	**0.78**	**390**	**23,000**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**1.0**	**-**	**820**	**-**	**-**	**-**	**-**	**-**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.016	**0.3**	**40**	<2.0	<0.26	<0.53	**40**	**46**
SB-02	SB-2-0.5-F	0.5	5/30/2018	**0.021**	**0.3**	**42**	**0.6J**	<0.25	<0.50	**54**	**53**
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	**0.02**	**0.17J**	**45**	**0.63J**	<0.24	<0.48	**52**	**48**
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	**0.025**	**0.36**	**42**	**0.5J**	<0.25	<0.51	**54**	**48**
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	**0.024**	**0.083J**	**40**	**0.54J**	<0.23	<0.47	**55**	**46**
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	**0.022**	**0.26**	**42**	**0.73J**	<0.25	<0.50	**53**	**49**
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	**0.028**	**0.22J**	**42**	**0.41J**	<0.27	<0.54	**52**	**47**
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	**0.028**	**0.24J**	**41**	**0.66J**	<0.26	<0.52	**56**	**50**
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	**0.022**	**0.19J**	**40**	**0.72J**	<0.24	<0.49	**51**	**50**
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	**0.017J**	**0.17J**	**37**	**0.48J**	<0.25	<0.49	**55**	**47**
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	**0.034**	**0.37**	**39**	**0.58J**	<0.27	<0.55	**46**	**56**
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	**0.018**	**0.15J**	**37**	**0.48J**	<0.26	<0.52	**46**	**44**
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	**0.019**	**0.23J**	**34**	**0.51J**	<0.24	<0.47	**48**	**46**
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	**0.021**	**0.22J**	**35**	**0.6J**	<0.26	<0.52	**54**	**48**
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	**0.027**	**0.34**	**46**	**0.57J**	<0.26	<0.52	**54**	**61**
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	**0.021**	**0.24J**	**38**	**0.44J**	<0.26	<0.52	**45**	**45**
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-

Table 2

Summary of Analytical Results for Metals

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Detected results shown in **bold**. Results greater than applicable screening levels are shaded.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
J = The analyte was postively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 3

Summary of Analytical Results for Polychlorinated Biphenyls (PCBs)

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
U.S. EPA Regional Screening Levels for Residential Soil [2]				**4.1**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**4.0**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.0066	<0.013	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.0066	<0.013	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<0.0067	<0.013	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.0067	<0.013	<0.0067	<0.0067	<0.0067	<0.0067	<0.0067
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<0.0066	<0.013	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	**0.0012J**
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	**0.00078J**
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	**0.001J**
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<0.0068	<0.014	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-

Table 3

Summary of Analytical Results for Polychlorinated Biphenyls (PCBs)

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Detected results shown in **bold**.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
J = The analyte was postively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 4

Summary of Analytical Results for Total Petroleum Hydrocarbons (TPH)

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	TPH as Diesel	TPH as Motor Oil
SFRWQCB ESLs for Soil [2]				**260**	**12,000**
SB-01	SB-1-1.5-N	1.5	5/30/2018	**1.6YZ**	**12Z**
SB-02	SB-2-0.5-F	0.5	5/30/2018	**7.1YZ**	**110**
	SB-2-1.5-N	1.5	5/30/2018	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	**3.3YZ**	**22**
	SB-3-1.5-N	1.5	5/30/2018	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	**8.4YZ**	**72**
	SB-4-5-N	5.0	5/30/2018	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	**3.9YZ**	**43**
	SB-5-1.5-N	1.5	5/30/2018	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	**3.3YZ**	**53**
	SB-6-5-N	5.0	5/30/2018	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	**4.9YZ**	**57**
	SB-7-5-N	5.0	5/30/2018	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	**5.3YZ**	**74**
	SB-8-5-N	5.0	5/29/2018	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	**17YZ**	**190**
	SB-9-5-N	5.0	5/29/2018	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	**9.1YZ**	**65**
	SB-10-5-N	5.0	5/30/2018	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	**15YZ**	**160**
	SB-11-5-N	5.0	5/29/2018	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	**8.3YZ**	**70**
	SB-12-5-N	5.0	5/29/2018	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	**7.7YZ**	**69**
	SB-13-5-N	5.0	5/29/2018	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	**12YZ**	**90**
	SB-14-5-N	5.0	5/29/2018	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	**16YZ**	**210**
	SB-15-5-N	5.0	5/29/2018	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	**4.2YZ**	**25**
	SB-16-5-N	5.0	5/29/2018	-	-

Notes:

1. Detected results shown in **bold**.
2. Analytical results are screened against the San Francisco Regional Water Quality Control Board's (SFRWQCB) January 2019 Direct Exposure Human Health Risk Level ESLs for residential soil. Screening levels of noncarcinogenic scenarios are presented in this table.

Table 4

Summary of Analytical Results for Total Petroleum Hydrocarbons (TPH)

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)

Y = The sample exhibits a chromatographic pattern which does not resemble the standard.

Z = The sample exhibits an unknown single peak or peaks in the chromatogram.

ft bgs = Feet below ground surface

Table 5
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloro-naphthalene	2-Chlorophenol
U.S. EPA Regional Screening Levels for Residential Soil [2]				**6,300**	**49**	**190**	**1,300**	**130**	**1.7**	**0.36**	**4,800**	**390**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**6,300**	**7.8**	**190**	**1,300**	**130**	**1.7**	**0.36**	**4,100**	**340**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.67	<0.33	<0.33	<0.33	<0.33
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.66	<0.66	<0.66	<0.66	<1.3	<0.66	<0.66	<0.66	<0.66
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34	<0.34	<0.34	<0.34
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34	<0.34	<0.34	<0.34
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34	<0.34	<0.34	<0.34
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<8.3	<8.3	<8.3	<8.3	<17	<8.3	<8.3	<8.3	<8.3
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34	<0.34	<0.34	<0.34
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34	<0.34	<0.34	<0.34
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<8.3	<8.3	<8.3	<8.3	<17	<8.3	<8.3	<8.3	<8.3
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34	<0.34	<0.34	<0.34
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<3.3	<3.3	<3.3	<3.3	<6.7	<3.3	<3.3	<3.3	<3.3
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<3.4	<3.4	<3.4	<3.4	<6.7	<3.4	<3.4	<3.4	<3.4
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<5.5	<5.5	<5.5	<5.5	<11	<5.5	<5.5	<5.5	<5.5
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-

Table 5
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3,3-Dichloro-benzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline
U.S. EPA Regional Screening Levels for Residential Soil [2]				**3,200**	**630**	**-**	**1.2**	**-**	**5.1**	**-**	**6,300**	**2.7**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**3,200**	**630**	**-**	**0.45**	**-**	**5.1**	**-**	**6,300**	**2.7**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.33	<0.67	<0.67	<0.67	<0.67	<0.67	<0.33	<0.33	<0.33
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.66	<1.3	<1.3	<1.3	<1.3	<1.3	<0.66	<0.66	<0.66
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.33	<0.66	<0.66	<0.66	<0.66	<0.66	<0.33	<0.33	<0.33
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.34	<0.67	<0.67	<0.67	<0.67	<0.67	<0.34	<0.34	<0.34
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.33	<0.66	<0.66	<0.66	<0.66	<0.66	<0.33	<0.33	<0.33
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.34	<0.67	<0.67	<0.67	<0.67	<0.67	<0.34	<0.34	<0.34
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.34	<0.67	<0.67	<0.67	<0.67	<0.67	<0.34	<0.34	<0.34
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<8.3	<17	<17	<17	<17	<17	<8.3	<8.3	<8.3
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.34	<0.68	<0.68	<0.68	<0.68	<0.68	<0.34	<0.34	<0.34
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.34	<0.68	<0.68	<0.68	<0.68	<0.68	<0.34	<0.34	<0.34
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<8.3	<17	<17	<17	<17	<17	<8.3	<8.3	<8.3
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.34	<0.68	<0.68	<0.68	<0.68	<0.68	<0.34	<0.34	<0.34
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<3.3	<6.7	<6.7	<6.7	<6.7	<6.7	<3.3	<3.3	<3.3
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<3.4	<6.7	<6.7	<6.7	<6.7	<6.7	<3.4	<3.4	<3.4
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<5.5	<11	<11	<11	<11	<11	<5.5	<5.5	<5.5
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.33	<0.66	<0.66	<0.66	<0.66	<0.66	<0.33	<0.33	<0.33
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-

Table 5
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	4-Chlorophenyl phenyl ether	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Azobenzene	Benzoic acid	Benzyl alcohol	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl)ether
U.S. EPA Regional Screening Levels for Residential Soil [2]				**-**	**6,300**	**27**	**-**	**5.6**	**250,000**	**6,300**	**190**	**0.23**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**-**	**6,300**	**27**	**-**	**-**	**250,000**	**6,300**	**190**	**0.1**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.33	<0.33	<0.67	<0.67	<0.33	<1.7	<0.33	<0.33	<0.33
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.66	<0.66	<1.3	<1.3	<0.66	<3.3	<0.66	<0.66	<0.66
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.66	<0.66	<0.33	<1.6	<0.33	<0.33	<0.33
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.34	**0.02J**	<0.67	<0.67	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.66	<0.66	<0.33	<1.6	<0.33	<0.33	<0.33
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.67	<0.67	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.67	<0.67	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<8.3	<8.3	<17	<17	<8.3	<42	<8.3	<8.3	<8.3
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.68	<0.68	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.68	<0.68	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<8.3	<8.3	<17	<17	<8.3	<42	<8.3	<8.3	<8.3
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.68	<0.68	<0.34	<1.7	<0.34	<0.34	<0.34
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<3.3	<3.3	<6.7	<6.7	<3.3	<17	<3.3	<3.3	<3.3
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<3.4	<3.4	<6.7	<6.7	<3.4	<17	<3.4	<3.4	<3.4
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<5.5	<5.5	<11	<11	<5.5	<27	<5.5	<5.5	<5.5
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.33	<0.33	<0.66	<0.66	<0.33	<1.7	<0.33	<0.33	<0.33
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-

Table 5
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	di-n-Butyl phthalate	di-n-Octyl phthalate	Hexachloro-benzene
U.S. EPA Regional Screening Levels for Residential Soil [2]				**3,100**	**39**	**290**	**73**	**51,000**	**-**	**6,300**	**630**	**0.21**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**2,000**	**39**	**290**	**66**	**51,000**	**-**	**6,300**	**630**	**0.19**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.33	**0.015J**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-

Table 5
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Discrete Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Hexachloro-cyclopentadiene	Hexachloro-ethane	Isophorone	Nitrobenzene	n-Nitroso-dimethylamine	n-Nitrosodi-n-propylamine	n-Nitroso-diphenylamine	Pentachloro-phenol	Phenol
U.S. EPA Regional Screening Levels for Residential Soil [2]				**1.8**	**1.8**	**570**	**5.1**	**0.002**	**0.078**	**110**	**1.0**	**19,000**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				**-**	**-**	**570**	**-**	**-**	**0.078**	**110**	**1.0**	**19,000**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.67	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67	<0.33
SB-02	SB-2-0.5-F	0.5	5/30/2018	<1.3	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<1.3	<0.66
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.66	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.67	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.66	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.67	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.67	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.67	<0.34
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<17	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<17	<8.3
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.68	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.68	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<17	<8.3	<8.3	<8.3	<8.3	<8.3	<8.3	<17	<8.3
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.68	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.68	<0.34
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<6.7	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<6.7	<3.3
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<6.7	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<6.7	<3.4
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<11	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<11	<5.5
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.66	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-	-

Table 5

Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)

Discrete Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Detected results shown in **bold**.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
J = The analyte was postively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 6

Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)

Discrete Soil Samples

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene
U.S. EPA Regional Screening Levels for Residential Soil [1]				**240**	**3,600**	**-**	**18,000**	**1.1**	**0.11**	**1.1**	**-**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]				**190**	**3,300**	**-**	**17,000**	**1.1**	**0.11**	**1.1**	**-**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-

Table 6
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Discrete Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results are reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene
U.S. EPA Regional Screening Levels for Residential Soil [1]				**11**	**110**	**0.11**	**2,400**	**2,400**	**1.1**	**-**	**1,800**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]				**11**	**110**	**0.028**	**2,400**	**2,300**	**1.1**	**-**	**1,800**
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
	SB-2-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-3-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-4-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-5-1.5-N	1.5	5/30/2018	-	-	-	-	-	-	-	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-6-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067
	SB-7-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
	SB-8-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-9-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-10-5-N	5.0	5/30/2018	-	-	-	-	-	-	-	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
	SB-11-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068
	SB-12-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
	SB-13-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
	SB-14-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
	SB-15-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
	SB-16-5-N	5.0	5/29/2018	-	-	-	-	-	-	-	-

Table 6
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Discrete Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
2. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 7
Summary of Analytical Results for Asbestos
Discrete Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Location Name	Field ID	Sample Depth (ft bgs)	Sample Date	Asbestos by CARB Method 435 [1]
U.S. EPA Regional Screening Levels for Residential Soil [2]				-
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]				-
SB-01	SB-1-1.5-N	1.5	5/30/2018	<0.25
SB-02	SB-2-0.5-F	0.5	5/30/2018	<0.25
	SB-2-1.5-N	1.5	5/30/2018	-
SB-03	SB-3-0.5-F	0.5	5/30/2018	<0.25
	SB-3-1.5-N	1.5	5/30/2018	-
SB-04	SB-4-1.5-F	1.5	5/30/2018	<0.25
	SB-4-5-N	5.0	5/30/2018	-
SB-05	SB-5-0.5-F	0.5	5/30/2018	<0.25
	SB-5-1.5-N	1.5	5/30/2018	-
SB-06	SB-6-1.5-F	1.5	5/30/2018	<0.25
	SB-6-5-N	5.0	5/30/2018	-
SB-07	SB-7-1.5-F	1.5	5/30/2018	<0.25
	SB-7-5-N	5.0	5/30/2018	-
SB-08	SB-8-1.5-F	1.5	5/29/2018	<0.25
	SB-8-5-N	5.0	5/29/2018	-
SB-09	SB-9-1.5-F	1.5	5/29/2018	<0.25
	SB-9-5-N	5.0	5/29/2018	-
SB-10	SB-10-1.5-F	1.5	5/30/2018	<0.25
	SB-10-5-N	5.0	5/30/2018	-
SB-11	SB-11-1.5-F	1.5	5/29/2018	<0.25
	SB-11-5-N	5.0	5/29/2018	-
SB-12	SB-12-1.5-F	1.5	5/29/2018	<0.25
	SB-12-5-N	5.0	5/29/2018	-
SB-13	SB-13-1.5-F	1.5	5/29/2018	<0.25
	SB-13-5-N	5.0	5/29/2018	-
SB-14	SB-14-1.5-F	1.5	5/29/2018	<0.25
	SB-14-5-N	5.0	5/29/2018	-
SB-15	SB-15-1.5-F	1.5	5/29/2018	<0.25
	SB-15-5-N	5.0	5/29/2018	-
SB-16	SB-16-1.5-F	1.5	5/29/2018	<0.25
	SB-16-5-N	5.0	5/29/2018	-

Table 7
Summary of Analytical Results for Asbestos
Discrete Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Notes:

1. The analytical results are reported in percent asbestos fibers which is the percent number of asbestos fibers contained in 400 randomly chosen particles of a bulk sample. Note: Limit of Quantitation (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
ft bgs = Feet below ground surface

Table 8
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	a-BHC	Aldrin	b-BHC	Chlordane (cis) (alpha)
U.S. EPA Regional Screening Levels for Residential Soil [1]			**0.086**	**0.039**	**0.3**	**-**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**0.086**	**0.039**	**0.3**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.0086	<0.0086	<0.0086	<0.0086
	COMP-13-16-N	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<0.00084	<0.00084	<0.00084	<0.00084
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0017	<0.0017	<0.0017	<0.0017
	COMP-5-8-N	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.00085	<0.00085	<0.00085	<0.00085
	COMP-9-12-N	5/30/2018	<0.00084	<0.00084	<0.00084	<0.00084

Table 8
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Chlordane (trans) (gamma)	d-BHC	4,4'-DDD	4,4'-DDE
U.S. EPA Regional Screening Levels for Residential Soil [1]			**-**	**-**	**1.9**	**2.0**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**-**	**-**	**1.9**	**2.0**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.0086	<0.0086	<0.017	<0.017
	COMP-13-16-N	5/30/2018	<0.00085	<0.00085	<0.0017	<0.0017
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<0.00084	<0.00084	<0.0016	<0.0016
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.00085	<0.00085	<0.0016	<0.0016
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0017	<0.0017	<0.0033	<0.0033
	COMP-5-8-N	5/30/2018	<0.00085	<0.00085	<0.0017	<0.0017
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.00085	<0.00085	<0.0016	<0.0016
	COMP-9-12-N	5/30/2018	<0.00084	<0.00084	<0.0016	<0.0016

Table 8
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II
U.S. EPA Regional Screening Levels for Residential Soil [1]			**1.9**	**0.034**	**-**	**-**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**1.9**	**0.034**	**-**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.017	<0.0086	<0.0086	<0.017
	COMP-13-16-N	5/30/2018	<0.0017	<0.00085	<0.00085	<0.0017
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<0.0016	<0.00084	<0.00084	<0.0016
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.0016	<0.00085	<0.00085	<0.0016
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0033	<0.0017	<0.0017	<0.0033
	COMP-5-8-N	5/30/2018	<0.0017	<0.00085	<0.00085	<0.0017
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.0016	<0.00085	<0.00085	<0.0016
	COMP-9-12-N	5/30/2018	<0.0016	<0.00084	<0.00084	<0.0016

Table 8
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)
U.S. EPA Regional Screening Levels for Residential Soil [1]			**380**	**19**	**-**	**0.57**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**-**	**19**	**-**	**0.57**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.017	<0.017	<0.017	<0.0086
	COMP-13-16-N	5/30/2018	<0.0017	<0.0017	<0.0017	<0.00085
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<0.0016	<0.0016	<0.0016	<0.00084
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.0016	<0.0016	<0.0016	<0.00085
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0033	<0.0033	<0.0033	<0.0017
	COMP-5-8-N	5/30/2018	<0.0017	<0.0017	<0.0017	<0.00085
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.0016	<0.0016	<0.0016	<0.00085
	COMP-9-12-N	5/30/2018	<0.0016	<0.0016	<0.0016	<0.00084

Table 8
Summary of Analytical Results for Organochlorine Pesticides (OCPs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**0.13**	**0.07**	**320**	**0.49**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**0.13**	**0.07**	**320**	**0.45**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.0086	<0.0086	<0.086	<0.3
	COMP-13-16-N	5/30/2018	<0.00085	<0.00085	<0.0085	<0.03
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<0.00084	<0.00084	<0.0084	<0.03
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.00085	<0.00085	<0.0085	<0.03
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0017	<0.0017	<0.017	<0.059
	COMP-5-8-N	5/30/2018	<0.00085	<0.00085	<0.0085	<0.03
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.00085	<0.00085	<0.0085	<0.03
	COMP-9-12-N	5/30/2018	<0.00084	<0.00084	<0.0084	<0.03

Table 8

Summary of Analytical Results for Organochlorine Pesticides (OCPs)

Composite Soil Samples

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Notes:

1. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
2. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)

< = Analytical result is less than laboratory reporting limit.

HERO = Human and Ecological Risk Office

HHRA = Human Health Risk Assessment

COMP = Composite sample

Table 9
Summary of Analytical Results for Metals
Composite Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (III+VI)
U.S. EPA Regional Screening Levels for Residential Soil [2]			**31**	**0.68**	**15,000**	**160**	**71**	**-**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]			**-**	**0.11**	**-**	**16**	**-**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	**0.77J**	**6.5**	**250**	**0.51**	**0.22J**	**40**
	COMP-13-16-N	5/30/2018	**0.73J**	**2.3**	**270**	**0.59**	**0.15J**	**27**
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	**0.5J**	**5.3**	**230**	**0.49**	**0.16J**	**35**
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	**0.76J**	**5.3**	**260**	**0.53**	**0.16J**	**37**
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	**0.71J**	**5.4**	**260**	**0.57**	**0.15J**	**39**
	COMP-5-8-N	5/30/2018	**0.68J**	**3.6**	**270**	**0.63**	**0.13J**	**37**
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	**0.66J**	**5**	**230**	**0.45**	**0.13J**	**37**
	COMP-9-12-N	5/30/2018	**0.62J**	**4.4**	**210**	**0.57**	**0.11J**	**35**

Table 9
Summary of Analytical Results for Metals
Composite Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel
U.S. EPA Regional Screening Levels for Residential Soil [2]			**23**	**3,100**	**400**	**11**	**390**	**1,500**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]			**-**	**-**	**80**	**1.0**	**-**	**820**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	**11**	**24**	**8.3**	**0.018**	**0.27J**	**44**
	COMP-13-16-N	5/30/2018	**9.6**	**19**	**8.8**	**0.0087J**	**0.084J**	**38**
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	**11**	**23**	**7.7**	**0.028**	**0.31**	**41**
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	**11**	**24**	**8.4**	**0.024**	**0.27**	**41**
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	**12**	**24**	**9**	**0.035**	**0.24J**	**43**
	COMP-5-8-N	5/30/2018	**13**	**24**	**9.2**	**0.0088J**	**0.13J**	**41**
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	**11**	**21**	**8.1**	**0.022**	**0.31**	**42**
	COMP-9-12-N	5/30/2018	**11**	**21**	**7.5**	**0.011J**	**0.49**	**38**

Table 9
Summary of Analytical Results for Metals
Composite Soil Samples [1]
Phase II Investigation Report
The New 2nd Comprehensive High School Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Selenium	Silver	Thallium	Vanadium	Zinc
U.S. EPA Regional Screening Levels for Residential Soil [2]			**390**	**390**	**0.78**	**390**	**23,000**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]			**-**	**-**	**-**	**-**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<2.0	<0.27	<0.55	**41**	**53**
	COMP-13-16-N	5/30/2018	<2.0	<0.25	<0.50	**22**	**36**
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	<1.9	<0.24	<0.47	**38**	**48**
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<2.0	<0.26	<0.51	**41**	**49**
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<2.0	<0.27	<0.53	**41**	**49**
	COMP-5-8-N	5/30/2018	<2.0	<0.27	<0.54	**37**	**43**
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<2.0	<0.27	<0.54	**37**	**50**
	COMP-9-12-N	5/30/2018	<1.9	<0.23	<0.46	**35**	**45**

Table 9

Summary of Analytical Results for Metals

Composite Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School Dublin, California

Notes:

1. Detected results shown in **bold**. Results greater than applicable screening levels are shaded.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)

< = Analytical result is less than laboratory reporting limit.

J = The analyte was postively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

HERO = Human and Ecological Risk Office

HHRA = Human Health Risk Assessment

COMP = Composite sample

Table 10
Summary of Analytical Results for Polychlorinated Biphenyls (PCBs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
U.S. EPA Regional Screening Levels for Residential Soil [1]			**4.1**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**4.0**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	COMP-13-16-N	5/30/2018	-	-	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	COMP-5-8-N	5/30/2018	-	-	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	COMP-9-12-N	5/30/2018	-	-	-	-	-	-	-

Notes:

1. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
2. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
COMP = Composite sample

Table 11

Summary of Analytical Results for Total Petroleum Hydrocarbons (TPH)

Composite Soil Samples [1]

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	TPH as Diesel	TPH as Motor Oil
SFRWQCB ESLs for Soil [2]			**260**	**12,000**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	**8YZ**	**79**
	COMP-13-16-N	5/30/2018	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	**4.6YZ**	**45**
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	-	-
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	**3.8YZ**	**46**
	COMP-5-8-N	5/30/2018	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	**5.6YZ**	**64**
	COMP-9-12-N	5/30/2018	-	-

Notes:

1. Detected results shown in **bold**.
2. Analytical results are screened against the San Francisco Regional Water Quality Control Board's (SFRWQCB) January 2019 Direct Exposure Human Health Risk Level ESLs for residential soil. Screening levels of noncarcinogenic scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)

Y = The sample exhibits a chromatographic pattern which does not resemble the standard.

Z = The sample exhibits an unknown single peak or peaks in the chromatogram.

COMP = Composite sample

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**6,300**	**49**	**190**	**1,300**	**130**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**6,300**	**7.8**	**190**	**1,300**	**130**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<3.4	<6.7
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<0.99	<2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<1.7	<3.3
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<6.6
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
Phase II Investigation Report
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloro-naphthalene	2-Chlorophenol	2-Methylphenol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**1.7**	**0.36**	**4,800**	**390**	**3,200**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**1.7**	**0.36**	**4,100**	**340**	**3,200**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<3.4	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<0.99	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<1.7	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	2-Nitroaniline	2-Nitrophenol	3,3-Dichloro-benzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**630**	**-**	**1.2**	**-**	**5.1**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**630**	**-**	**0.45**	**-**	**5.1**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<6.7	<6.7	<6.7	<6.7	<6.7
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<2	<2	<2	<2	<2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<3.3
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<6.6	<6.6	<6.6	<6.6	<6.6
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Methylphenol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**-**	**6,300**	**2.7**	**-**	**6,300**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**-**	**6,300**	**2.7**	**-**	**6,300**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<3.4	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<0.99	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<1.7	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	4-Nitroaniline	4-Nitrophenol	Azobenzene	Benzoic acid	Benzyl alcohol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**27**	**-**	**5.6**	**250,000**	**6,300**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**27**	**-**	**-**	**250,000**	**6,300**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<6.7	<6.7	<3.4	<17	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<2	<2	<0.99	<5	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<3.3	<3.3	<1.7	<8.3	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<6.6	<6.6	<3.3	<17	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	bis(2-Chloroethoxy) methane	bis(2-Chloroethyl) ether	bis(2-Chloroisopropyl) ether	bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate
U.S. EPA Regional Screening Levels for Residential Soil [1]			**190**	**0.23**	**3,100**	**39**	**290**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**190**	**0.1**	**2,000**	**39**	**290**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<3.4	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<0.99	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<1.7	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	di-n-Butyl phthalate	di-n-Octyl phthalate
U.S. EPA Regional Screening Levels for Residential Soil [1]			**73**	**51,000**	**-**	**6,300**	**630**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**66**	**51,000**	**-**	**6,300**	**630**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<3.4	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<0.99	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<1.7	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<3.3	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Hexachloro-benzene	Hexachloro-cyclopentadiene	Hexachloro-ethane	Isophorone	Nitrobenzene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**0.21**	**1.8**	**1.8**	**570**	**5.1**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**0.19**	**-**	**-**	**570**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<6.7	<3.4	<3.4	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<2	<0.99	<0.99	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<3.3	<1.7	<1.7	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<6.6	<3.3	<3.3	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	n-Nitroso-dimethylamine	n-Nitrosodi-n-propylamine	n-Nitroso-diphenylamine	Pentachloro-phenol	Phenol
U.S. EPA Regional Screening Levels for Residential Soil [1]			**0.002**	**0.078**	**110**	**1.0**	**19,000**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**-**	**0.078**	**110**	**1.0**	**19,000**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<3.4	<3.4	<3.4	<6.7	<3.4
	COMP-13-16-N	5/30/2018	-	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.99	<0.99	<0.99	<2	<0.99
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<1.7	<1.7	<1.7	<3.3	<1.7
	COMP-5-8-N	5/30/2018	-	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<3.3	<3.3	<3.3	<6.6	<3.3
	COMP-9-12-N	5/30/2018	-	-	-	-	-

Table 12
Summary of Analytical Results for Semi-Volatile Organic Compounds (SVOCs)
Composite Soil Samples
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Notes:

1. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
2. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
COMP = Composite sample

Table 13
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Composite Soil Samples
Phase II Investigation Report
The New 2nd Comprehensive High School, Dublin, California

Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**240**	**3,600**	**-**	**18,000**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**190**	**3,300**	**-**	**17,000**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.67	<0.67	<0.67	<0.67
	COMP-13-16-N	5/30/2018	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.2	<0.2	<0.2	<0.2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.33	<0.33	<0.33	<0.33
	COMP-5-8-N	5/30/2018	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.66	<0.66	<0.66	<0.66
	COMP-9-12-N	5/30/2018	-	-	-	-

Table 13
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Benz(a)-anthracene	Benzo(a) pyrene	Benzo(b)-fluoranthene	Benzo (g,h,i)-perylene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**1.1**	**0.11**	**1.1**	**-**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**1.1**	**0.11**	**1.1**	**-**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.67	<0.67	<0.67	<0.67
	COMP-13-16-N	5/30/2018	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.2	<0.2	<0.2	<0.2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.33	<0.33	<0.33	<0.33
	COMP-5-8-N	5/30/2018	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.66	<0.66	<0.66	<0.66
	COMP-9-12-N	5/30/2018	-	-	-	-

Table 13
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**11**	**110**	**0.11**	**2,400**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**11**	**110**	**0.028**	**2,400**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.67	<0.67	<0.67	<0.67
	COMP-13-16-N	5/30/2018	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.2	<0.2	<0.2	<0.2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.33	<0.33	<0.33	<0.33
	COMP-5-8-N	5/30/2018	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.66	<0.66	<0.66	<0.66
	COMP-9-12-N	5/30/2018	-	-	-	-

Table 13
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Composite Soil Samples
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Analytical results reported in milligrams per kilogram (mg/kg)

Location Name	Field ID	Sample Date	Fluorene	Indeno (1,2,3-c,d) pyrene	Phenanthrene	Pyrene
U.S. EPA Regional Screening Levels for Residential Soil [1]			**2,400**	**1.1**	**-**	**1,800**
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [2]			**2,300**	**1.1**	**-**	**1,800**
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.67	<0.67	<0.67	<0.67
	COMP-13-16-N	5/30/2018	-	-	-	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-	-	-	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.2	<0.2	<0.2	<0.2
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.33	<0.33	<0.33	<0.33
	COMP-5-8-N	5/30/2018	-	-	-	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.66	<0.66	<0.66	<0.66
	COMP-9-12-N	5/30/2018	-	-	-	-

Table 13
Summary of Analytical Results for Polycyclic Aromatic Hydrocarbons (PAHs)
Composite Soil Samples
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Notes:

1. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
2. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
COMP = Composite sample

Table 14
Summary of Analytical Results for Asbestos
Composite Soil Samples
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Location Name	Field ID	Sample Date	Asbestos by CARB Method 435 [1]
U.S. EPA Regional Screening Levels for Residential Soil [2]			-
DTSC HERO HHRA Note 3 Screening Levels for Residential Soil [3]			-
SB-13, SB-14, SB-15, SB-16	COMP-13-16-F	5/30/2018	<0.25
	COMP-13-16-N	5/30/2018	-
SB-01, SB-02, SB-03, SB-04	COMP-1-4-N	5/30/2018	-
SB-02, SB-03, SB-04	COMP-2-4-F	5/30/2018	<0.25
SB-05, SB-06, SB-07, SB-08	COMP-5-8-F	5/30/2018	<0.25
	COMP-5-8-N	5/30/2018	-
SB-09, SB-10, SB-11, SB-12	COMP-9-12-F	5/30/2018	<0.25
	COMP-9-12-N	5/30/2018	-

Notes:

1. The analytical results are reported in percent asbestos fibers which is the percent number of asbestos fibers contained in 400 randomly chosen particles of a bulk sample. Note: Limit of Quantitation (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ.
2. Analytical results are screened against the United States Environmental Protection Agency's (U.S. EPA) May 2019 Regional Screening Levels for Residential Soil. The most conservative regional screening levels of both carcinogenic and noncarcinogenic scenarios are presented in this table.
3. Analytical results are also screened against the California EPA Department of Toxic Substances Control's (DTSC) April 2019 HERO HHRA Note 3 Screening Levels for Residential Soil. The most conservative screening levels of both cancer and noncancer endpoint scenarios are presented in this table.

Abbreviations and Data Qualifiers:

- = Not analyzed or sampled (or not applicable)
< = Analytical result is less than laboratory reporting limit.
HERO = Human and Ecological Risk Office
HHRA = Human Health Risk Assessment
COMP = Composite sample

Table 15

Soil Sample Results Summary

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Analyte	Number of Analyses	Number of Detections	Minimum Detected Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	Exposure Point Concentration (mg/kg)	Contaminant of Concern for Site?
Dichloromethane	36	1	0.01	0.01	0.01	Yes
4-methylphenol	51	1	0.02	0.02	0.02	Yes
Bis(2-ethylhexyl)phthalate	51	1	0.015	0.015	0.015	Yes
TPH-d	63	57	1.1	110	110	Yes
TPH-mo	35	22	12	640	640	Yes
Chlordane (cis) (alpha)	20	1	0.0054	0.0054	0.0054	Yes
Chordane (trans)(gamma)	20	2	0.00014	0.0054	0.0054	Yes
Dieldrin	20	1	0.024	0.024	0.024	Yes
Endrin Aldehyde	20	6	0.00042	0.0012	0.0012	Yes
Antimony	21	1	0.54	0.54	0.54	Yes
Arsenic	36	36	2.9	12	- [1]	No
Barium	21	21	160	390	390	Yes
Beryllium	21	18	0.32	0.73	0.73	Yes
Cadmium	21	16	0.14	0.34	0.34	Yes
Chromium	21	21	26	48	48	Yes
Cobalt	21	21	7.2	13	13	Yes
Copper	21	21	14	26	26	Yes
Lead	36	36	4.7	11	- [1]	No
Mercury	21	20	0.013	0.043	0.043	Yes
Molybdenum	21	16	0.083	0.37	0.37	Yes
Nickel	21	21	29	46	46	Yes
Selenium	21	15	0.41	0.73	0.73	Yes
Vanadium	21	21	30	56	56	Yes
Zinc	21	21	31	61	61	Yes
Aroclor 1260	20	3	0.00078	0.0012	0.0012	Yes

Notes:

1. Arsenic is not included in the risk screening because the maximum detected concentration for arsenic was below the background concentration established for the Bay Area. Additionally, lead is not included in the risk screening because it was evaluated separately.
2. Risk screening includes discrete sample results only, not composite sample results, per the Department of Toxic Substances Control Human and Ecological Risk Office Note Number 4 issued on May 14, 2019.

Abbreviations:

mg/kg = Milligrams per kilogram

- = Not applicable

Table 16

Soil Risk Screening Summary

Phase II Investigation Report

The New 2nd Comprehensive High School, Dublin, California

Analyte	Soil Screening Level - Cancer Endpoint (mg/kg)	Soil Screening Level - Noncancer Endpoint (mg/kg)	Screening Level Source	Exposure Point Concentration (mg/kg)	Excess Cancer Risk	Noncancer Hazard Quotient
Dichloromethane	-	-	-	0.01	-	-
4-methylphenol	-	6300	[1]	0.02	-	3.2E-06
Bis(2-ethylhexyl)phthalate	39	1300	[1]	0.015	3.8E-10	1.2E-05
TPH-d	-	260	[3]	110	-	4.2E-01
TPH-mo	-	12,000	[3]	640	-	5.3E-02
Chlordane (cis) (alpha)	-	-	-	0.0054	-	-
Chordane (trans)(gamma)	-	-	-	0.0054	-	-
Dieldrin	0.034	3.2	[1]	0.024	7.1E-07	7.5E-03
Endrin Aldehyde	-	-	-	0.0012	-	-
Antimony	-	31	[2]	0.54	-	1.7E-02
Barium	-	15,000	[2]	390	-	2.6E-02
Beryllium	1600	160	[1]	0.73	4.6E-10	4.6E-03
Cadmium	910	71	[1]	0.34	3.7E-10	4.8E-03
Chromium	-	-	-	48	-	-
Cobalt	420	23	[2]	13	3.1E-08	5.7E-01
Copper	-	3100	[2]	26	-	8.4E-03
Mercury	-	1	[1]	0.043	-	4.3E-02
Molybdenum	-	390	[2]	0.37	-	9.5E-04
Nickel	15,000	820	[1]	46	3.1E-09	5.6E-02
Selenium	-	390	[2]	0.73	-	1.9E-03
Vanadium	-	390	[2]	56	-	1.4E-01
Zinc	-	23,000	[2]	61	-	2.7E-03
Aroclor 1260	0.24	-	[1]	0.0012	5.0E-09	-
				Total	**7.5E-07**	**1E+00**

Notes:

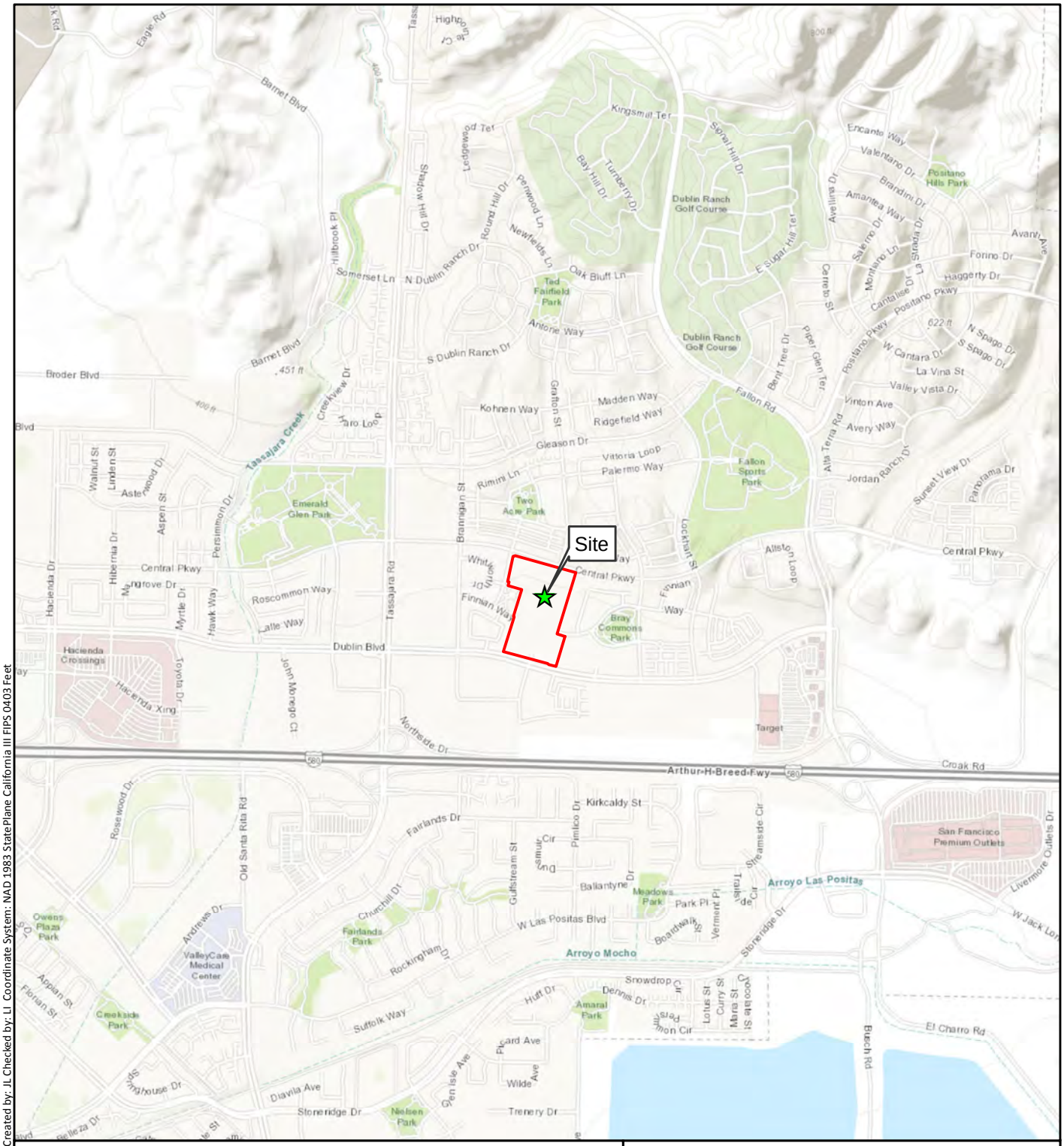
1. Screening levels derived from the Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (April 2019).
2. Screening levels derived from the United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (May 2019).
3. Screening levels derived from the San Francisco Regional Water Quality Control Board's Direct Exposure Human Health Risk Level environmental screening levels for residential soil (January 2019).

Abbreviations:

mg/kg = Milligrams per kilogram

- = Screening criteria not available; cancer risk and/or hazard index not calculated

FIGURES



0 700 1,400 2,100 2,800 Feet

1 inch = 2,000 feet

N

Legend

★ Site Location

Base Map: USGS Dublin/Livermore 7.5 Minute Quadrangles

SAFETY FIRST

terraphase engineering

CLIENT: Dublin Unified School District

PROJECT: PEA Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Site Location

FIGURE 1

File: K:\GIS\Prj\0098 DUSD\MXDs\Site Locus.mxd 8/7/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

PG&E High Voltage Underground Vault J-74481

Pad-Mounted Gear SW-73661, S&C Electrical Equipment

PG&E Transformer T-30314

Aboveground Electrical Equipment

Concrete Ring

PARCEL 1
APN: 985-78-4

PARCEL 2
APN: 985-78-5

PARCEL B APN: 985-78-3

PARCEL A APN: 985-78-2

PARCEL 3
APN: 985-78-6

PARCEL 4
APN: 985-78-7

Concrete Water Pipe Access Vaults

Fenced Storm Water Areas

Concrete Pad Utility Vaults

Storm Water Drain

PG&E Transformer T-28217

Devaney Square Park

Bray Commons

Residential

Commercial

Undeveloped

Brannigan St
Whitworth Dr
Chancery Ln
Dunmore Ln
Finnian Way
Clarinbridge Cir
Bremen Row Rd
Lands Down St
Dublin Blvd
Central Pkwy
Giovanni Way
Lee Thompson St
Monaghan St
Fitzwilliam St
Maguire Way
Keegan St

Legend

Property Boundary

Parcel Boundary

Notes:
Alameda assessor parcel numbers,
APN: 985-78-2
APN: 985-78-3
APN: 985-78-4
APN: 985-78-5
APN: 985-78-6
APN: 985-78-7

Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

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CLIENT: Dublin Unified School District

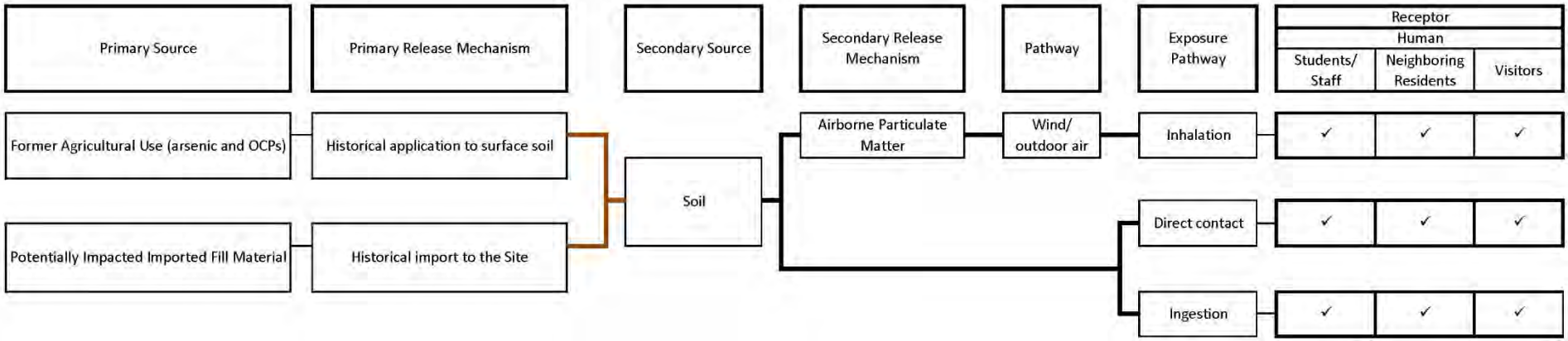
PROJECT: PEA Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Site Map

FIGURE 2

File: K:\GIS\Prj\0098 DUSD\MXDs\Site Map_wFeatures.mxd 3/13/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



SAFETY FIRST	CLIENT: Dublin Unified School District	**Conceptual Site Model**
terraphase engineering	PROJECT: PEA Report The New 2nd Comprehensive High School, Dublin, CA	
	PROJECT NUMBER: 0098.003.002	**FIGURE 3**



Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

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CLIENT: Dublin Unified School District

PROJECT: PEA Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Sample Compositing Strategy

FIGURE 4

File: K:\GIS\Prj\0098 DUSD\MXDs\Fig4_Sample Compositing Strategy.mxd 12/18/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Legend

- Boring Locations (TEI 5/2018)
- Boring Locations (Berlogar 12/2016)
- Property Boundary

Notes:
1. All concentrations in milligrams per kilogram (mg/kg)
2. Depth shown in feet below ground surface (bgs)
3. SB-01 through SB-16 samples collected by Terraphase (TEI) Engineering on May 29 and 30, 2018
4. Shallow samples were collected from imported fill materia and deeper samples were collected from native soil, except for SB-01 which had only a native soil sample collected.
5. **Blue text** indicates exceedance of DTSC HHRA Note 3 Residential Soil DTSC-Screening Levels, April 2019

Abbreviations:
NA: Not available
As: Arsenic
Pb: Lead

DTSC Screening Levels:
Arsenic: 0.11 mg/kg
Lead: 80 mg/kg

Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

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CLIENT: Dublin Unified School District

PROJECT: PEA Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Arsenic and Lead Concentrations

FIGURE 5

File: K:\GIS\Prj\0098 DUSD\MXDs\PEA Figures\Figure 4 - Arsenic and Lead Concentrations.mxd 12/2/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Legend

- Boring Locations (TEI 5/2018)
- Boring Locations (Berlogar 12/2016)
- Property Boundary

Notes:
1. All concentrations in milligrams per kilogram (mg/kg)
2. Depth shown in feet below ground surface (bgs)
3. SB-01 through SB-16 samples collected by Terraphase Engineering on May 29 and 30, 2018

Abbreviations:
TPH: Total Petroleum Hydrocarbons
ORO: TPH-Motor Oil
DRO: TPH-Diesel
SFRWQCB: San Francisco Regional Water Quality Control Board

SFRWQCB Tier 1 Environmental Screening Levels (January 2019):
TPH as Diesel: 260 mg/kg
TPH as Motor Oil: 1,600 mg/kg

Notes: Aerial imagery source - NAIP June 2014.

0 100 200 300 400 Feet

1 inch = 200 feet

N

SAFETY FIRST

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CLIENT: Dublin Unified School District

PROJECT: PEA Report
The New 2nd Comprehensive High School, Dublin, CA

PROJECT NUMBER: 0098.003.002

Total Petroleum Hydrocarbons as Diesel and Motor Oil Concentrations

FIGURE 6

File: K:\GIS\Prj\0098 DUSD\MXDs\PEA Figures\Figure 5 - TPH-D & TPH-MO Concentrations.mxd 12/2/2019 Created by: JL Checked by: LI Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

APPENDIX A
ASSESSOR'S PARCEL MAP

For Assessment Use Only

ASSESSOR'S MAP 985

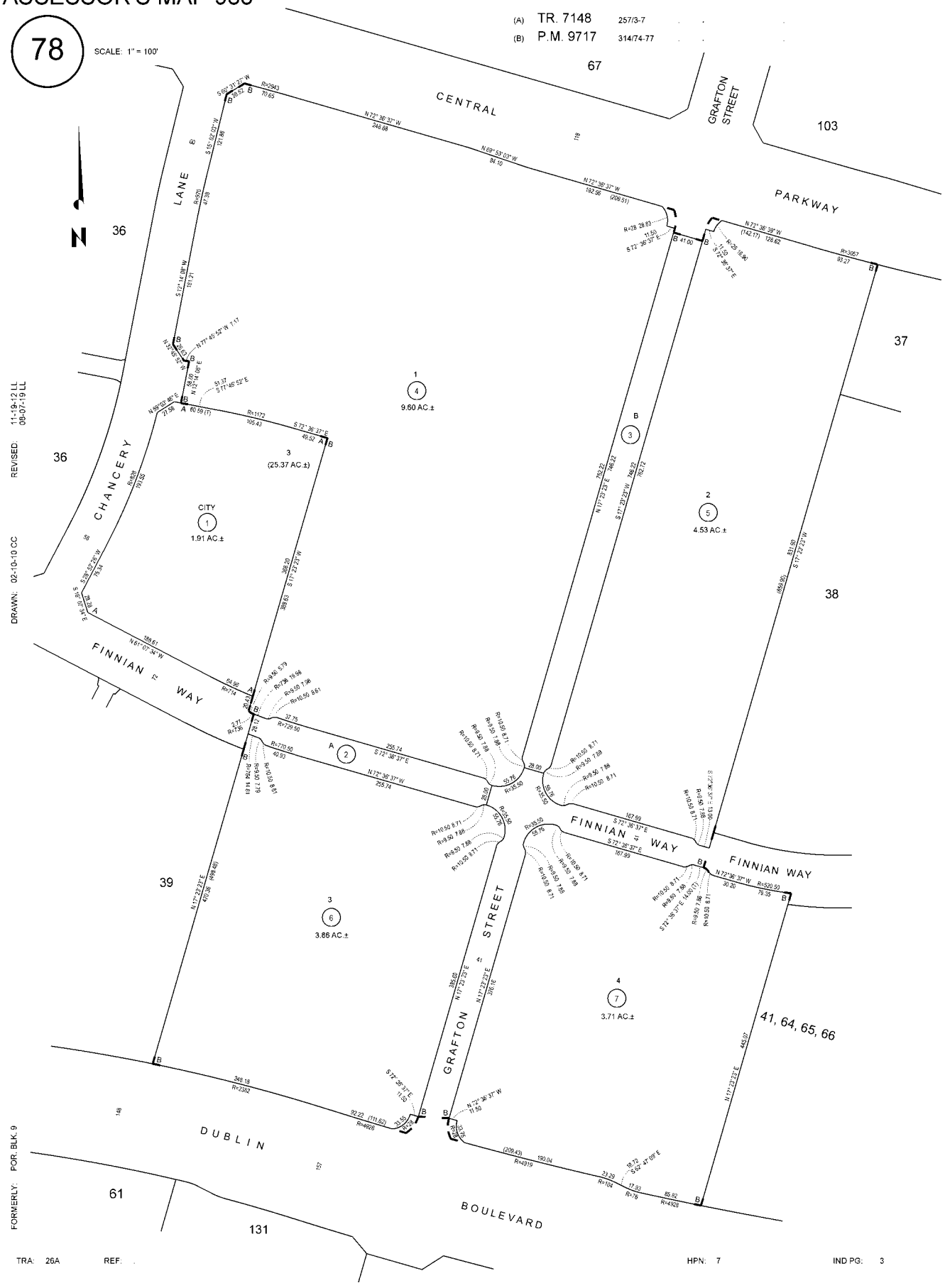
78

SCALE: 1" = 100'

Code Area Nos. 26-026

(A) TR. 7148 257/3-7

(B) P.M. 9717 314/74-77



REVISED: 11-19-12 LL
08-07-19 LL

DRAWN: 02-10-10 CC

FORMERLY: POR. BLK. 9

TRA: 26A REF: HPN: 7 IND PG: 3

APPENDIX B
PHASE I ESA OWNER QUESTIONNAIRE

terraphase engineering

Owner, Occupant, and/or Operator Questionnaire

Please provide the following information, if available. If additional pages for response are necessary, please attach them to this form.

Your Contact Information		
Your Name & Title: JAMES TOHN MANAGER	Company: GRAFTON STATION LLC	
Address: 4080 GRAFTON ST 200	City: DUBLIN	State & Zip: CA 94568
Phone: (925) 463-1666	Date Completed: MARCH 7 2019	
Cell phone:	Email: JIM@CHARTER-PROPERTIES.COM	
How are you associated with the property? ***(Check all that apply.)*** Owner ☐ Occupant ☐ Operator ☐		
What is the length of time you have been associated with the property? From 1995 to NOW		

Subject Property Information		
Property Name: Promenade	Property Identification (e.g. Block & Lot or Parcel ID #): Alameda County APNs 985-0078-002, -003, -004, -005, -006, -007	
Address: Dublin Blvd	City: Dublin	State & Zip: CA 94568

Current Operations

Is the property currently used for any of the following operations? ***(Check all that apply.)***

☐ Manufacturing operations ☐ Gasoline service station ☐ Automobile repair ☐ Printing facility ☐ Dry cleaning*
☐ Photo-development ☐ Junkyard or landfill ☐ Waste treatment, transfer, storage, disposal, processing, or recycling

Describe current operations: VACANT LAND HOLDING FOR FUTURE DEVELOPMENT

terraphase engineering

Past Operations & Owners

Has the property ever been used for any of the following operations? ***(Check all that apply.)***

☐ Manufacturing operations ☐ Gasoline service station ☐ Automobile repair ☐ Printing facility ☐ Dry cleaning
☐ Photo-development ☐ Junkyard or landfill ☐ Waste treatment, transfer, storage, disposal, processing, or recycling

Please describe below. VACANT LAND.

Describe property use/operations prior to the construction of buildings currently at the property:

VACANT LAND

Provide previous property owners, occupants, and/or operators. Attach pages as necessary.

Company	Owner/ Occupant/ Operator	Dates of occupancy	Operations	Contact name & number
		N/A		

Neighboring Operations

Check any operations which occur, or have occurred in the past, at adjoining properties.

☐ Manufacturing operations ☐ Gasoline service station ☐ Automobile repair ☐ Printing facility ☐ Dry cleaning*
☐ Photo-development ☐ Junkyard or landfill ☐ Waste treatment, transfer, storage, disposal, processing, or recycling

Existing Documentation

Does the following documentation exist? If yes, please provide copies.

Yes	No	Do not know	
☐	☐	☐	ESA Reports
☐	☐	☐	Env. Compliance Audit Reports
☐	☐	☐	Environmental Permits
☐	☐	☐	UST/AST registrations
☐	☐	☐	Underground injection permits
☐	☐	☐	MSDS
☐	☐	☐	Hazardous waste generator notices
☑	☐	☐	Geotechnical studies
☐	☐	☐	Risk Assessments
☐	☐	☐	Community Right-to-know plan
☐	☐	☐	Safety Plans
☐	☐	☐	SPCC Plans
☐	☐	☐	Emergency preparedness & prevention plans
☐	☐	☐	Hydrogeologic reports
☐	☐	☐	Government correspondence & violations
☐	☐	☐	Recorded AULs
☐	☐	☐	Environmental Liens
☐	☐	☐	Other

Known Environmental Concerns		
Are you aware of any pending, threatened, or past litigation relevant to h*azardous substances* or *petroleum products* in, on, or from the property?	Yes ☐	No ☑
Are you aware of any pending, threatened, or past administrative proceedings relevant to *hazardous substances* or *petroleum products* in, on, or from the property?	Yes ☐	No ☑
Are you aware of any notices from governmental agencies regarding possible violation of environmental laws or possible liability relating to *hazardous substances* or *petroleum products*?	Yes ☐	No ☑
Are you aware of any remediation activities that have occurred at the property or adjacent properties in response to contaminated soil, groundwater, and/or surface water?	Yes ☐	No ☑
Are you aware of any proposed investigations at the property?	Yes ☐	No ☑

If yes to any of the above, describe. Attach pages as necessary. _____

Are you aware of any of the following currently or previously located at the subject property?

(Check all that apply. If you answer yes to any of the items, provide the additional information described on the following pages.)

	Yes – currently	Yes – previously	No – never
Underground storage tanks:	☐	☐	☑
Aboveground storage tanks:	☐	☐	☑
Electrical transformers or capacitors:	☐	☐	☐
Hydraulic equipment, including elevators, dock levelers, lifts, compactors, & balers:	☐	☐	☑
Chemical storage (greater than 5 gallons):	☐	☐	☑
Hazardous wastes, including used oil:	☐	☐	☑
Wells, including potable water wells, monitoring wells, test wells:	☐	☐	☑
Sumps:	☐	☐	☑
Pits:	☐	☐	☑
Floor drains:	☐	☐	☑
Surface water bodies & stormwater discharge:	☐	☐	☑
Lagoons:	☐	☐	☑
Septic systems:	☐	☐	☑
Oil water separators:	☐	☐	☑
Dry cleaners:	☐	☐	☑

APPENDIX C
SOIL SAMPLING LOCATIONS FROM PREVIOUS SITE ASSESSMENTS



N

0 100

1"=100'

EXPLANATION

	PARCEL BOUNDARIES
S-32	SAMPLE LOCATION (12/16)
1E/W6	SAMPLE LOCATION (6 THROUGH 9 9/15/09, 1A THROUGH 5F 9/22/09, Z1, Z2, X, Y AND W 10/9/09, Z3 10/12/09)
4	SAMPLE LOCATION (7/3/08)
A, B, C, D	SAMPLE LOCATION (6/20/08)
E-4	SAMPLE LOCATION (6/20/08)
AB/RAC	SURFACE LAYER OF AGGREGATE BASE AND REMNANT ASPHALT CONCRETE

SOIL SAMPLING SITE PLAN

PM 9717

DUBLIN BOULEVARD
AND GRAFTON STREET
DUBLIN, CALIFORNIA
FOR
GRAFTON STATION, INC.

Berlogar Stevens & Associates
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

DRAWN BY: CC
DATE: 12-7-16
JOB NUMBER: 3831.900

PLATE 3

APPENDIX D
HISTORICAL SAMPLE RESULTS

Table 1

Previous Soil Sample Results - Volatile Organic Compounds

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,4-dichlorobenzene	2-chlorotoluene	2-hexanone	4-chlorotoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dichlorodifluoromethane	Dichloromethane
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			2	-	0.6	1.1	3.6	-	-	-	0.0015	24	-	-	0.46	2.5	-	2.6	-	-	-	-	-	0.33	-	19	-	-	0.098	-	-	0.32	-	-	-	-	1.8
Soil Screening Level - Non-Cancer Endpoint			550	1700	1600	1.5	1600	230	-	63	4.8	58	300	1800	31	16	270	3400	470	200	440	33000	61000	11	290	1600	6.8	770	100	280	14000	200	110	18	-	87	350
1,2,3,4	0.5-1	7/3/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0047	-	-	-	-	-	-	-	-	-	-	-	-	-
6	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.098	<0.098	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.020	<0.0098	<0.0098	<0.020	<0.020
7	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.098	<0.098	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.020	<0.0098	<0.020	<0.0098	<0.0098	<0.020	<0.020
8	<1	9/15/2009	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.097	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.097	**0.01**
9	<1	9/15/2009	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.0051	<0.051	<0.051	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.010	<0.0051	<0.0051	<0.010	<0.010
2D2	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0048	-	-	-	-	-	-	-	-	-	-	-	-	-
C4	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0045	-	-	-	-	-	-	-	-	-	-	-	-	-
C5	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0042	-	-	-	-	-	-	-	-	-	-	-	-	-
C7	0-1	9/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0046	-	-	-	-	-	-	-	-	-	-	-	-	-
1A1	0-1	9/22/2009	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.002	<0.002	<0.010	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.010	<0.0051	<0.0051	<0.010	<0.002	<.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.002	<0.0051	<0.002	<0.0051	<0.002	<0.002	<0.0051	<0.0051
1B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
1C1	0-1	9/22/2009	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0021	<0.0053	<0.011	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0021	<0.0053	<0.0021	<0.0053	<0.0021	<0.0021	<0.0053	<0.0053
1D1	0-1	9/22/2009	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.010	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.010	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0052	<0.0052
1E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
1F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
2A1	0-1	9/22/2009	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0017	<0.0044	<0.0087	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0087	<0.0044	<0.0044	<0.0087	<0.0017	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0017	<0.0044	<0.0017	<0.0044	<0.0017	<0.0017	<0.0044	<0.0044
2B1	0-1	9/22/2009	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0019	<0.0049	<0.0097	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0097	<0.0049	<0.0049	<0.0097	<0.0019	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0019	<0.0049	<0.0019	<0.0049	<0.0019	<0.0019	<0.0049	<0.0049
2C1	0-1	9/22/2009	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0091	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0091	<0.0046	<0.0046	<0.0091	<0.0018	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0046	<0.0046
2D1	0-1	9/22/2009	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.0018	<0.0045	<0.009	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.009	<0.0045	<0.0045	<0.009	<0.0018	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0018	<0.0045	<0.0018	<0.0045	<0.0018	<0.0018	<0.0045	<0.0045
2E1	0-1	9/22/2009	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.0022	<0.0054	<0.011	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0022	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0022	<0.0054	<0.0022	<0.0054	<0.0022	<0.0022	<0.0054	<0.0054
2F1	0-1	9/22/2009	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.011	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0021	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0054	<0.0054
3A1	0-1	9/22/2009	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0092	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0092	<0.0046	<0.0046	<0.0092	<0.0018	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0046	<0.0046
3B1	0-1	9/22/2009	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.010	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.010	<0.0052	<0.0052	<0.010	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0052	<0.0052
3C1	0-1	9/22/2009	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.011	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.011	<0.0054	<0.0054	<0.011	<0.0021	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0054	<0.0054
4A1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4C1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4D1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
4F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5A1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5B1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5C1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5D1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5E1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.010	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.010	<0.005	<0.005	<0.010	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
5F1	0-1	9/22/2009	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	<0.005	<0.0099	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0099	<0.005	<0.005	<0.0099	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0002	<0.005	<0.005
Z3	0-1	10/9/2009	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0096	<0.0048	<0.0048	<0.0096	<0.0096
S1	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0096	<0.0048	<0.0048	<0.0096	<0.0096
S2	0.5-1	12/5/2016	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.047	<0.0047	<0.047	<0.047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0094	<0.0047	<0.0047	<0.0094	<0.0094
S3	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.048	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.0097	<0.0097
S4	0.5-1	12/5/2016	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.049	<0.0049	<0.049	<0.049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0097	<0.0097

Table 1

Previous Soil Sample Results - Volatile Organic Compounds

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methyl Ethyl Ketone	Methyl Tertiary Butyl Ether	Naphthalene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Total Xylenes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			5.8	1.2	-	-	47	3.8	-	-	-	-	-	-	0.59	-	-	-	0.94	-	-	0.0087	-
Soil Screening Level - Non-Cancer Endpoint			3400	78	1900	27000	15000	130	3900	3800	-	7800	6000	7800	81	1100	130	-	4.1	1200	910	70	-
1,2,3,4	0.5-1	7/3/2008	<0.0047	-	-	-	-	-	-	-	-	-	-	-	-	<0.0047	-	-	-	-	-	-	<0.0094
6	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020
7	<1	9/15/2009	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.098	<0.0098	<0.020
8	<1	9/15/2009	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097
9	<1	9/15/2009	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.010	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.051	<0.0051	<0.010
2D2	0-1	9/22/2009	<0.0048	-	-	-	<0.0048	-	-	-	-	-	-	-	-	<0.0048	-	-	-	-	-	-	<0.0096
C4	0-1	9/22/2009	<0.0045	-	-	-	<0.0045	-	-	-	-	-	-	-	-	<0.0045	-	-	-	-	-	-	<0.009
C5	0-1	9/22/2009	<0.0042	-	-	-	<0.0042	-	-	-	-	-	-	-	-	<0.0042	-	-	-	-	-	-	<0.0084
C7	0-1	9/22/2009	<0.0046	-	-	-	<0.0046	-	-	-	-	-	-	-	-	<0.0046	-	-	-	-	-	-	<0.0091
1A1	0-1	9/22/2009	<0.002	<0.0051	<0.002	<0.10	<0.0051	<0.0051	<0.002	<0.002	<0.002	<0.0051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.0051	<0.0051
1B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
1C1	0-1	9/22/2009	<0.0021	<0.0053	<0.0021	<0.011	<0.0053	<0.0053	<0.0053	<0.0021	<0.0021	<0.0053	<0.0021	<0.0053	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0053	<0.0042
1D1	0-1	9/22/2009	<0.0021	<0.0052	<0.0021	<0.010	<0.0052	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<00042
1E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
1F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
2A1	0-1	9/22/2009	<0.0017	<0.0044	<0.0017	<0.0087	<0.0044	<0.0044	<0.0044	<0.0017	<0.0017	<0.0044	<0.0017	<0.0044	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0044	<0.0044	<0.0044	<0.0035
2B1	0-1	9/22/2009	<0.0019	<0.0049	<0.0019	<0.0097	<0.0049	<0.0049	<0.0049	<0.0019	<0.0019	<0.0049	<0.0019	<0.0049	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0049	<0.0039
2C1	0-1	9/22/2009	<0.0018	<0.0046	<0.0018	<0.0091	<0.0046	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0046	<0.0037
2D1	0-1	9/22/2009	<0.0018	<0.0045	<0.0018	<0.009	<0.0045	<0.0045	<0.0045	<0.0018	<0.0018	<0.0045	<0.0018	<0.0045	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.0045	<0.0045	<0.0036
2E1	0-1	9/22/2009	<0.0022	<0.0054	<0.0022	<0.011	<0.0054	<0.0054	<0.0054	<0.0022	<0.0022	<0.0054	<0.0022	<0.0054	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.0054	<0.0054	<0.0044
2F1	0-1	9/22/2009	<0.0021	<0.0054	<0.0021	<0.011	<0.0054	<0.0054	<0.0054	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0054	<0.0043
3A1	0-1	9/22/2009	<0.0018	<0.0046	<0.0018	<0.0092	<0.0046	<0.0046	<0.0046	<0.0018	<0.0018	<0.0046	<0.0018	<0.0046	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0046	<0.0037
3B1	0-1	9/22/2009	<0.0021	<0.0052	<0.0021	<0.010	<0.0052	<0.0052	<0.0052	<0.0021	<0.0021	<0.0052	<0.0021	<0.0052	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0052	<0.0042
3C1	0-1	9/22/2009	<0.0021	<0.0054	<0.0021	<0.011	<0.0054	<0.0054	<0.0054	<0.0021	<0.0021	<0.0054	<0.0021	<0.0054	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0054	<0.0043
4A1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4C1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4D1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
4F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5A1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5B1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5C1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5D1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5E1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.010	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
5F1	0-1	9/22/2009	<0.002	<0.005	<0.002	<0.0099	<0.005	<0.005	<0.005	<0.002	<0.002	<0.005	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.004
Z3	0-1	10/9/2009	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096
S1	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0096
S2	0.5-1	12/5/2016	<0.0047	<0.0047	<0.0047	<0.047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094
S3	0.5-1	12/5/2016	<0.0048	<0.0048	<0.0048	<0.048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0097
S4	0.5-1	12/5/2016	<0.0049	<0.0049	<0.0049	<0.049	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0097

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
   - Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
   - United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 2

Previous Soil Sample Results - Total Petroleum Hydrocarbons

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	TPH-g	TPH-d	TPH-mo
			mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-
Soil Screening Level - Non-Cancer Endpoint			100	260	1600
1,2,3,4	0.5-1	7/3/2008	<0.24	**13**	**77**
2D2	0-1	9/22/2009	<0.24	<0.99	<50
C1	0-1	9/22/2009	-	**2.1**	<49
C2	0-1	9/22/2009	-	<1.0	<50
C3	0-1	9/22/2009	-	**30**	**270**
C4	0-1	9/22/2009	<0.23	**57**	**420**
C5	0-1	9/22/2009	<0.21	**3.9**	<50
C6	0-1	9/22/2009	-	**19**	**130**
C7	0-1	9/22/2009	<0.23	**190**	**1500**
W1	0-1	10/9/2009	-	<0.99	<50
W2	0-1	10/9/2009	-	**6.6**	<50
W3	0-1	10/9/2009	-	**2.5**	<50
W4	0-1	10/9/2009	-	**1.8**	<50
W5	0-1	10/9/2009	-	<1.0	<50
W6	0-1	10/9/2009	-	**110**	**640**
X1	0-1	10/9/2009	-	**9.4**	**54**
X2	0-1	10/9/2009	-	**11**	**75**
X3	0-1	10/9/2009	-	<0.99	<50
X4	0-1	10/9/2009	-	<0.99	<50
Y1	0-1	10/9/2009	-	**8.2**	**69**
Y2	0-1	10/9/2009	-	**5.9**	<50
Y3	0-1	10/9/2009	-	**2.1**	<50
Y4	0-1	10/9/2009	-	<1.0	<50
S1	0.5-1	12/5/2016	-	**1.7**	<50
S2	0.5-1	12/5/2016	-	**2**	<50
S3	0.5-1	12/5/2016	-	**8.9**	**75**
S4	0.5-1	12/5/2016	-	**5.9**	**55**
S5	0.5-1	12/6/2016	-	**3.8**	-
S6	0.5-1	12/6/2016	-	**1.7**	-
S7	0.5-1	12/6/2016	-	**2.2**	-
S8	0.5-1	12/6/2016	-	**1.5**	-
S9	0.5-1	12/6/2016	-	**3.4**	-
S10	0.5-1	12/6/2016	-	**4.8**	-
S11	0.5-1	12/6/2016	-	**1.7**	-
S12	0.5-1	12/6/2016	-	**1.5**	-
S13	0.5-1	12/6/2016	-	**1.7**	-
S14	0.5-1	12/6/2016	-	**1.3**	-
S15	0.5-1	12/6/2016	-	**2.8**	-
S16	0.5-1	12/6/2016	-	**4.5**	-
S17	0.5-1	12/6/2016	-	**3.9**	-
S18	0.5-1	12/6/2016	-	**1.1**	-
S19	0.5-1	12/6/2016	-	**2.1**	-
S20	0.5-1	12/6/2016	-	**2.2**	-
S21	0.5-1	12/6/2016	-	**1.6**	-
S22	0.5-1	12/6/2016	-	**3.7**	-

Table 2

Previous Soil Sample Results - Total Petroleum Hydrocarbons

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	TPH-g	TPH-d	TPH-mo
			mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-
Soil Screening Level - Non-Cancer Endpoint			100	260	1600
S23	0.5-1	12/6/2016	-	**4.9**	-
S24	0.5-1	12/6/2016	-	**12**	-
S25	0.5-1	12/6/2016	-	**5.9**	-
S26	0.5-1	12/6/2016	-	**6.8**	-
S27	0.5-1	12/6/2016	-	**4.1**	-
S28	0.5-1	12/6/2016	-	**3.3**	-
S29	0.5-1	12/6/2016	-	**2.7**	-
S30	0.5-1	12/6/2016	-	**9.6**	-
S31	0.5-1	12/6/2016	-	**2.9**	-
S32	0.5-1	12/6/2016	-	**32**	-

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Screening levels are derived from San Francisco Regional Water Quality Control Board's Tier 1 Environmental Screening Level (ESL) for residential soil (Revision 1; February 2019)

2. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.

Table 3
Previous Soil Sample Results - Organochlorine Pesticides
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	a-BHC	Aldrin	b-BHC	chlordane	Chlordane (cis) (alpha)	Chlordane (trans) (gamma)	d-BHC	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			0.086	0.039	0.3	0.44	-	-	-	2.3	2	1.9	0.034	-	-	-	-	-		0.57	0.13	0.07	-	0.49
Soil Screening Level - Non-Cancer Endpoint			510	2.3	-	35	-	-	-	1.9	23	37	3.2	-	-	-	19	-		21	39	1	320	5.7
1,2,3,4	0.5-1	7/3/2008	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C1	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C3	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C4	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C5	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
C6	0-1	9/22/2009	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S1	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S2	0.5-1	12/5/2016	<0.0019	<0.0019	<0.0019	<0.039	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.039
S3	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.04	**0.0054**	**0.0054**	<0.002	<0.002	<0.002	<0.002	**0.024**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.04
S4	0.5-1	12/5/2016	<0.002	<0.002	<0.002	<0.039	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.039

Notes:
Bold text indicates detected concentrations above the laboratory reporting limit
mg/kg= milligrams per kilogram
- = Not analyzed or no screening criteria available
< = analyte not detected above laboratory reporting limit
bgs = below ground surface.
1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
- Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
- United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 4

Previous Soil Sample Results - Polychlorinated Bipheynls

Promenade Site

Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			6.7	0.2	0.17	0.23	0.23	0.24	0.24
Soil Screening Level - Non-Cancer Endpoint			4.1	-	-	-	-	1.2	-
1,2,3,4	0.5-1	7/3/2008	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C1	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C2	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C3	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C4	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C5	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C6	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C7	0-1	9/22/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S1	0.5-1	12/5/2016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S2	0.5-1	12/5/2016	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048
S3	0.5-1	12/5/2016	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
S4	0.5-1	12/5/2016	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049

Notes:

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mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.

2. Screening levels are derived from the following source:

United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (November 2018)

Table 5
Previous Soil Sample Results - Metals
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	0.11	-	1600	2100	-	420	-	-	-	-	15000	-	-	-	-	-
Soil Screening Level - Non-Cancer Endpoint			31	0.4	15000	15	5.2	-	23	3100	80	1	390	490	390	390	0.78	390	23000
1,2,3,4	0.5-1	7/3/2008	<2.0	**4.8**	**230**	<0.51	<0.51	**36**	**11**	**21**	**7**	<0.050	**1.2**	**42**	<2.0	<1.0	<1.0	**38**	**44**
2D2	0-1	9/22/2009	<9.9	**12**	**210**	<0.49	<0.49	**33**	**8.3**	**21**	**6.1**	**0.043**	<2.0	**41**	<2.0	<0.99	<9.9	**36**	**38**
C1	0-1	9/22/2009	<9.9	**4.5**	**230**	**0.57**	<0.49	**40**	**10**	**22**	**7.7**	<0.020	<2.0	**44**	<2.0	<0.99	<9.9	**44**	**44**
C2	0-1	9/22/2009	<9.9	**4.4**	**230**	**0.54**	<0.49	**36**	**9.1**	**22**	**6.9**	<0.020	<2.0	**41**	<2.0	<0.99	<9.9	**43**	**42**
C3	0-1	9/22/2009	<9.9	**3.7**	**230**	**0.59**	<0.49	**38**	**9.5**	**20**	**7.2**	<0.020	<2.0	**40**	<2.0	<0.99	<9.9	**42**	**41**
C4	0-1	9/22/2009	<9.9	**3.5**	**240**	**0.53**	<0.49	**35**	**9.8**	**20**	**6.8**	<0.020	<2.0	**41**	<2.0	<0.99	<9.9	**45**	**39**
C5	0-1	9/22/2009	<9.9	**4.4**	**290**	**0.67**	<0.49	**44**	**10**	**22**	**8**	**0.025**	<2.0	**43**	<2.0	<0.99	<9.9	**53**	**44**
C6	0-1	9/22/2009	<9.9	**5.2**	**250**	**0.57**	<0.49	**34**	**9.2**	**19**	**7.2**	<0.020	<2.0	**35**	<2.0	<0.99	<9.9	**49**	**43**
C7	0-1	9/22/2009	<9.9	**4.2**	**190**	**0.5**	<0.49	**41**	**9**	**23**	**7.1**	**0.021**	<2.0	**48**	<2.0	<0.99	<9.9	**43**	**46**
S1	0-1	12/5/2016	<1.4	**2.9**	**160**	<0.29	<0.36	**26**	**7.2**	**17**	**4.7**	**0.013**	<1.4	**29**	<2.9	<0.71	<1.4	**30**	**31**
S2	0.5-1	12/5/2016	<1.4	**4.6**	**210**	**0.42**	<0.36	**31**	**9.5**	**16**	**6.3**	**0.014**	<1.4	**37**	<2.9	<0.72	<1.4	**37**	**40**
S3	0.5-1	12/5/2016	<1.9	**4.7**	**220**	<0.38	<0.47	**31**	**9.3**	**15**	**5.9**	**0.029**	<1.9	**32**	<3.8	<0.94	<1.9	**41**	**40**
S4	0.5-1	12/5/2016	<1.3	**4.7**	**260**	**0.32**	<0.32	**26**	**10**	**14**	**6**	**0.023**	<1.3	**32**	<2.6	<0.64	<1.3	**38**	**40**

Notes:
Bold text indicates detected concentrations above the laboratory reporting limit
mg/kg= milligrams per kilogram
- = Not analyzed or no screening criteria available
< = analyte not detected above laboratory reporting limit
bgs = below ground surface.
= sample result exceeds the cancer endpoint soil screening criteria
red font = sample result exceeds the non-cancer endpoint soil screening criteria
1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Arsenic was detected in soil above the risk-based screening levels, but below the background concentration typical of Bay Area soils.
2. Screening levels are derived from the following sources:
- Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
- United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,4-Dinitrotoluene	2,6-dinitrotoluene	2-chloronaphthalene	2-chlorophenol	2-methylphenol	2-nitroaniline	2-nitrophenol	3,3-Dichlorobenzidine	3-nitroaniline	4,6-Dinitro-2-methylphenol	4-bromophenyl phenyl ether
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-	1.1	0.11	1.1	-	11	110	0.11	-	-	1.1	-	-	-	7.5	-	-	-	1.7	0.36	-	-	-	-	-	1.2	-	-	-
Soil Screening Level - Non-Cancer Endpoint			3600	-	18000	-	18	-	-	-	-	-	2400	2400	-	-	1800	6300	63	190	1300	130	130	19	4800	390	3200	630	-	-	-	5.1	-
6	<1	9/15/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
7	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
8	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
9	<1	9/15/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
1A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
1B1	0-1	9/22/2009	<3.3	<3.3	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<50	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<8.5	<8.5	<3.3	<8.5
1C1	0-1	9/22/2009	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<5.0	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.85	<0.85	<0.33	<0.85
1D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
1E1	0-1	9/22/2009	<3.3	<3.3	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<50	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<16	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3	<8.5	<8.5	<3.3	<8.5
1F1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2B1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2C1	0-1	9/22/2009	<1.7	<1.7	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<25	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<4.2	<4.2	<1.7	<4.2
2D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
2F1	0-1	9/22/2009	<1.7	<1.7	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<25	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<8.2	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7	<4.2	<4.2	<1.7	<4.2
3A1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
3B1	0-1	9/22/2009	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<5.0	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.85	<0.85	<0.33	<0.85
3C1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
4A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4B1	0-1	9/22/2009	<0.67	<0.67	<0.67	<3.3	<0.67	<0.67	<0.67	<0.67	<10	<0.67	<0.67	<1.7	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67	<3.3	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67	<1.7	<1.7	<0.67	<1.7
4C1	0-1	9/22/2009	<0.13	<0.13	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<2.0	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.66	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13	<0.34	<0.34	<0.13	<0.34
4D1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
4F1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5A1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5B1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5C1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5D1	0-1	9/22/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<1.0	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
5E1	0-1	9/22/2009	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<1.0	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
5F1	0-1	9/22/2009	<0.066	<0.066	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<1.0	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.33	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066	<0.17	<0.17	<0.066	<0.17
S1	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
S2	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17
S3	0.5-1	12/5/2016	<0.33	<0.33	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.84	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<1.6	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33	<0.84	<0.84	<0.33	<0.84
S4	0.5-1	12/5/2016	<0.067	<0.067	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.33	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067	<0.17	<0.17	<0.067	<0.17

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	4-chloro-3-methylphenol	4-chloroaniline	4-chlorophenyl phenyl ether	4-methylphenol	4-nitroaniline	4-nitrophenol	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Hexachlorobenzene	Hexachlorocyclopentadiene	Hexachloroethane	Isophorone	Nitrobenzene	N-Nitrosodimethylamine	N-nitrosodi-n-propylamine	n-Nitrosodiphenylamine	Pentachlorophenol	Phenol
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	2.7	-	-	27	-	5.6	-	-	0.23	-	39	290	-	-	-	-	-	0.21	-	1.8	570	5.1	0.002	0.078	110	1	-
Soil Screening Level - Non-Cancer Endpoint			6300	250	-	6300	250	-	-	6300	190	-	3100	1300	13000	73	51000	-	6300	630	63	1.8	45	13000	130	0.53	-	-	250	19000
6	<1	9/15/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
7	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
8	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
9	<1	9/15/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
1A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
1B1	0-1	9/22/2009	<3.3	<3.3	<8.5	<3.3	<16	<16	<3.3	<8.5	<8.5	<3.3	<3.3	<3.3	<8.5	<3.3	<8.5	<8.5	<8.5	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3
1C1	0-1	9/22/2009	<0.33	<0.33	<0.85	<0.33	<1.6	<1.6	<0.33	<0.85	<0.85	<0.33	<0.33	<0.33	<0.85	<0.33	<0.85	<0.85	<0.85	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
1D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
1E1	0-1	9/22/2009	<3.3	<3.3	<8.5	<3.3	<16	<16	<3.3	<8.5	<8.5	<3.3	<3.3	<3.3	<8.5	<3.3	<8.5	<8.5	<8.5	<3.3	<3.3	<8.5	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<16	<3.3
1F1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2B1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2C1	0-1	9/22/2009	<1.7	<1.7	<4.2	<1.7	<8.2	<8.2	<1.7	<4.2	<4.2	<1.7	<1.7	<1.7	<4.2	<1.7	<4.2	<4.2	<4.2	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7
2D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
2F1	0-1	9/22/2009	<1.7	<1.7	<4.2	<1.7	<8.2	<8.2	<1.7	<4.2	<4.2	<1.7	<1.7	<1.7	<4.2	<1.7	<4.2	<4.2	<4.2	<1.7	<1.7	<4.2	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<8.2	<1.7
3A1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
3B1	0-1	9/22/2009	<0.33	<0.33	<0.85	<0.33	<1.6	<1.6	<0.33	<0.85	<0.85	<0.33	<0.33	<0.33	<0.85	<0.33	<0.85	<0.85	<0.85	<0.33	<0.33	<0.85	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
3C1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
4A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4B1	0-1	9/22/2009	<0.67	<0.67	<1.7	<0.67	<3.3	<3.3	<0.67	<1.7	<1.7	<0.67	<0.67	<0.67	<1.7	<0.67	<1.7	<1.7	<1.7	<0.67	<0.67	<1.7	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<3.3	<0.67
4C1	0-1	9/22/2009	<0.13	<0.13	<0.34	<0.13	<0.66	<0.66	<0.13	<0.34	<0.34	<0.13	<0.13	<0.13	<0.34	<0.13	<0.34	<0.34	<0.34	<0.13	<0.13	<0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.13
4D1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
4F1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5A1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5B1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5C1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5D1	0-1	9/22/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
5E1	0-1	9/22/2009	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
5F1	0-1	9/22/2009	<0.066	<0.066	<0.17	<0.066	<0.33	<0.33	<0.066	<0.17	<0.17	<0.066	<0.066	<0.066	<0.17	<0.066	<0.17	<0.17	<0.17	<0.066	<0.066	<0.17	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.33	<0.066
S1	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
S2	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067
S3	0.5-1	12/5/2016	<0.33	<0.33	<0.84	<0.33	<1.6	<1.6	<0.33	<0.84	<0.84	<0.33	<0.33	<0.33	<0.84	<0.33	<0.84	<0.84	<0.84	<0.33	<0.33	<0.84	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<1.6	<0.33
S4	0.5-1	12/5/2016	<0.067	<0.067	<0.17	<0.067	<0.33	<0.33	<0.067	<0.17	<0.17	<0.067	<0.067	<0.067	<0.17	<0.067	<0.17	<0.17	<0.17	<0.067	<0.067	<0.17	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.33	<0.067

Table 6
Previous Soil Sample Results - Semi-Volatile Organic Compounds
Promenade Site
Dublin, California

Sample Identification	Sample Depth (feet bgs)[1]	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,4-Dinitrotoluene	2,6-dinitrotoluene	2-chloronaphthalene	2-chlorophenol	2-methylphenol	2-nitroaniline	2-nitrophenol	3,3-Dichlorobenzidine	3-nitroaniline	4,6-Dinitro-2-methylphenol	4-bromophenyl phenyl ether
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Screening Level - Cancer Endpoint			-	-	-	1.1	0.11	1.1	-	11	110	0.11	-	-	1.1	-	-	-	7.5	-	-	-	1.7	0.36	-	-	-	-	-	1.2	-	-	-
Soil Screening Level - Non-Cancer Endpoint			3600	-	18000	-	18	-	-	-	-	-	2400	2400	-	-	1800	6300	63	190	1300	130	130	19	4800	390	3200	630	-	-	-	5.1	-

Notes:

Bold text indicates detected concentrations above the laboratory reporting limit

mg/kg= milligrams per kilogram

- = Not analyzed or no screening criteria available

< = analyte not detected above laboratory reporting limit

bgs = below ground surface.

= screening level result exceeds the cancer endpoint soil screening criteria

red font = screening level exceeds the non-cancer endpoint soil screening criteria

1. Samples were collected at the Site by other consultants at the Site. Results are reported for summary.
2. Screening levels are derived from the following sources:
   - Department of Toxic Substances Control Human and Ecological Risk Office Note 3 screening level for residential soil (updated June 2018)
   - United States Environmental Protection Agency, Region 9 Regional Screening Level for residential soil (Nov 2018)

APPENDIX E
PREVIOUS SOIL SAMPLING ANALYTICAL REPORTS

VOLUME 1 OF 2

ANALYTICAL SOIL SAMPLING AND TESTING
PROMENADE, AREA G OF DUBLIN RANCH
GRAFTON STREET AND CENTRAL PARKWAY
DUBLIN, CALIFORNIA

FOR
TOLL BROTHERS, INC.
October 16, 2009

Job No. 3180.900

BERLOGAR GEOTECHNICAL CONSULTANTS

Via Email and Hand-Delivery

October 16, 2008
Job No. 3180.900

BGC
BERLOGAR
GEOTECHNICAL
CONSULTANTS

Mr. Thomas A. Argyris
Toll Brothers, Inc.
100 Park Place, Suite 125
San Ramon, California 94583

Subject: Analytical Soil Sampling and Testing
Promenade, Area G of Dublin Ranch
Grafton Street and Central Parkway
Dublin, California

Dear Mr. Argyris:

Berlogar Geotechnical Consultants has completed analytical testing of soil samples obtained from the subject Promenade site. It is our understanding that Toll Brothers used this area during construction of the nearby residential developments. Our soil sampling and testing has been performed to determine if the site has been contaminated from construction activities.

ENVIRONMENTAL PROTOCOL

Sampling was performed with either a hand sampler or a drill rig equipped with a solid flight auger. The hand auger or solid flight auger tips were cleaned with distilled water and TSP prior to sampling and between sampling locations. The samples were placed in sterile glass jars provided by the analytical laboratory and soil completely filled the jars to minimize air space. The samples were then placed in a chilled cooler with crushed ice, and transported the same day to TestAmerica, a California State Certified analytical laboratory, in Pleasanton, California. Appropriate Chain-of-Custody procedures were followed and accompanied all samples to the laboratory. The following provides standard acronyms that are referenced in this report.

AB	Aggregate Base, a mixture of gravel, sand, and some fines.
AC	Asphalt Concrete.
ESL	Environmental Screening Level, lower level of contaminant concentrations requiring some type of remediation as specified by an agency. The ESL utilized in our analysis is from the SFRWQCB, Table A-2, Shallow Soil Screening Levels, Commercial/Industrial Land Use (groundwater is potential drinking water resource), November 2007, Revised May 2008.
ND	Not Detected, test result is below the reporting limit of the test method.
PCB	Polychlorinated Biphenyls.
PPM	Parts per million, by weight for soil and volume for water.

RAC	Remnant Asphalt Concrete, particles of AC remaining from pavement demolition.
SFRWQCB	San Francisco Regional Water Quality Control Board.
SVOC	Semi-Volatile Organic Compounds.
VOC	Volatile Organic Compounds.
TPH	Total Petroleum Hydrocarbon.
TSP	Trisodium Phosphate, typical equipment cleaning detergent.

SITE DESCRIPTION

The approximate 17-acre site is located between Central Parkway and Dublin Boulevard at the intersection with Grafton Street. Plate 1, Vicinity Map, shows the location of the site and Plate 2, Site Plan shows the site configuration. The site is bounded by Central Parkway to the north, an undeveloped parcel in the northeast corner, residential dwelling units on the west, a graded pad to the southeast, Dublin Boulevard to the south, and Chancery Lane, residential structures, and a park along the west side. The site has been graded relatively flat. Underground storm drain and sanitary sewer lines constructed as part of the residential development in the area bisect the site.

The site is essentially undeveloped, with remnants of demolished AC and gravel surface treatment located in some parts of the site as shown on Plate 2, Site Plan. An approximate 200-foot square area lay down area is currently being utilized for material storage in the southern end of the site. This area is covered with AB and RAC; boring X4 encountered 1 foot of AB/RAC over 1 foot of sand underlain by clayey soil. An approximate 25-foot wide swath running east-west at the Finnian Way alignment is covered with AB and RAC. A small section of AC pavement remains near the west side of the site near Finnian Way.

Gravel, RAC, and concrete pieces are scattered on the ground in an approximate 350-foot by 250-foot area on the east side, near the center of the site. Crushed rock covers the ground in front of the south entry gate, presumably for winter access to the site. A layer of gravel is located in two locations, one just north of the existing lay down area and another small area in the center portion of the site. We did not observe signs of soil staining during our site reconnaissance.

SAMPLING AND TESTING HISTORY

The following summarizes the sampling and testing performed by BGC in 2008 and 2009 at the site. More detailed discussion of the results of the analytical testing is provided later.

1) **Grafton North, June 20, 2008 (Samples A1-A3, B1-B2, C1-C2, D1-D2, and E1-E4)** – Sampling and testing was requested by Toll Brothers to determine if the stockpile of fill at this location was suitable for use as fill. The fill stockpile averaged about 2 feet in

thickness, and ranged from 1 foot thick in the southern end to about 4 feet thick in the northwest corner. We obtained 13 samples from 11 locations with a hand auger from the upper 2 feet in the northeast corner of the site as shown on the Site Plan. The fill stockpile has subsequently been removed from this portion of the site. The samples were tested for various constituents and the tested soil was not found to be contaminated. The test results are contained in Appendix A.

2) **Grafton South, July 3, 2008 (Samples 1-4)** – Toll Brothers requested the soil in this area be tested to determine the constituents in the native soil. Four hand auger samples were obtained in the upper foot from the southwest corner of the Promenade site as shown on the Site Plan. The analytical tests did not indicate the soil was contaminated (Appendix B).

3) **Promenade, September 15, 2009 (Samples 6, 7, 8, and 9) and September 22, 2009 (Samples 1A-1F, 2A-2F, 3A-3C, 4A-4F and 5A-5F)** – Thirty-two samples were obtained from the site in an approximate 150-foot grid from the upper foot. A drill rig with solid flight augers was utilized to obtain the samples. The analytical test results indicated three individual samples contained potential VOC above the ESL and three composite samples contained potential diesel and motor oil above the ESL. The locations of these samples are shown on the Site Plan and the test results are contained in appendices C, D, and E.

4) **Promenade, October 9 and 12, 2009 (Samples W1-W6, X1-X4, Y1-Y4, and Z1-Z3)** – Isolated samples were obtained from the same sample locations that contained potential VOC, diesel, and motor oil above the ESL from the third sampling event (September 2009). Samples X1, X2, and X3 were obtained with a hand auger in the upper foot. Sample X4 was obtained at a depth of 2 feet, below the 1-foot thick AB/RAC and 1-foot thick layer of sand in this area. The sample locations are shown on the Site Plan and the test results are contained in Appendix F.

The following is a list of analytical tests that were performed and Tables 1 though 5 summarize the test results on the soil samples. Test results from the four sampling events described above are contained in these tables.

Table 1 8260B, Volatile Organic Compounds.

Table 2 8270C, Semi-Volatile Organic Compounds.

Table 3 8081A, Organochlorine Pesticides.
8151A, Chlorinated Herbicides.
8141A, Organophosporous Pesticides.

Table 4 6010B, CAM 17 Metals, Inductively Coupled Plasma, Atomic Emission Spectrometry.
7471A, CAM 17 Metals, Mercury in Solid or Semisolid Waste.

Table 5 8082, PCB by Gas Chromatography.
8260B, TPH gas.
8015B, Nonhalogenated Organics, TPH diesel and motor oil.

Please see the laboratory analytical reports in the appendices for complete results and analysis detection limits.

CONCLUSIONS

The test results indicate that most constituents were not detectable. The constituents reported in Table 2, SVOC, and Table 3, herbicides and pesticides, were all not detected. PCB and TPH gas was also not detected (Table 5). Hence, it is our opinion that SVOC, herbicide, pesticide, PCB, and TPH gas contamination is not present at this site.

VOC test results on Table 1 indicate most constituents as not detectable. However, sample 1F (13 ppm) and 5E (16 ppm) showed measurable amounts of acetone, and sample 8 contained 10 ppm methylene chloride. Additional soil samples were obtained from these three sample locations (Z1 through Z3) in the fourth sampling event in October and tested for VOC, and the test results were not detectable. Acetone and methylene chloride are highly volatile and readily disperses into the atmosphere. It is our opinion that the acetone and methylene chloride detected in the 3 soil samples in the third sampling event may be due to laboratory quality control procedures, and not indicative of acetone or methylene chloride constituents in the soil.

CAM 17 heavy metal test results are contained in Table 4. Arsenic was detected between 3.5 to 12 ppm, which is above the ESL of 1.5 ppm, in every sample from the first three sampling events. It is documented that the Bay Area soil and bedrock contain naturally occurring arsenic from minerals in the bedrock. Hence, it is our opinion that the site is not contaminated with arsenic from construction activities; rather, the arsenic concentrations detected in the soil are background concentrations.

TPH diesel range organics and motor oil range organics were detected in some of the samples obtained from the site in the four sampling events. Most of the diesel and motor oil test results were below the ESL. Sample C3 (composite of 6 soil samples) had 30 ppm diesel. Since a single sample could have contributed to the test result, these six locations were resampled (W1 through W6) in sampling event number four. The test results for samples W1 through W5 were either not detectable or below the ESL. Sample W6 had 110 ppm diesel, which is above the 83 ppm ESL for diesel, and 640 ppm motor oil, which is below the 2,500 ppm ESL for motor oil.

Sample C4 (composite of 3 soil samples) contained 57 ppm diesel. Again, if a single soil sample contributed the detected diesel in the composite sample, there is a possibility that the soil contained diesel above the ESL. Three more samples were obtained from these locations, Y1 through Y3, from the fourth sampling event. We also collected a fourth sample, Y4, to provide better coverage of the area. Samples Y1 through Y4 did not have concentrations of diesel and motor oil above the ESL or were not detectable.

Sample C7 (composite of 4 samples) had diesel (190 ppm) concentrations above the ESL. Four additional samples were obtained from this location, X1 through X4, in the fourth sampling event. This is the area covered with AB mixed with RAC, hence, the high concentration of diesel and motor oil from C7 is likely due to the RAC. X1, X2, and X3 were obtained in the upper foot outside the AB/RAC lay down area. The test results show that diesel and motor oil was either below the ESL or not detectable. Sample X4 was obtained 2-feet in depth, below the surface layer of AB/RAC and sand in this location. Diesel and motor oil was not detected for the X4 sample of the underlying clayey soil.

In summary, it is our opinion that the surficial soil at the Promenade site is not contaminated with VOC's, SVOC's, herbicides, pesticides, PCB's, and gasoline range organics. The surface soil contains isolated areas with minor concentrations of diesel and motor oil range organics. It is our opinion that the origin of the diesel and motor oil is from the demolition and subsequent spreading of asphalt concrete and from possible oil leaks from vehicles and construction equipment. The isolated areas with minor concentrations of diesel and motor oil range organics can be diluted by mixing the soil with construction equipment. The RAC is relatively inert, and can be used as commercial or industrial fill. The onsite soil and the RAC do not need to be treated as contaminated material, and no special handling is required. If suspect oil stains are observed during future site work, soil sampling and analysis should be performed to verify concentrations.

LIMITATIONS

This report has been prepared specifically for Promenade Area G of Dublin Ranch property located at Grafton Street and Central Parkway in Dublin, California, and was performed according to the current state and local agency suggested guidance documents for these investigations. The interpretations, conclusions and recommendations made herein are based on the data and analysis for the specific soil samples collected on-site. Conditions of the property can change over time and the use of this report by third parties is entirely at their own risk.

This report has been prepared for use solely by Toll Brothers, Inc., our Client. This report shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of our Client, Toll Brothers, Inc. We are not responsible for errors in laboratory analysis and reporting, or for information not available, nor unreported or unknown sources of site contamination during the course of the study, and no warranty or guarantee is expressed or implied therein.

We trust that this letter provides the necessary information you require at this time. If you have any questions, please contact Bill Stevens at (925) 484-0220 or bstevens@berlogar.com.

Respectfully,

BERLOGAR GEOTECHNICAL CONSULTANTS

W. R. Stevens

William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/10

REGISTERED PROFESSIONAL ENGINEER
WILLIAM R. STEVENS
No. 2339
Exp. 03-31-10
GEOTECHNICAL
STATE OF CALIFORNIA

W. F. Berlogar f.- FB

Frank Berlogar

WRS/FB:jmb

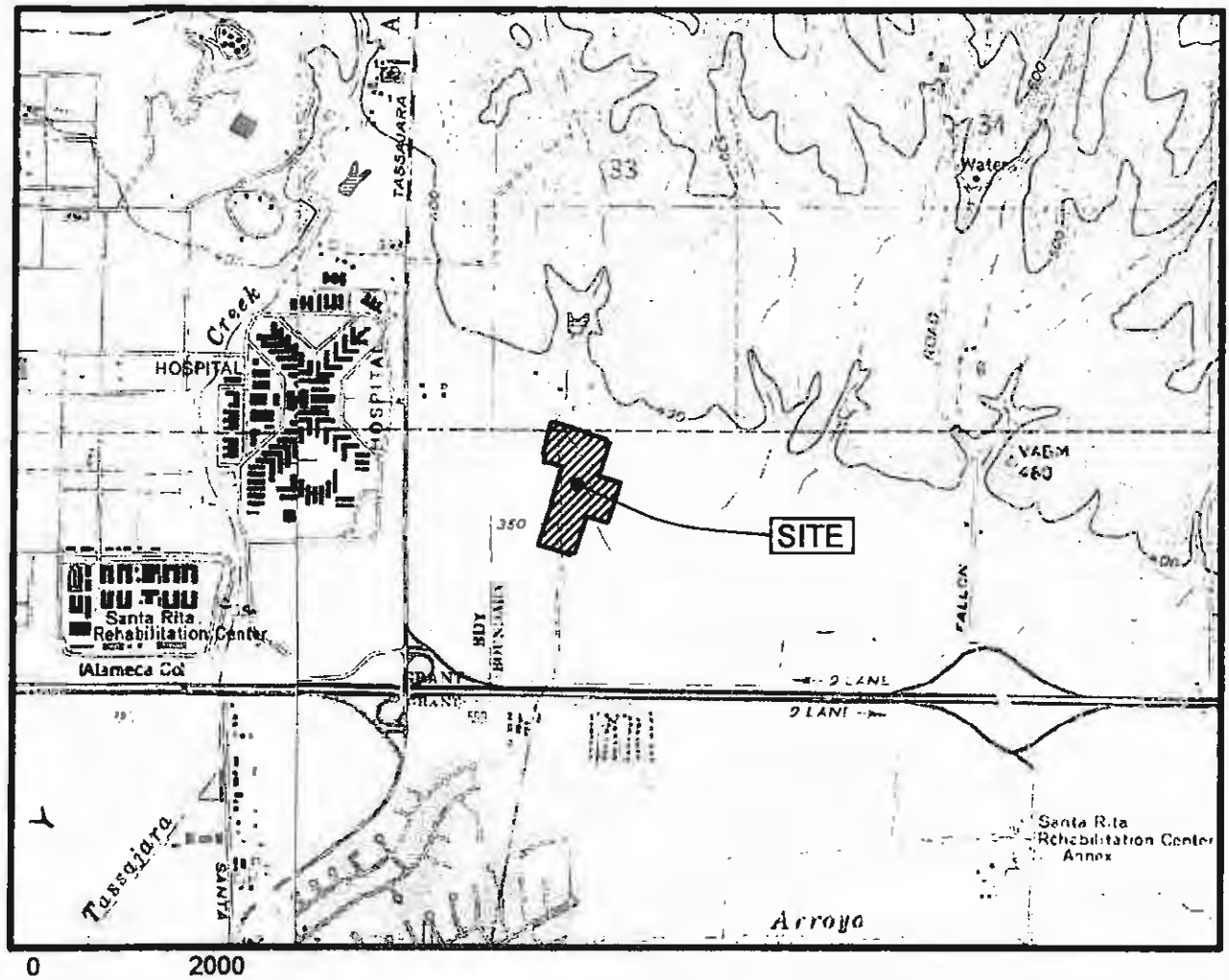
Attachments:

Plate 1 – Vicinity Map
Plate 2 – Site Plan
Table 1 – Volatile Organic Compounds (VOC)
Table 2 – Semi-Volatile Organic Compounds (SVOC)
Table 3 – Herbicides and Pesticides
Table 4 – CAM 17 Heavy Metals
Table 5 – Polychlorinated Biphenyls (PCB) and Total Petroleum Hydrocarbon (TPH)
Appendix A – TestAmerica Analytical Report, Grafton North, 6/20/08
Appendix B – TestAmerica Analytical Report, Grafton South, 7/3/08
Appendix C – TestAmerica Analytical Report, Promenade, 6 - 9, 9/15/09
Appendix D – TestAmerica Analytical Report, Promenade, 1A - 5F, Part 1, 9/22/09
Appendix E – TestAmerica Analytical Report, Promenade, 1A - 5F, Part 2, 9/22/09
Appendix F – TestAmerica Analytical Report, Promenade, W1 - Z3, 9/12-9/13/09

Copies: Addressee (2)
Kasowitz, Benson, Torres & Friedman LLP *(e-mail)*
Attention: Mr. Chris McNamara

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JOB NUMBER: 3180.900 DATE: 9-11-09 BY: CC



VICINITY MAP

PROMENADE ANALYTICAL SOIL SAMPLING AND TESTING

DUBLIN, CALIFORNIA

FOR

TOLL BROTHERS, INC.

BASE: PORTION OF U.S.G.S 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, LIVERMORE, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000

PLATE 1

TABLE 4 CAM 17 HEAVY METALS	SFRWQCB[1] (ppm)	Grafton North	Grafton South	PROMENADE (2009)							
	Sample Depth (ft)	E-Comp[7] 0.5	LD-Comp[8] 0.5 to 1	2D ≤ 1	C1[9] ≤ 1	C2[10] ≤ 1	C3[11] ≤ 1	C4[12] ≤ 1	C5[13] ≤ 1	C6[14] ≤ 1	C7[15] ≤ 1
Antimony and compounds	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic *	1.6	3.8	4.8	12	4.5	4.4	3.7	3.5	4.4	5.2	4.2
Barium and compounds	1,500	240	230	210	230	230	230	240	290	250	190
Beryllium and compounds	8.0	0.52	ND	ND	0.57	0.54	0.59	0.53	0.67	0.57	0.50
Cadmium and compounds	7.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, total	--	41	36	33	40	36	38	35	44	34	41
Chromium III	750	--	--	--	--	--	--	--	--	--	--
Chromium VI+++	8.0	--	--	--	--	--	--	--	--	--	--
Cobalt	80	10	11	8.3	10	9.1	9.5	9.8	10	9.2	9.0
Copper and compound	230	21	21	21	22	22	20	20	22	19	23
Lead and lead compounds	750	7.8	7.0	6.1	7.7	6.9	7.2	6.8	8.0	7.2	7.1
Molybdenum	40	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND
Nickel and compounds	150	48	42	41	44	41	40	41	43	35	48
Selenium	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver and compound	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium and compounds+++	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium and compounds	200	37	38	36	44	43	42	45	53	49	43
Zinc	600	41	44	38	44	42	41	39	44	43	46
Mercury and compounds EPA 7471A	10	ND	ND	0.043	ND	ND	ND	ND	0.025	ND	0.021

Notes:

[1]San Francisco Bay Regional Water Quality Control Board, Table A-2, Shallow Soil Screening Levels, Com/Ind Land Use, GW is Potential Drinking Water Resource, 11/07, Revised 5/08.

[2]Shallow soils defined as soils less than or equal to 3 meters (approximately 10 feet) below ground surface.

[3]A-Comp was formed by compositing material from sample locations A1, A2 and A3

[4]B-Comp was formed by compositing material from sample locations B1 and B2

[5]C-Comp was formed by compositing material from sample locations C1 and C2

[6]D-Comp was formed by compositing material from sample locations D1 and D2

[7]E-Comp was formed by compositing material from sample locations E1, E2, E3 and E4

[8]LD-Comp was formed by compositing material from sample locations 1, 2, 3 and 4

[9]C1 was formed by compositing material from sample locations 5A and 5B

[10]C2 was formed by compositing material from sample locations 5C, 5D, 5E and 5F

[11]C3 was formed by compositing material from sample locations 3C, 4A, 4B, 4C, 4E and 4F

[12]C4 was formed by compositing material from sample locations 2C, 3A and 3B

[13]C5 was formed by compositing material from sample locations 2A, 2B and 4D

[14]C6 was formed by compositing material from sample locations 1C, 1F and 2F

[15]C7 was formed by compositing material from sample locations 1A, 1B, 1D and 1E

X = Result Exceeds Environmental Screening Levels (ESLs)

* The arsenic level is considered background level concentrations from the mineralogy of the geologic units in the Bay Area.

TABLE 5	SFRWQCB[1] (ppm)	Grafton North	Grafton South	PROMENADE (2009)																										
POLYCHLORINATED BIPHENYL (PCB)	Sample	E-Comp[7]	LD-Comp[8]	6	7	8	9	2D	C1[9]	C2[10]	C3[11]	W1	W2	W3	W4	W5	W6	C4[12]	Y1	Y2	Y3	Y4	C5[13]	C6[14]	C7[15]	X1	X2	X3	X4
TOTAL PETROLEUM HYDROCARBON (TPH)	Depth (ft)	0.5	0.5 to 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
POLYCHLORINATED BIPHENYLS (PCBs), EPA 8082																														
PCB	0.3	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1016	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1221	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1232	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1242	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1248	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1254	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
PCB-1260	--	ND	ND	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--
TPH Gas, EPA 8260B																														
Benzene	0.044	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
Ethylbenzene	3.3	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
Toluene	2.9	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
MTBE	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
Xylenes, Total	2.3	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
Gasoline Range Organics (GRO)-C5-C12	83		ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	--	ND	--	--	--	--
TPH Diesel, EPA 8015B																														
Diesel Range Organics [C10-C28]	83	1.5	13	--	--	--	--	--	2.1	ND	30	ND	6.6	2.5	1.8	ND	110	57	8.2	5.9	2.1	ND	3.9	19	190	9.4	11	ND	ND
Motor Oil Range Organics [C24-C36]	2,500	ND	77	--	--	--	--	--	ND	ND	270	ND	ND	ND	ND	ND	640	420	69	ND	ND	ND	ND	130	1500	54	75	ND	ND

Notes.

[1]San Francisco Bay Regional Water Quality Control Board, Table A-2, Shallow Soil Screening Levels, Commercial/Industrial Land Use, Groundwater is Potential Drinking Water Resource, 11/07, Revised 5/08.

[2]Shallow soils defined as soils less than or equal to 3 meters (approximately 10 feet) below ground s

[3]A-Comp was formed by compositing material from sample locations A1, A2 and A3

[4]B-Comp was formed by compositing material from sample locations B1 and B2

[5]C-Comp was formed by compositing material from sample locations C1 and C2

[6]D-Comp was formed by compositing material from sample locations D1 and D2

[7]E-Comp was formed by compositing material from sample locations E1, E2, E3 and E4

[8]LD-Comp was formed by compositing material from sample locations 1, 2, 3 and 4

[9]C1 was formed by compositing material from sample locations 5A and 5B

[10]C2 was formed by compositing material from sample locations 5C, 5D, 5E and 5F

[11]C3 was formed by compositing material from sample locations 3C, 4A, 4B, 4C, 4E and 4F

[12]C4 was formed by compositing material from sample locations 2C, 3A and 3B

[13]C5 was formed by compositing material from sample locations 2A, 2B and 4D

[14]C6 was formed by compositing material from sample locations 1C, 1F and 2F

[15]C7 was formed by compositing material from sample locations 1A, 1B, 1D and 1E

X = Result Exceeds Environmental Screening Levels (ESLs)

W1 through W2 are samples obtained for C3, which is a composite of 3C, 4A, 4B, 4C, 4E, and 4F
X1 through X4 are samples obtained for C7, which is a composite of 1A, 1B, 1D, and 1E
Y1 through Y4 are samples obtained for C4, which is a composite of 2C, 3A, and 3B

APPENDIX A

TestAmerica Analytical Report, Grafton North, 6/20/08

Via Email and Mail

July 3, 2008
Job No. 3080.900

Mr. Steve Herndon
Toll Brothers, Inc.
100 Park Place
San Ramon, California 94583

Subject: Analytical Testing of Soil Stockpile
Grafton Center
Grafton Street and Central Parkway
Dublin, California

Dear Mr. Herndon:

Berlogar Geotechnical Consultants has completed analytical testing of a stockpile of soil from the subject project site. The site is located south of the intersection of Grafton Street and Central Parkway as shown on the attached Plates 1 and 2. The site is an approximate rectangle measuring about 550 feet by 650 feet (about 8 acres). Soil from mass grading of the adjacent residential and commercial development was stockpiled and graded relatively flat at this site. Fill thickness averages about 2 feet, and ranges between about 1 foot thick at the southern end to about 4 feet thick in the northwest corner. The area was open range land before development.

Thirteen bulk samples were obtained at random locations from the site between depths of 0.5 to 2 feet on June 20, 2008, placed in glass jars, and placed in a chilled cooler. The samples were transported to TestAmerica, a California State Certified analytical laboratory, in Pleasanton, California. The following laboratory tests were performed on composite samples:

1. 8260B, BTEX/MTBE (samples E1-E4);

2. 8015B, Nonhalogenated Organics using GC/FID-Modified (Diesel Range Organics); 1 middle distillate (diesel) and 1 residual fuel (motor oil) petroleum constituents (samples E1-E4);

3. 8081A, Organochlorine Pesticides by Gas Chromatography, 22 pesticide constituents (samples A1-A3, B1-B2, C1-C2, and D1-D2);

4. 6010B, CAM 17 Metals, no Mercury (samples E1-E4);

5. 7471A, Mercury in Solid or Semisolid Waste (samples E1-E4);

6. 8082, PCB by Gas Chromatography (samples E1-E4);

7. 8270C, Semivolatile Compounds by Gas Chromatograph/Mass Spectrometry (samples E1-E4).

The results of the testing are attached in the TestAmerica Analytical Report. The test results indicate that most of the constituents tested were nondetectable. The following table summarizes the constituents that were detected with several agency preliminary remediation goals.

Composite of E1-E4	USEPA, ppm	CHHSL, ppm	SFRWQCB, ppm	Test Results, ppm
Diesel Range Organics, EPA 8015B				1.5
CAM 17, EPA 6010B				
Antimony and compounds	31	30	6.1	
Arsenic	0.39	0.07	0.38	3.8
Barium and compounds	5,400	5,200	750	240
Beryllium and compounds	150	150	4	0.52
Cadmium and compounds	37	1.7	1.7	ND
Chromium, total	210			41
Chromium III	10,0000	10,0000	750	ND
Chromium VI	30	17	8	ND
Cobalt	900	660	40	10
Copper and compound	3,100	3000	230	21
Lead and lead compounds	400	150	200	7.8
Molybdenum	390	380	40	48
Nickel and compounds	1,600	1600	150	ND
Selenium	390	380	10	ND
Silver and compound	390	380	20	ND
Thallium and compounds+++	5.2	5	1.2	ND
Vanadium and compounds	78	530	15	37
Zinc	23,000	23,000	600	41
Mercury, EPA 7471A	230	18	1	ND

Notes:

a) US EPA, Preliminary Remediation Goals, Region 9 PRG Table, Residential Land Use, October 2004.

b) California Human Health Screening Level for Soil, Table 1, Residential Land Use, January 2005.

c) San Francisco Bay Regional Water Quality Control Board, Table A, Environmental Screening Levels, Shallow Soils (< 3m bgs), Groundwater is Potable, Residential Land Use, November 2007.

The test results indicate that the detectable constituents were below the screening levels for the USEPA, CHHSL, and SFRWQCB. However, Arsenic was above the 3 agency screening levels, and Vanadium was above the SFRWQCB remediation goals. The CHHSL and SFRWQCB do not have total Chromium level goals, and the testing was not performed for Chromium III and IV. However, it is our experience that the levels of Arsenic, Chromium, and Vanadium are typical of soils in the Bay Area. Hence, it is our opinion that the stockpiled soil at this site is not considered to be contaminated, and can be utilized at most sites. The receiver of the soil should make the final determination as to the acceptance of this soil.

We trust that this letter provides the necessary information you require at this time. If you have any questions, please contact Bill Stevens at (925) 484-0220 or bstevens@berlogar.com.

Respectfully,

BERLOGAR GEOTECHNICAL CONSULTANTS



William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/10

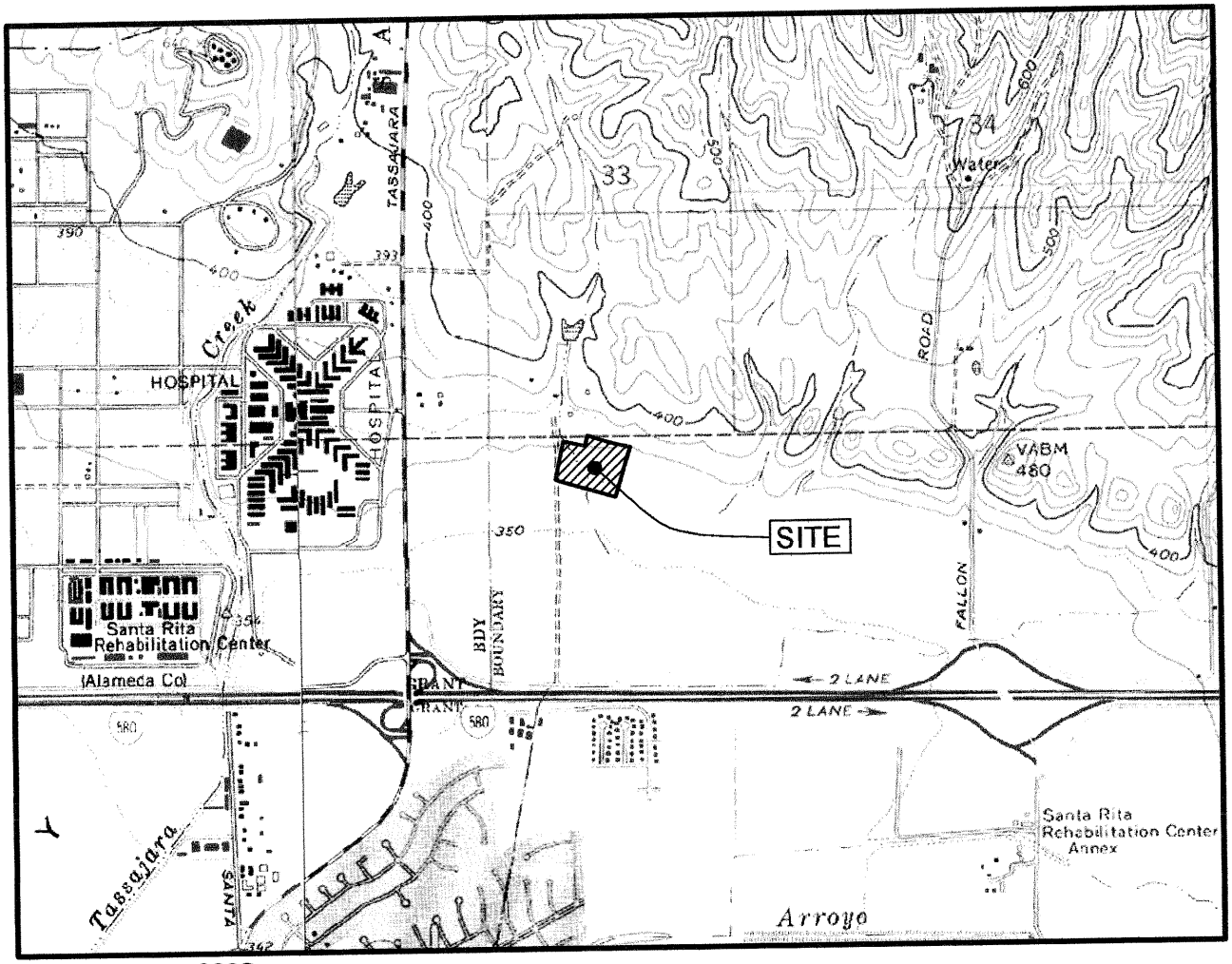
WRS:jmb

Attachments: Plate 1 – Vicinity Map
Plate 2 – Site Plan
TestAmerica Analytical Report

Copies: Addressee (5)

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JOB NUMBER: 3080.900 DATE: 06/25/08 BY: CC



VICINITY MAP

GRAFTON CENTER

GRAFTON STREET AND CENTRAL PARKWAY

DUBLIN, CALIFORNIA

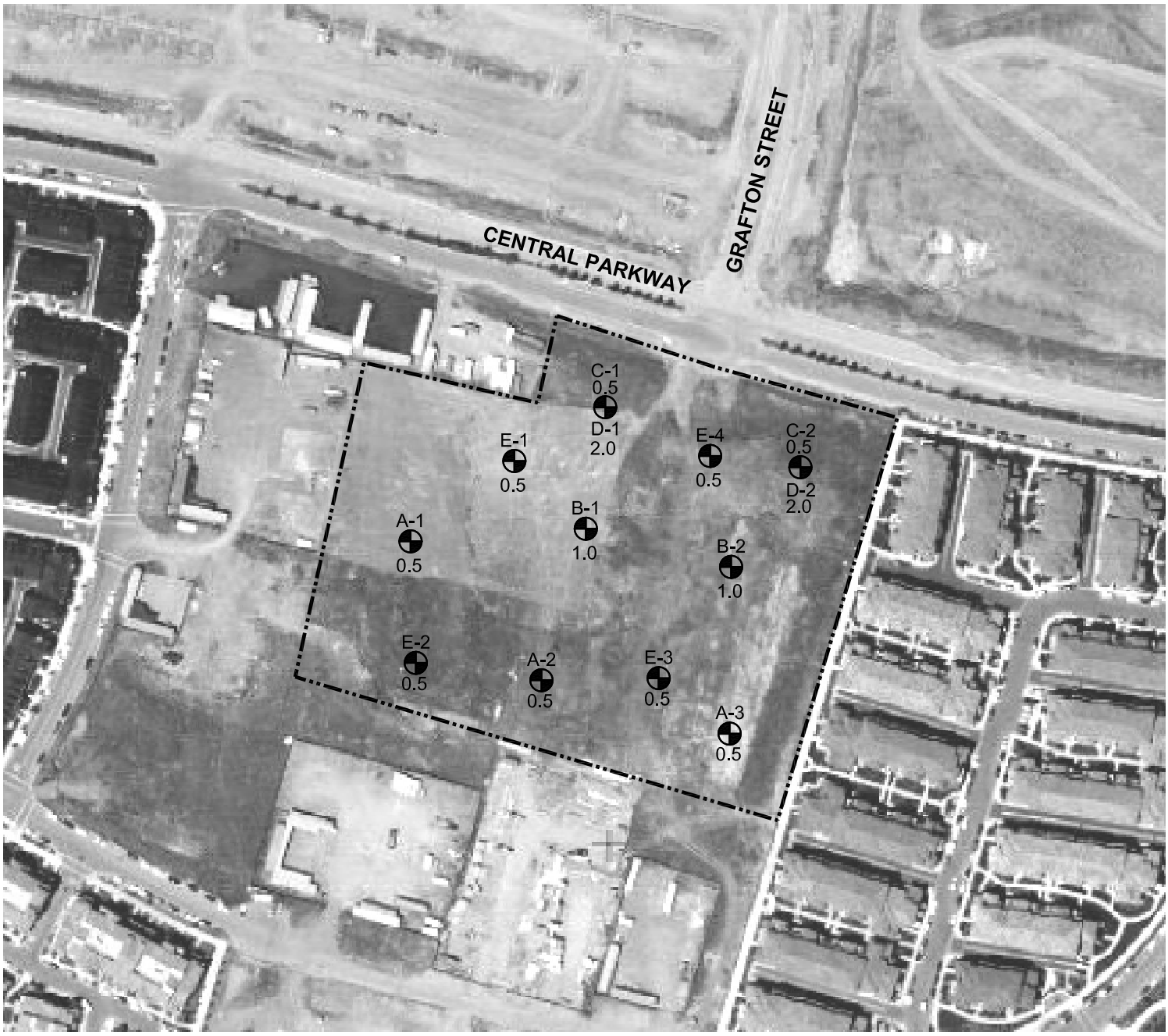
FOR

TOLL BROTHERS, INC.

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, LIVERMORE, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000.

PLATE 1

JOB NUMBER: 3080.900 DATE: 6/25/08 DRAWN BY: CC CHECKED BY:



EXPLANATION

APPROXIMATE PROJECT LIMIT

E-4
2.0

APPROXIMATE SOIL SAMPLE LOCATION, SHOWING DEPTH OF SAMPLE IN FEET

N

0 200

1"=200'

SITE PLAN

GRAFTON CENTER

GRAFTON STREET AND CENTRAL PARKWAY
DUBLIN, CALIFORNIA
FOR
TOLL BROTHERS, INC.

Berlogar Geotechnical Consultants
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: AERIAL IMAGE

PLATE 2

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-14865-1

Job Description: Grafton Center

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Melissa Brewer

Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
07/03/2008

TestAmerica Laboratories, Inc.
TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566
Tel (925) 484-1919 Fax (925) 600-3002 www.testamericainc.com

Job Narrative
720-J14865-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method 8270C: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for three (03) analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with batch #37572 had one analyte outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-14865-18	**E1,E2,E3,E4**				
Diesel Range Organics [C10-C28]		1.5	1.0	mg/Kg	8015B
Arsenic		3.8	0.96	mg/Kg	6010B
Barium		240	0.96	mg/Kg	6010B
Beryllium		0.52	0.48	mg/Kg	6010B
Chromium		41	0.96	mg/Kg	6010B
Cobalt		10	0.96	mg/Kg	6010B
Copper		21	0.96	mg/Kg	6010B
Lead		7.8	0.96	mg/Kg	6010B
Nickel		48	0.96	mg/Kg	6010B
Vanadium		37	0.96	mg/Kg	6010B
Zinc		41	0.96	mg/Kg	6010B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL SF	SW846 8260B	
Purge and Trap for Solids	TAL SF		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL SF	SW846 8270C	
Ultrasonic Extraction	TAL SF		SW846 3550B
Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B
Organochlorine Pesticides by Gas Chromatography	TAL SF	SW846 8081A	
Ultrasonic Extraction	TAL SF		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL SF	SW846 8082	
Ultrasonic Extraction	TAL SF		SW846 3550B
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL SF	SW846 6010B	
Acid Digestion of Sediments, Sludges, and Soils	TAL SF		SW846 3050B
Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	TAL SF	SW846 7471A	
Mercury in Solid or Semi-Solid Waste (Manual Cold	TAL SF		SW846 7471A
SW846 8141 Organophosphorus Compounds	TAL PIT	SW846 8141	
SW846 8151 Herbicide	TAL PIT	SW846 8151	

Lab References:

TAL PIT = TestAmerica Pittsburgh

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-14865-4	A1,A2,A3	Solid	06/20/2008 0000	06/20/2008 1520
720-14865-7	B1,B2	Solid	06/20/2008 0000	06/20/2008 1520
720-14865-10	C1,C2	Solid	06/20/2008 0000	06/20/2008 1520
720-14865-13	D1,D2	Solid	06/20/2008 0000	06/20/2008 1520
720-14865-18	E1,E2,E3,E4	Solid	06/20/2008 0000	06/20/2008 1520

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: **E1,E2,E3,E4**

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 06/30/2008 2053
Date Prepared: 06/30/2008 1000

Analysis Batch: 720-37602
Prep Batch: 720-37604

Instrument ID: Saturn 2100
Lab File ID: d:\data\200806\063008\sa-s
Initial Weight/Volume: 5.38 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Benzene		ND		0.0046
Ethylbenzene		ND		0.0046
Toluene		ND		0.0046
MTBE		ND		0.0046
Xylenes, Total		ND		0.0093

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	85	74 - 112
1,2-Dichloroethane-d4 (Surr)	93	54 - 134

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: E1,E2,E3,E4

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1539
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\720-
Initial Weight/Volume: 30.08 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: E1,E2,E3,E4

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1539
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\720-
Initial Weight/Volume: 30.08 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND	*	0.067

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	51	21 - 98
2-Fluorobiphenyl	49	38 - 96
Terphenyl-d14	54	32 - 117
2-Fluorophenol	46	28 - 98
Phenol-d5	52	23 - 101
2,4,6-Tribromophenol	77	37 - 114

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: **E1,E2,E3,E4**

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 06/26/2008 2239
Date Prepared: 06/24/2008 1924

Analysis Batch: 720-37357
Prep Batch: 720-37261

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.13 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		1.5		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	84	40 - 119

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: **A1,A2,A3**

Lab Sample ID: 720-14865-4
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1656
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	77	62 - 114
DCB Decachlorobiphenyl	82	51 - 121

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: B1,B2

Lab Sample ID: 720-14865-7
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1719
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.07 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	71	62 - 114
DCB Decachlorobiphenyl	73	51 - 121

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: C1,C2

Lab Sample ID: 720-14865-10
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1742
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	75	62 - 114
DCB Decachlorobiphenyl	77	51 - 121

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: D1,D2

Lab Sample ID: 720-14865-13
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1805
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.12 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	74	62 - 114
DCB Decachlorobiphenyl	76	51 - 121

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: E1,E2,E3,E4

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/01/2008 1903
Date Prepared: 06/30/2008 1807

Analysis Batch: 720-37751
Prep Batch: 720-37609

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	77	52 - 114
DCB Decachlorobiphenyl	69	29 - 117

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Client Sample ID: E1,E2,E3,E4

Lab Sample ID: 720-14865-18
Client Matrix: Solid

Date Sampled: 06/20/2008 0000
Date Received: 06/20/2008 1520

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 06/30/2008 0943
Date Prepared: 06/28/2008 1138

Analysis Batch: 720-37557
Prep Batch: 720-37510

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Antimony		ND		1.9
Arsenic		3.8		0.96
Barium		240		0.96
Beryllium		0.52		0.48
Cadmium		ND		0.48
Chromium		41		0.96
Cobalt		10		0.96
Copper		21		0.96
Lead		7.8		0.96
Molybdenum		ND		0.96
Nickel		48		0.96
Selenium		ND		1.9
Silver		ND		0.96
Thallium		ND		0.96
Vanadium		37		0.96
Zinc		41		0.96

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 06/30/2008 1020
Date Prepared: 06/28/2008 1313

Analysis Batch: 720-37573
Prep Batch: 720-37513

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1.02 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.049

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-14865-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits

Client: Berlogar Geotechnical

Job Number: 720-14865-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-37602					
LCS 720-37604/2-A	Lab Control Spike	T	Solid	8260B	720-37604
LCSD 720-37604/3-A	Lab Control Spike Duplicate	T	Solid	8260B	720-37604
MB 720-37604/1-A	Method Blank	T	Solid	8260B	720-37604
720-14865-18	E1,E2,E3,E4	T	Solid	8260B	720-37604
Prep Batch: 720-37604					
LCS 720-37604/2-A	Lab Control Spike	T	Solid	5030B	
LCSD 720-37604/3-A	Lab Control Spike Duplicate	T	Solid	5030B	
MB 720-37604/1-A	Method Blank	T	Solid	5030B	
720-14865-18	E1,E2,E3,E4	T	Solid	5030B	

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 720-37572					
LCS 720-37572/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37572/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37572/1-A	Method Blank	T	Solid	3550B	
720-14865-18	E1,E2,E3,E4	T	Solid	3550B	
Analysis Batch:720-37701					
LCS 720-37572/2-A	Lab Control Spike	T	Solid	8270C	720-37572
LCSD 720-37572/3-A	Lab Control Spike Duplicate	T	Solid	8270C	720-37572
MB 720-37572/1-A	Method Blank	T	Solid	8270C	720-37572
720-14865-18	E1,E2,E3,E4	T	Solid	8270C	720-37572

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-14865-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-37261					
LCS 720-37261/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37261/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37261/1-A	Method Blank	T	Solid	3550B	
720-14865-18	E1,E2,E3,E4	T	Solid	3550B	
Analysis Batch:720-37357					
LCS 720-37261/2-A	Lab Control Spike	T	Solid	8015B	720-37261
LCSD 720-37261/3-A	Lab Control Spike Duplicate	T	Solid	8015B	720-37261
MB 720-37261/1-A	Method Blank	T	Solid	8015B	720-37261
720-14865-18	E1,E2,E3,E4	T	Solid	8015B	720-37261
Prep Batch: 720-37609					
LCS 720-37609/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37609/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37609/1-A	Method Blank	T	Solid	3550B	
720-14865-18	E1,E2,E3,E4	T	Solid	3550B	
720-14865-18MS	Matrix Spike	T	Solid	3550B	
720-14865-18MSD	Matrix Spike Duplicate	T	Solid	3550B	
Prep Batch: 720-37611					
LCS 720-37611/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37611/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37611/1-A	Method Blank	T	Solid	3550B	
720-14865-4	A1,A2,A3	T	Solid	3550B	
720-14865-7	B1,B2	T	Solid	3550B	
720-14865-10	C1,C2	T	Solid	3550B	
720-14865-13	D1,D2	T	Solid	3550B	
720-14865-13MS	Matrix Spike	T	Solid	3550B	
720-14865-13MSD	Matrix Spike Duplicate	T	Solid	3550B	
Analysis Batch:720-37716					
LCS 720-37611/2-A	Lab Control Spike	T	Solid	8081A	720-37611
LCSD 720-37611/3-A	Lab Control Spike Duplicate	T	Solid	8081A	720-37611
MB 720-37611/1-A	Method Blank	T	Solid	8081A	720-37611
720-14865-4	A1,A2,A3	T	Solid	8081A	720-37611
720-14865-7	B1,B2	T	Solid	8081A	720-37611
720-14865-10	C1,C2	T	Solid	8081A	720-37611
720-14865-13	D1,D2	T	Solid	8081A	720-37611
720-14865-13MS	Matrix Spike	T	Solid	8081A	720-37611
720-14865-13MSD	Matrix Spike Duplicate	T	Solid	8081A	720-37611

Client: Berlogar Geotechnical

Job Number: 720-14865-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:720-37751					
LCS 720-37609/2-A	Lab Control Spike	T	Solid	8082	720-37609
LCSD 720-37609/3-A	Lab Control Spike Duplicate	T	Solid	8082	720-37609
MB 720-37609/1-A	Method Blank	T	Solid	8082	720-37609
720-14865-18	E1,E2,E3,E4	T	Solid	8082	720-37609
720-14865-18MS	Matrix Spike	T	Solid	8082	720-37609
720-14865-18MSD	Matrix Spike Duplicate	T	Solid	8082	720-37609

Report Basis
T = Total

Metals					
Prep Batch: 720-37510					
LCS 720-37510/2-A	Lab Control Spike	T	Solid	3050B	
LCSD 720-37510/3-A	Lab Control Spike Duplicate	T	Solid	3050B	
LCSSRM 720-37510/25-A	LCS-Standard Reference Material	T	Solid	3050B	
MB 720-37510/1-A	Method Blank	T	Solid	3050B	
720-14865-18	E1,E2,E3,E4	T	Solid	3050B	
Prep Batch: 720-37513					
LCS 720-37513/2-A	Lab Control Spike	T	Solid	7471A	
LCSD 720-37513/3-A	Lab Control Spike Duplicate	T	Solid	7471A	
MB 720-37513/1-A	Method Blank	T	Solid	7471A	
720-14865-18	E1,E2,E3,E4	T	Solid	7471A	
720-14865-18MS	Matrix Spike	T	Solid	7471A	
720-14865-18MSD	Matrix Spike Duplicate	T	Solid	7471A	
Analysis Batch:720-37557					
LCS 720-37510/2-A	Lab Control Spike	T	Solid	6010B	720-37510
LCSD 720-37510/3-A	Lab Control Spike Duplicate	T	Solid	6010B	720-37510
LCSSRM 720-37510/25-A	LCS-Standard Reference Material	T	Solid	6010B	720-37510
MB 720-37510/1-A	Method Blank	T	Solid	6010B	720-37510
720-14865-18	E1,E2,E3,E4	T	Solid	6010B	720-37510
Analysis Batch:720-37573					
LCS 720-37513/2-A	Lab Control Spike	T	Solid	7471A	720-37513
LCSD 720-37513/3-A	Lab Control Spike Duplicate	T	Solid	7471A	720-37513
MB 720-37513/1-A	Method Blank	T	Solid	7471A	720-37513
720-14865-18	E1,E2,E3,E4	T	Solid	7471A	720-37513
720-14865-18MS	Matrix Spike	T	Solid	7471A	720-37513
720-14865-18MSD	Matrix Spike Duplicate	T	Solid	7471A	720-37513

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37604

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-37604/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1328
Date Prepared: 06/30/2008 1000

Analysis Batch: 720-37602
Prep Batch: 720-37604
Units: mg/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200806\063008\mb
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.0050
Ethylbenzene	ND		0.0050
Toluene	ND		0.0050
MTBE	ND		0.0050
Xylenes, Total	ND		0.010

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	89	74 - 112
1,2-Dichloroethane-d4 (Surr)	86	54 - 134

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37604

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-37604/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1457
Date Prepared: 06/30/2008 1000

Analysis Batch: 720-37602
Prep Batch: 720-37604
Units: mg/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200806\063008\ls-s
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-37604/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1524
Date Prepared: 06/30/2008 1000

Analysis Batch: 720-37602
Prep Batch: 720-37604
Units: mg/Kg

Instrument ID: Saturn 2100
Lab File ID: d:\data\200806\063008\ld-sc
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	94	85	66 - 128	10	20		
Toluene	101	91	76 - 128	11	20		
MTBE	92	92	59 - 145	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8 (Surr)	91	92	74 - 112
1,2-Dichloroethane-d4 (Surr)	82	67	54 - 134

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37572

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-37572/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1505
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\mb
Initial Weight/Volume: 30.05 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Phenol	ND		0.067
Bis(2-chloroethyl)ether	ND		0.067
2-Chlorophenol	ND		0.067
1,3-Dichlorobenzene	ND		0.067
1,4-Dichlorobenzene	ND		0.067
Benzyl alcohol	ND		0.17
1,2-Dichlorobenzene	ND		0.067
2-Methylphenol	ND		0.067
4-Methylphenol	ND		0.067
N-Nitrosodi-n-propylamine	ND		0.067
Hexachloroethane	ND		0.067
Nitrobenzene	ND		0.067
Isophorone	ND		0.067
2-Nitrophenol	ND		0.067
2,4-Dimethylphenol	ND		0.067
Bis(2-chloroethoxy)methane	ND		0.17
2,4-Dichlorophenol	ND		0.33
1,2,4-Trichlorobenzene	ND		0.067
Naphthalene	ND		0.067
4-Chloroaniline	ND		0.067
Hexachlorobutadiene	ND		0.067
4-Chloro-3-methylphenol	ND		0.17
2-Methylnaphthalene	ND		0.067
Hexachlorocyclopentadiene	ND		0.17
2,4,6-Trichlorophenol	ND		0.067
2,4,5-Trichlorophenol	ND		0.067
2-Chloronaphthalene	ND		0.067
2-Nitroaniline	ND		0.33
Dimethyl phthalate	ND		0.17
Acenaphthylene	ND		0.067
3-Nitroaniline	ND		0.17
Acenaphthene	ND		0.067
2,4-Dinitrophenol	ND		0.33
4-Nitrophenol	ND		0.33
Dibenzofuran	ND		0.067
2,4-Dinitrotoluene	ND		0.067
2,6-Dinitrotoluene	ND		0.067
Diethyl phthalate	ND		0.17
4-Chlorophenyl phenyl ether	ND		0.17
Fluorene	ND		0.067
4-Nitroaniline	ND		0.33

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37572

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-37572/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1505
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\mb
Initial Weight/Volume: 30.05 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
2-Methyl-4,6-dinitrophenol	ND		0.33
N-Nitrosodiphenylamine	ND		0.067
4-Bromophenyl phenyl ether	ND		0.17
Hexachlorobenzene	ND		0.067
Pentachlorophenol	ND		0.33
Phenanthrene	ND		0.067
Anthracene	ND		0.067
Di-n-butyl phthalate	ND		0.17
Fluoranthene	ND		0.067
Pyrene	ND		0.067
Butyl benzyl phthalate	ND		0.17
3,3'-Dichlorobenzidine	ND		0.17
Benzo[a]anthracene	ND		0.33
Bis(2-ethylhexyl) phthalate	ND		0.33
Chrysene	ND		0.067
Di-n-octyl phthalate	ND		1.0
Benzo[b]fluoranthene	ND		0.067
Benzo[a]pyrene	ND		0.067
Benzo[k]fluoranthene	ND		0.067
Indeno[1,2,3-cd]pyrene	ND		0.067
Benzo[g,h,i]perylene	ND		0.067
Benzoic acid	ND		0.33
Azobenzene	ND		0.067
Dibenz(a,h)anthracene	ND		0.067

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	74	21 - 98
2-Fluorobiphenyl	84	38 - 96
Terphenyl-d14	59	32 - 117
2-Fluorophenol	77	28 - 98
Phenol-d5	82	23 - 101
2,4,6-Tribromophenol	87	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37572

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37572/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1357
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\lcs
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

LCSD Lab Sample ID: LCSD 720-37572/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1431
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\lcsd
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	81	82	48 - 90	1	35		
Bis(2-chloroethyl)ether	83	83	45 - 92	0	35		
2-Chlorophenol	77	77	48 - 93	1	35		
1,3-Dichlorobenzene	72	74	41 - 91	3	35		
1,4-Dichlorobenzene	77	72	40 - 89	7	35		
Benzyl alcohol	80	82	54 - 102	4	35		
1,2-Dichlorobenzene	73	76	44 - 92	4	35		
2-Methylphenol	91	86	54 - 97	5	35		
4-Methylphenol	82	85	50 - 95	4	35		
N-Nitrosodi-n-propylamine	77	82	46 - 98	7	35		
Hexachloroethane	71	80	44 - 94	12	35		
Nitrobenzene	79	79	48 - 99	0	35		
Isophorone	87	89	54 - 100	3	35		
2-Nitrophenol	75	82	48 - 99	9	35		
2,4-Dimethylphenol	78	83	52 - 106	6	35		
Bis(2-chloroethoxy)methane	81	86	46 - 97	5	35		
2,4-Dichlorophenol	76	80	49 - 100	5	35		
1,2,4-Trichlorobenzene	78	84	47 - 95	7	35		
Naphthalene	73	79	44 - 92	8	35		
4-Chloroaniline	36	39	20 - 49	7	35		
Hexachlorobutadiene	78	86	44 - 95	10	35		
4-Chloro-3-methylphenol	86	91	58 - 104	6	35		
2-Methylnaphthalene	83	86	49 - 100	4	35		
Hexachlorocyclopentadiene	89	85	42 - 132	4	35		
2,4,6-Trichlorophenol	89	92	45 - 102	3	35		
2,4,5-Trichlorophenol	86	83	48 - 105	4	35		
2-Chloronaphthalene	82	79	52 - 102	3	35		
2-Nitroaniline	92	92	54 - 105	1	35		
Dimethyl phthalate	102	103	64 - 119	1	35		
Acenaphthylene	103	98	61 - 129	4	35		
3-Nitroaniline	92	90	50 - 103	2	35		
Acenaphthene	76	76	50 - 98	1	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37572

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37572/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1357
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\lcs
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

LCSD Lab Sample ID: LCSD 720-37572/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1431
Date Prepared: 06/30/2008 1252

Analysis Batch: 720-37701
Prep Batch: 720-37572
Units: mg/Kg

Instrument ID: Sat 2K1
Lab File ID: d:\data\200807\070108\lcsd
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,4-Dinitrophenol	59	62	21 - 96	5	35		
4-Nitrophenol	104	93	54 - 125	11	35		
Dibenzofuran	74	77	55 - 100	4	35		
2,4-Dinitrotoluene	84	76	57 - 110	10	35		
2,6-Dinitrotoluene	109	98	54 - 119	11	35		
Diethyl phthalate	104	99	49 - 117	4	35		
4-Chlorophenyl phenyl ether	81	79	57 - 103	2	35		
Fluorene	82	79	54 - 104	3	35		
4-Nitroaniline	105	99	59 - 114	6	35		
2-Methyl-4,6-dinitrophenol	77	88	48 - 111	14	35		
N-Nitrosodiphenylamine	89	99	56 - 105	11	35		
4-Bromophenyl phenyl ether	83	93	53 - 101	11	35		
Hexachlorobenzene	86	95	55 - 105	10	35		
Pentachlorophenol	54	61	35 - 90	12	35		
Phenanthrene	82	82	54 - 100	1	35		
Anthracene	84	90	55 - 101	8	35		
Di-n-butyl phthalate	73	80	55 - 102	10	35		
Fluoranthene	72	96	54 - 102	29	35		
Pyrene	75	82	48 - 91	9	35		
Butyl benzyl phthalate	81	79	53 - 98	2	35		
3,3'-Dichlorobenzidine	72	77	42 - 87	6	35		
Benzo[a]anthracene	83	85	55 - 91	2	35		
Bis(2-ethylhexyl) phthalate	75	81	53 - 98	9	35		
Chrysene	72	76	49 - 96	5	35		
Di-n-octyl phthalate	77	79	53 - 91	2	35		
Benzo[b]fluoranthene	101	96	56 - 105	5	35		
Benzo[a]pyrene	87	83	55 - 102	4	35		
Benzo[k]fluoranthene	90	76	51 - 93	17	35		
Indeno[1,2,3-cd]pyrene	94	94	56 - 110	0	35		
Benzo[g,h,i]perylene	103	89	56 - 106	15	35		
Benzoic acid	29	32	8 - 35	9	35		
Azobenzene	89	91	52 - 100	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37572

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-37572/2-A	Analysis Batch: 720-37701	Instrument ID: Sat 2K1
Client Matrix:	Solid	Prep Batch: 720-37572	Lab File ID: d:\data\200807\070108\lcs
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 30.06 g
Date Analyzed:	07/01/2008 1357		Final Weight/Volume: 1 mL
Date Prepared:	06/30/2008 1252		Injection Volume: 1.0 uL

LCSD Lab Sample ID:	LCSD 720-37572/3-A	Analysis Batch: 720-37701	Instrument ID: Sat 2K1
Client Matrix:	Solid	Prep Batch: 720-37572	Lab File ID: d:\data\200807\070108\lcsd
Dilution:	1.0	Units: mg/Kg	Initial Weight/Volume: 30.02 g
Date Analyzed:	07/01/2008 1431		Final Weight/Volume: 1 mL
Date Prepared:	06/30/2008 1252		Injection Volume: 1.0 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dibenz(a,h)anthracene	109	102	58 - 108	7	35	*	

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	78	81	21 - 98
2-Fluorobiphenyl	82	73	38 - 96
Terphenyl-d14	74	75	32 - 117
2-Fluorophenol	69	70	28 - 98
Phenol-d5	86	85	23 - 101
2,4,6-Tribromophenol	86	86	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37261

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-37261/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/26/2008 1023
Date Prepared: 06/24/2008 1924

Analysis Batch: 720-37357
Prep Batch: 720-37261
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		1.0
Motor Oil Range Organics [C24-C36]	ND		50

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	82	40 - 119

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37261

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37261/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/26/2008 0924
Date Prepared: 06/24/2008 1924

Analysis Batch: 720-37357
Prep Batch: 720-37261
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37261/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/26/2008 0954
Date Prepared: 06/24/2008 1924

Analysis Batch: 720-37357
Prep Batch: 720-37261
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	91	88	50 - 130	3	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	89	84	40 - 119

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37611

Method: 8081A
Preparation: 3550B

Lab Sample ID: MB 720-37611/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1548
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aldrin	ND		2.0
Dieldrin	ND		2.0
Endrin aldehyde	ND		2.0
Endrin	ND		2.0
Endrin ketone	ND		2.0
Heptachlor	ND		2.0
Heptachlor epoxide	ND		2.0
4,4'-DDT	ND		2.0
4,4'-DDE	ND		2.0
4,4'-DDD	ND		2.0
Endosulfan I	ND		2.0
Endosulfan II	ND		2.0
alpha-BHC	ND		2.0
beta-BHC	ND		2.0
gamma-BHC (Lindane)	ND		2.0
delta-BHC	ND		2.0
Endosulfan sulfate	ND		2.0
Methoxychlor	ND		2.0
Toxaphene	ND		40
Chlordane (technical)	ND		40
alpha-Chlordane	ND		2.0
gamma-Chlordane	ND		2.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	74	62 - 114
DCB Decachlorobiphenyl	81	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37611

Method: 8081A
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37611/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1611
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37611/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1634
Date Prepared: 06/30/2008 1858

Analysis Batch: 720-37716
Prep Batch: 720-37611
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aldrin	84	79	63 - 109	7	20		
Dieldrin	87	82	64 - 114	7	20		
Endrin	86	81	62 - 113	5	20		
Heptachlor	85	80	64 - 112	6	20		
4,4'-DDT	88	83	60 - 114	5	20		
gamma-BHC (Lindane)	83	80	64 - 109	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	86	85	62 - 114
DCB Decachlorobiphenyl	90	89	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37611

Method: 8081A
Preparation: 3550B

MS Lab Sample ID:	720-14865-13	Analysis Batch: 720-37716	Instrument ID: Varian Pest 2
Client Matrix:	Solid	Prep Batch: 720-37611	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.03 g
Date Analyzed:	07/01/2008 1828		Final Weight/Volume: 10 mL
Date Prepared:	06/30/2008 1858		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	720-14865-13	Analysis Batch: 720-37716	Instrument ID: Varian Pest 2
Client Matrix:	Solid	Prep Batch: 720-37611	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.09 g
Date Analyzed:	07/01/2008 1851		Final Weight/Volume: 10 mL
Date Prepared:	06/30/2008 1858		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aldrin	75	74	53 - 114	2	20		
Dieldrin	80	78	46 - 130	2	20		
Endrin	82	80	32 - 143	2	20		
Heptachlor	77	76	52 - 116	1	20		
4,4'-DDT	81	80	17 - 144	1	20		
gamma-BHC (Lindane)	76	77	60 - 106	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	79	78	62 - 114
DCB Decachlorobiphenyl	83	82	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37609

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 720-37609/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1618
Date Prepared: 06/30/2008 1807

Analysis Batch: 720-37751
Prep Batch: 720-37609
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.04 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		50
PCB-1221	ND		50
PCB-1232	ND		50
PCB-1242	ND		50
PCB-1248	ND		50
PCB-1254	ND		50
PCB-1260	ND		50

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	81	52 - 114
DCB Decachlorobiphenyl	87	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37609

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37609/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1639
Date Prepared: 06/30/2008 1807

Analysis Batch: 720-37751
Prep Batch: 720-37609
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.03 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37609/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/01/2008 1659
Date Prepared: 06/30/2008 1807

Analysis Batch: 720-37751
Prep Batch: 720-37609
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	96	86	76 - 116	11	20		
PCB-1260	89	91	60 - 116	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	90	84	52 - 114
DCB Decachlorobiphenyl	87	85	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37609

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	720-14865-18	Analysis Batch: 720-37751	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-37609	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.09 g
Date Analyzed:	07/01/2008 1924		Final Weight/Volume: 10 mL
Date Prepared:	06/30/2008 1807		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	720-14865-18	Analysis Batch: 720-37751	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-37609	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.11 g
Date Analyzed:	07/01/2008 1945		Final Weight/Volume: 10 mL
Date Prepared:	06/30/2008 1807		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	88	91	37 - 143	3	20		
PCB-1260	79	91	14 - 130	14	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	81	83	52 - 114
DCB Decachlorobiphenyl	78	85	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37510

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 720-37510/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 0916
Date Prepared: 06/28/2008 1138

Analysis Batch: 720-37557
Prep Batch: 720-37510
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Antimony	ND		2.0
Arsenic	ND		1.0
Barium	ND		1.0
Beryllium	ND		0.50
Cadmium	ND		0.50
Chromium	ND		1.0
Cobalt	ND		1.0
Copper	ND		1.0
Lead	ND		1.0
Molybdenum	ND		1.0
Nickel	ND		1.0
Selenium	ND		2.0
Silver	ND		1.0
Thallium	ND		1.0
Vanadium	ND		1.0
Zinc	ND		1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

LCS-Standard Reference Material - Batch: 720-37510

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCSSRM 720-37510/25-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1100
Date Prepared: 06/28/2008 1138

Analysis Batch: 720-37557
Prep Batch: 720-37510
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	27.4	2.79	10	11 - 101	
Arsenic	22.7	20.8	92	69 - 119	
Barium	145	143	99	61 - 117	
Beryllium	1.09	1.03	94	56 - 102	
Cadmium	42.2	41.3	98	67 - 118	
Chromium	246	240	98	67 - 121	
Cobalt	65.1	64.8	99	64 - 133	
Copper	58.5	66.1	113	68 - 126	
Lead	44.1	41.2	94	62 - 113	
Molybdenum	61.0	52.3	86	62 - 128	
Nickel	96.8	92.9	96	65 - 117	
Selenium	165	157	95	63 - 126	
Silver	79.5	60.8	77	51 - 130	
Thallium	55.9	56.5	101	64 - 124	
Vanadium	56.7	52.6	93	67 - 123	
Zinc	44.0	39.5	90	62 - 110	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37510

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 720-37510/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 0919
Date Prepared: 06/28/2008 1138

Analysis Batch: 720-37557
Prep Batch: 720-37510
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-37510/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 0923
Date Prepared: 06/28/2008 1138

Analysis Batch: 720-37557
Prep Batch: 720-37510
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Antimony	110	106	80 - 120	4	20		
Arsenic	108	104	80 - 120	4	20		
Barium	103	100	80 - 120	4	20		
Beryllium	110	105	80 - 120	4	20		
Cadmium	106	102	80 - 120	4	20		
Chromium	108	104	80 - 120	4	20		
Cobalt	106	102	80 - 120	4	20		
Copper	109	105	80 - 120	4	20		
Lead	106	102	80 - 120	4	20		
Molybdenum	109	106	80 - 120	3	20		
Nickel	105	101	80 - 120	4	20		
Selenium	107	103	80 - 120	4	20		
Silver	103	99	80 - 120	4	20		
Thallium	107	103	80 - 120	4	20		
Vanadium	108	105	80 - 120	4	20		
Zinc	105	101	80 - 120	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Method Blank - Batch: 720-37513

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 720-37513/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1014
Date Prepared: 06/28/2008 1313

Analysis Batch: 720-37573
Prep Batch: 720-37513
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	ND		0.050

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37513

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 720-37513/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1015
Date Prepared: 06/28/2008 1313

Analysis Batch: 720-37573
Prep Batch: 720-37513
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-37513/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 06/30/2008 1016
Date Prepared: 06/28/2008 1313

Analysis Batch: 720-37573
Prep Batch: 720-37513
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	100	101	80 - 120	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37513

Method: 7471A
Preparation: 7471A

MS Lab Sample ID:	720-14865-18	Analysis Batch:	720-37573	Instrument ID:	FIMS 100
Client Matrix:	Solid	Prep Batch:	720-37513	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.00 g
Date Analyzed:	06/30/2008 1018			Final Weight/Volume:	50 mL
Date Prepared:	06/28/2008 1313				

MSD Lab Sample ID:	720-14865-18	Analysis Batch:	720-37573	Instrument ID:	FIMS 100
Client Matrix:	Solid	Prep Batch:	720-37513	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.03 g
Date Analyzed:	06/30/2008 1019			Final Weight/Volume:	50 mL
Date Prepared:	06/28/2008 1313				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	105	103	75 - 125	5	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 111281
Date 6/20/08 Page 1 of 2

720-14865

07/03/2008

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Report To

Attn: Bill Stevens
Company: Berlogar Geotechnical consul
Address: 5587 Sunol Blvd
Phone: 484-0220 Email: bstevens@berlogar.com
Bill To: BGC
Sampled By: PW
Attn: Bill Stevens
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA - ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other: ___	Low Level Metals by EPA 200.8/6020 (ICP-MS): ___	W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ ☐ pH (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS ☐	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Pesticides EPA 8141 ~~8081~~	Herbicides EPA 8151		Number of Containers
* A1, A2, A3	6/20/08	Am	S	N									1									–	1		3
** B1, B2	"	"	"	"									1									1	1		2
** C1, C2	"	"	"	"									1									1	1		2
** D1, D2	"	"	"	"									1									1	1		2
* Composit 3 into 1																									
** Composit 2 into 1																									

Project Info.

Project Name: Grafton Center
Project#: 3080.900
PO#:
Credit Card#:

Sample Receipt

of Containers: 9
Head Space:
Temp:
Conforms to record:

TAT: (5 Day) 72h 48h 24h Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID ___

Composite A1, 2 & 3
B1 2
C1 2, D1 2

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_8-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 15:20	Signature: Time:	Signature: Time:
Printed Name: SCOTT MEEKS Date: 6/20	Printed Name: Date:	Printed Name: Date:
Company: BGC	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] Time: 1520	Signature: Time:	Signature: Time:
Printed Name: Joan Mullen Date: 6/20/08	Printed Name: Date:	Printed Name: Date:
Company: test.	Company:	Company:

Rev 06/04

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 Fax: (925) 600-3002

Reference #: 111281
Date 6/20/08 Page 2 of 2

720-14805

07/03/2008

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Report To

Attn: Bill Stevens
Company: BGC
Address: 5587 Sunol Blvd
Phone: 4840220 Email:
Bill To: BGC
Sampled By: PW
Attn: Bill Stevens
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA - ☐ 8015/8021 ☒ 8260B ☐ Gas w/ ~~☒~~ BTEX + MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☒ Diesel ☒ Motor Oil ☐ Other ___	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease (EPA 1664) ☐ Petroleum ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other: ___	Low Level Metals by EPA 200.8/6020 (ICP-MS): ___	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ ☐ pH (24h hold time for H_2O)	Spec Cond ☐ Alkalinity ☐ TSS ☐ TDS ☐	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4				Number of Containers
E1, E2, E3 E4 Composite 8 into 1 ↓ 5 Days	6/20/08	am	S	N	1		1				1		1		1										8

Project Info.

Project Name: Grafton Center
Project#: 3080.900
PO#:
Credit Card#:

TAT: (5 Day) 72h 48h 24h Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ Slate Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID ___
composite E1, 2, 3 & 4

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_9-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

Sample Receipt

of Containers: 8
Head Space:
Temp:
Conforms to record:

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: Scott Meeks Time: 15:20	Signature: Time:	Signature: Time:
Printed Name: Scott Meeks Date: 6/20	Printed Name: Date:	Printed Name: Date:
Company: BGC	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: Time: 15:20	Signature: Time:	Signature: Time:
Printed Name: Jason Mulkey Date: 6/20/08	Printed Name: Date:	Printed Name: Date:
Company: Test America	Company:	Company:

Rev 06/04

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-14865-1

Login Number: 14865
Creator: Mullen, Joan
List Number: 1

List Source: TestAmerica San Francisco

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	NO TIMES
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	

TestAmerica
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TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 720-14865

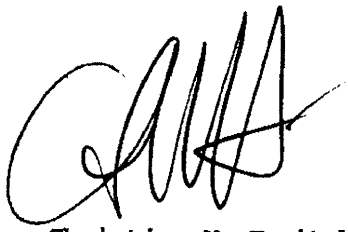
Grafton Center

Lot #: C8F240204

Melissa Brewer

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

TESTAMERICA LABORATORIES, INC.



Christina M. Kovitch
Project Manager

July 1, 2008



NELAC REPORTING:

At the time of analysis the laboratory was in compliance with the current NELAC standards and held accreditation for all analyses performed unless noted by a qualifier. The labs accreditation numbers are listed below. The format and contents of the report meets all applicable NELAC standards except as noted in the narrative and shall not be reproduced except in full, without the written approval of the laboratory. The table below presents a summary of the certifications held by TestAmerica Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	TestAmerica
NFESC	NA	NAVY	X
US Dept of Agriculture	(#P330-07-00101)	Foreign Soil Import Permit	X
Arkansas	(#03-022-1)	WW	X
		HW	X
California – NELAC	04224CA	WW	X
		HW	X
Connecticut	(#PH-0688)	WW	X
		HW	X
Florida – NELAC	(#E87660)	WW	X
		HW	X
Illinois – NELAC	(#200005)	WW	X
		HW	X
Kansas – NELAC	(#E-10350)	WW	X
		HW	X
Louisiana – NELAC	(#93200)	WW	X
		HW	X
New Hampshire – NELAC	(#203002)	WW	X
		–	–
New Jersey – NELAC	(PA-005)	WW	X
		HW	X
New York – NELAC	(#11182)	WW	X
		HW	X
North Carolina	(#434)	WW	X
		HW	X
Pennsylvania - NELAC	(#02-00416)	WW	X
		HW	X
South Carolina	(#89014001)	WW	X
		HW	X
Utah – NELAC	(STLP)	WW	X
		HW	X
West Virginia	(#142)	WW	X
		HW	X
Wisconsin	998027800	WW	X
		HW	X

The codes utilized for program types are described below:

HW Hazardous Waste certification
WW Non-potable Water and/or Wastewater certification
X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 12/28/07 C:\Documents and Settings\derubeisn\My Documents\NELAC NARRATIVE Pttsburgh.doc

CASE NARRATIVE

TestAmerica

Lot # C8F240204

Shipment:
TestAmerica's Pittsburgh laboratory received samples on June 24, 2008. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

Herbicides:
There were no problems associated with the analysis.

Organophosphorus Pesticides:
LCS recovered above the control limits for Parathion. This is due to co-elution with another compound. The analyte was not detected in any of the samples. Data reported as is. In this case the positive bias is not believed to have impacted data quality.

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

07/03/2008

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-3340.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 720-14885-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 6/27/2008			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email:	WO #:			
Project Name: Grafton Center	Project #: 72003829			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUBCONTRACT/ EPA 8151 - Herbicides	SUBCONTRACT/ EPA 8141 - Organophosphorus Com	Special Instructions/Note:
A1,A2,A3 (720-14865-4)	6/20/08			Solid	X	X	
B1,B2 (720-14865-7)	6/20/08			Solid	X	X	
C1,C2 (720-14865-10)	6/20/08			Solid	X	X	
D1,D2 (720-14865-13)	6/20/08			Solid	X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Joan Mellen	6-23-08 1500	3F			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/24/8 930	Company TA PM

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

C8F240204

METHODS SUMMARY

C8F240204

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chlorinated Herbicides by GC	SW846 8151A	SW846 8151A
Organophosphorous Compounds by GC	SW846 8141A	SW846 3541

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C8F240204

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KQG2X	001	720-14865-4	06/20/08	
KQG24	002	720-14865-7	06/20/08	
KQG25	003	720-14865-10	06/20/08	
KQG26	004	720-14865-13	06/20/08	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica San Francisco

Client Sample ID: 720-14865-4

GC Semivolatiles

Lot-Sample #...: C8F240204-001 **Work Order #...:** KQG2X1AA **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:** 8177218
Prep Date.....: 06/25/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8177506 **Analysis Time..:** 14:48
Dilution Factor: 0.99
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	2.9
Bolstar	ND	33	ug/kg	1.4
Chlorpyrifos	ND	33	ug/kg	3.9
Coumaphos	ND	33	ug/kg	2.3
Demeton-O	ND	33	ug/kg	2.9
Demeton-S	ND	33	ug/kg	2.9
Demeton (total)	ND	33	ug/kg	5.8
Diazinon	ND	33	ug/kg	1.5
Dichlorvos	ND	33	ug/kg	2.5
Dimethoate	ND	33	ug/kg	5.7
Disulfoton	ND	33	ug/kg	2.7
EPN	ND	33	ug/kg	0.97
Ethoprop	ND	33	ug/kg	1.8
Famphur	ND	33	ug/kg	2.9
Fensulfothion	ND	33	ug/kg	5.4
Fenthion	ND	33	ug/kg	3.0
Malathion	ND	33	ug/kg	2.7
Methyl parathion	ND	33	ug/kg	2.3
Mevinphos	ND	33	ug/kg	3.4
Parathion	ND	33	ug/kg	4.6
Phorate	ND	33	ug/kg	2.3
Ronnel	ND	33	ug/kg	3.3
Stirophos	ND	33	ug/kg	1.2
Sulfotepp	ND	33	ug/kg	1.1
Thionazin	ND	33	ug/kg	1.4
Tokuthion	ND	33	ug/kg	4.3
Trichloronate	ND	33	ug/kg	2.7
O,O,O-Triethylphosphorothioate	ND	33	ug/kg	1.3

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	94	(47 - 130)
Tributyl phosphate	89	(55 - 125)

TestAmerica San Francisco

Client Sample ID: 720-14865-7

GC Semivolatiles

Lot-Sample #...: C8F240204-002 **Work Order #...:** KQG241AA **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:** 8177218
Prep Date.....: 06/25/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8177506 **Analysis Time..:** 15:26
Dilution Factor: 0.99
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	2.9
Bolstar	ND	33	ug/kg	1.4
Chlorpyrifos	ND	33	ug/kg	3.9
Coumaphos	ND	33	ug/kg	2.3
Demeton-O	ND	33	ug/kg	2.9
Demeton-S	ND	33	ug/kg	2.9
Demeton (total)	ND	33	ug/kg	5.8
Diazinon	ND	33	ug/kg	1.5
Dichlorvos	ND	33	ug/kg	2.5
Dimethoate	ND	33	ug/kg	5.7
Disulfoton	ND	33	ug/kg	2.7
EPN	ND	33	ug/kg	0.97
Ethoprop	ND	33	ug/kg	1.8
Famphur	ND	33	ug/kg	2.9
Fensulfothion	ND	33	ug/kg	5.4
Fenthion	ND	33	ug/kg	3.0
Malathion	ND	33	ug/kg	2.7
Methyl parathion	ND	33	ug/kg	2.3
Mevinphos	ND	33	ug/kg	3.4
Parathion	ND	33	ug/kg	4.6
Phorate	ND	33	ug/kg	2.3
Ronnel	ND	33	ug/kg	3.3
Stirophos	ND	33	ug/kg	1.2
Sulfotepp	ND	33	ug/kg	1.1
Thionazin	ND	33	ug/kg	1.4
Tokuthion	ND	33	ug/kg	4.3
Trichloronate	ND	33	ug/kg	2.7
O,O,O-Triethylphosphorothioate	ND	33	ug/kg	1.3

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	99	(47 - 130)
Tributyl phosphate	93	(55 - 125)

TestAmerica San Francisco

Client Sample ID: 720-14865-10

GC Semivolatiles

Lot-Sample #...: C8F240204-003 **Work Order #...:** KQG251AA **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:** 8177218
Prep Date.....: 06/25/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8177506 **Analysis Time..:** 16:12
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	2.9
Bolstar	ND	33	ug/kg	1.4
Chlorpyrifos	ND	33	ug/kg	4.0
Coumaphos	ND	33	ug/kg	2.3
Demeton-O	ND	33	ug/kg	2.9
Demeton-S	ND	33	ug/kg	2.9
Demeton (total)	ND	33	ug/kg	5.8
Diazinon	ND	33	ug/kg	1.5
Dichlorvos	ND	33	ug/kg	2.5
Dimethoate	ND	33	ug/kg	5.8
Disulfoton	ND	33	ug/kg	2.7
EPN	ND	33	ug/kg	0.98
Ethoprop	ND	33	ug/kg	1.8
Famphur	ND	33	ug/kg	2.9
Fensulfothion	ND	33	ug/kg	5.5
Fenthion	ND	33	ug/kg	3.0
Malathion	ND	33	ug/kg	2.8
Methyl parathion	ND	33	ug/kg	2.3
Mevinphos	ND	33	ug/kg	3.5
Parathion	ND	33	ug/kg	4.6
Phorate	ND	33	ug/kg	2.3
Ronnel	ND	33	ug/kg	3.4
Stirophos	ND	33	ug/kg	1.3
Sulfotepp	ND	33	ug/kg	1.2
Thionazin	ND	33	ug/kg	1.4
Tokuthion	ND	33	ug/kg	4.3
Trichloronate	ND	33	ug/kg	2.7
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	1.3

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	97	(47 - 130)
Tributyl phosphate	95	(55 - 125)

TestAmerica San Francisco

Client Sample ID: 720-14865-13

GC Semivolatiles

Lot-Sample #...: C8F240204-004 **Work Order #...:** KQG261AA **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:** 8177218
Prep Date.....: 06/25/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8177506 **Analysis Time..:** 16:51
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	2.9
Bolstar	ND	33	ug/kg	1.4
Chlorpyrifos	ND	33	ug/kg	4.0
Coumaphos	ND	33	ug/kg	2.3
Demeton-O	ND	33	ug/kg	2.9
Demeton-S	ND	33	ug/kg	2.9
Demeton (total)	ND	33	ug/kg	5.8
Diazinon	ND	33	ug/kg	1.5
Dichlorvos	ND	33	ug/kg	2.5
Dimethoate	ND	33	ug/kg	5.8
Disulfoton	ND	33	ug/kg	2.7
EPN	ND	33	ug/kg	0.98
Ethoprop	ND	33	ug/kg	1.8
Famphur	ND	33	ug/kg	2.9
Fensulfothion	ND	33	ug/kg	5.5
Fenthion	ND	33	ug/kg	3.0
Malathion	ND	33	ug/kg	2.8
Methyl parathion	ND	33	ug/kg	2.3
Mevinphos	ND	33	ug/kg	3.5
Parathion	ND	33	ug/kg	4.6
Phorate	ND	33	ug/kg	2.3
Ronnel	ND	33	ug/kg	3.4
Stirophos	ND	33	ug/kg	1.3
Sulfotepp	ND	33	ug/kg	1.2
Thionazin	ND	33	ug/kg	1.4
Tokuthion	ND	33	ug/kg	4.3
Trichloronate	ND	33	ug/kg	2.7
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	1.3

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	101	(47 - 130)
Tributyl phosphate	96	(55 - 125)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C8F240204 **Work Order #...:** KQKDV1AA **Matrix.....:** SOLID
MB Lot-Sample #: C8F250000-506

Prep Date.....: 06/25/08 **Analysis Time..:** 17:30
Analysis Date..: 06/28/08 **Prep Batch #...:** 8177506
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Disulfoton	ND	33	ug/kg	SW846 8141A
Famphur	ND	33	ug/kg	SW846 8141A
Methyl parathion	ND	33	ug/kg	SW846 8141A
Parathion	ND	33	ug/kg	SW846 8141A
Phorate	ND	33	ug/kg	SW846 8141A
Azinphos-methyl	ND	33	ug/kg	SW846 8141A
Bolstar	ND	33	ug/kg	SW846 8141A
Chlorpyrifos	ND	33	ug/kg	SW846 8141A
Coumaphos	ND	33	ug/kg	SW846 8141A
Demeton-O	ND	33	ug/kg	SW846 8141A
Demeton-S	ND	33	ug/kg	SW846 8141A
Demeton (total)	ND	33	ug/kg	SW846 8141A
Diazinon	ND	33	ug/kg	SW846 8141A
Dichlorvos	ND	33	ug/kg	SW846 8141A
Thionazin	ND	33	ug/kg	SW846 8141A
Dimethoate	ND	33	ug/kg	SW846 8141A
EPN	ND	33	ug/kg	SW846 8141A
Ethoprop	ND	33	ug/kg	SW846 8141A
Fensulfothion	ND	33	ug/kg	SW846 8141A
Fenthion	ND	33	ug/kg	SW846 8141A
Malathion	ND	33	ug/kg	SW846 8141A
Mevinphos	ND	33	ug/kg	SW846 8141A
Ronnel	ND	33	ug/kg	SW846 8141A
Stirophos	ND	33	ug/kg	SW846 8141A
Sulfotepp	ND	33	ug/kg	SW846 8141A
Tokuthion	ND	33	ug/kg	SW846 8141A
Trichloronate	ND	33	ug/kg	SW846 8141A
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	SW846 8141A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	101	(47 - 130)
Tributyl phosphate	95	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C8F240204 **Work Order #...:** KQKDV1AC **Matrix.....:** SOLID
LCS Lot-Sample#: C8F250000-506
Prep Date.....: 06/25/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8177506 **Analysis Time..:** 18:09
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Tetraethyldithiopyro-phosphate	**110**	**(48 - 126)**	**SW846 8141A**
Phorate	**108**	**(41 - 143)**	**SW846 8141A**
Disulfoton	**102**	**(31 - 136)**	**SW846 8141A**
Methyl parathion	**97**	**(43 - 146)**	**SW846 8141A**
Parathion	**159 a**	**(52 - 133)**	**SW846 8141A**
Dimethoate	**135**	**(51 - 140)**	**SW846 8141A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	105	(47 - 130)
Tributyl phosphate	102	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...:	C8F240204	**Work Order #...:**	KQFJ71CW-MS KQFJ71CX-MSD	**Matrix.....:**	SOLID
MS Lot-Sample #:	A8F230173-001				
Date Sampled...:	06/23/08	**Date Received..:**	06/23/08	**MS Run #.....:**	8177218
Prep Date.....:	06/25/08	**Analysis Date..:**	06/28/08		
Prep Batch #...:	8177506	**Analysis Time..:**	12:51		
Dilution Factor:	1	**% Moisture.....:**	0.0		

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phorate	**101**	**(26 - 134)**			**SW846 8141A**
	79	**(26 - 134)**	**24**	**(0-30)**	**SW846 8141A**
Disulfoton	**95**	**(10 - 139)**			**SW846 8141A**
	74	**(10 - 139)**	**24**	**(0-30)**	**SW846 8141A**
Methyl parathion	**113**	**(35 - 146)**			**SW846 8141A**
	88	**(35 - 146)**	**25**	**(0-30)**	**SW846 8141A**
Parathion	**161 a**	**(40 - 133)**			**SW846 8141A**
	123	**(40 - 133)**	**27**	**(0-30)**	**SW846 8141A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	97	(47 - 130)
	95	(47 - 130)
Tributyl phosphate	91	(55 - 125)
	89	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

TestAmerica San Francisco

Client Sample ID: 720-14865-4

GC Semivolatiles

Lot-Sample #...: C8F240204-001 **Work Order #...:** KQG2X1AC **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:**
Prep Date.....: 06/24/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8176450 **Analysis Time..:** 20:05
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8151A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	20
Dalapon	**92 PG**	**90**	**ug/kg**	**16**
2,4-DB	ND	80	ug/kg	18
Dicamba	ND	40	ug/kg	4.9
Dichlorprop	ND	80	ug/kg	15
Dinoseb	ND	12	ug/kg	1.8
MCPA	**11000**	**8000**	**ug/kg**	**1300**
MCPP	ND	8000	ug/kg	1400
Pentachlorophenol	ND	11	ug/kg	3.4
2,4,5-TP (Silvex)	ND	20	ug/kg	2.5
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	124	(42 - 125)

NOTE(S):

PG The percent difference between the original and confirmation analyses is greater than 40%.

TestAmerica San Francisco

Client Sample ID: 720-14865-7

GC Semivolatiles

Lot-Sample #...: C8F240204-002 **Work Order #...:** KQG241AC **Matrix.....:** SOLID
Date Sampled...: 06/20/08 **Date Received..:** 06/24/08 **MS Run #.....:**
Prep Date.....: 06/24/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8176450 **Analysis Time..:** 20:38
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8151A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	20
Dalapon	ND	90	ug/kg	16
2,4-DB	ND	80	ug/kg	18
Dicamba	ND	40	ug/kg	4.9
Dichlorprop	ND	80	ug/kg	15
Dinoseb	ND	12	ug/kg	1.8
MCPA	ND	8000	ug/kg	1300
MCPP	ND	8000	ug/kg	1400
Pentachlorophenol	ND	11	ug/kg	3.4
2,4,5-TP (Silvex)	ND	20	ug/kg	2.5
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	96	(42 - 125)

TestAmerica San Francisco

Client Sample ID: 720-14865-10

GC Semivolatiles

Lot-Sample #...:	C8F240204-003	**Work Order #...:**	KQG251AC	**Matrix.....:**	SOLID
Date Sampled...:	06/20/08	**Date Received..:**	06/24/08	**MS Run #.....:**	
Prep Date.....:	06/24/08	**Analysis Date..:**	06/28/08		
Prep Batch #...:	8176450	**Analysis Time..:**	21:10		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	20
Dalapon	**120 PG**	**90**	**ug/kg**	**16**
2,4-DB	ND	80	ug/kg	18
Dicamba	ND	40	ug/kg	4.9
Dichlorprop	ND	80	ug/kg	15
Dinoseb	ND	12	ug/kg	1.8
MCPA	**10000**	**8000**	**ug/kg**	**1300**
MCPP	ND	8000	ug/kg	1400
Pentachlorophenol	ND	11	ug/kg	3.4
2,4,5-TP (Silvex)	ND	20	ug/kg	2.5
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	78	(42 - 125)

NOTE(S):

PG The percent difference between the original and confirmation analyses is greater than 40%.

TestAmerica San Francisco

Client Sample ID: 720-14865-13

GC Semivolatiles

Lot-Sample #...: C8F240204-004	**Work Order #...:** KQG261AC	**Matrix.....:** SOLID
Date Sampled...: 06/20/08	**Date Received..:** 06/24/08	**MS Run #.....:**
Prep Date.....: 06/24/08	**Analysis Date..:** 06/28/08	
Prep Batch #...: 8176450	**Analysis Time..:** 21:43	
Dilution Factor: 1		
% Moisture.....:	**Method.....:** SW846 8151A	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	20
Dalapon	ND	90	ug/kg	16
2,4-DB	ND	80	ug/kg	18
Dicamba	ND	40	ug/kg	4.9
Dichlorprop	ND	80	ug/kg	15
Dinoseb	ND	12	ug/kg	1.8
MCPA	ND	8000	ug/kg	1300
MCPP	ND	8000	ug/kg	1400
Pentachlorophenol	ND	11	ug/kg	3.4
2,4,5-TP (Silvex)	ND	20	ug/kg	2.5
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	72	(42 - 125)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C8F240204 **Work Order #...:** KQHP71AA **Matrix.....:** SOLID
MB Lot-Sample #: C8F240000-450

Prep Date.....: 06/24/08 **Analysis Time..:** 22:16
Analysis Date..: 06/28/08 **Prep Batch #...:** 8176450
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4-D	ND	80	ug/kg	SW846 8151A
Dalapon	ND	90	ug/kg	SW846 8151A
2,4-DB	ND	80	ug/kg	SW846 8151A
Dicamba	ND	40	ug/kg	SW846 8151A
Dichlorprop	ND	80	ug/kg	SW846 8151A
Dinoseb	ND	12	ug/kg	SW846 8151A
MCPA	ND	8000	ug/kg	SW846 8151A
MCPP	ND	8000	ug/kg	SW846 8151A
Pentachlorophenol	ND	11	ug/kg	SW846 8151A
2,4,5-TP (Silvex)	ND	20	ug/kg	SW846 8151A
2,4,5-T	ND	20	ug/kg	SW846 8151A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	102	(42 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C8F240204 **Work Order #...:** KQHP71AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: C8F240000-450 KQHP71AD-LCSD
Prep Date.....: 06/24/08 **Analysis Date..:** 06/28/08
Prep Batch #...: 8176450 **Analysis Time..:** 22:48
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2,4-D	**85**	**(61 - 120)**			**SW846 8151A**
	88	**(61 - 120)**	**3.7**	**(0-27)**	**SW846 8151A**
Pentachlorophenol	**122**	**(75 - 122)**			**SW846 8151A**
	122	**(75 - 122)**	**0.77**	**(0-16)**	**SW846 8151A**
2,4,5-TP (Silvex)	**98**	**(67 - 116)**			**SW846 8151A**
	100	**(67 - 116)**	**1.6**	**(0-26)**	**SW846 8151A**
2,4,5-T	**91**	**(57 - 126)**			**SW846 8151A**
	93	**(57 - 126)**	**2.1**	**(0-35)**	**SW846 8151A**
2,4-DB	**101**	**(61 - 128)**			**SW846 8151A**
	102	**(61 - 128)**	**1.7**	**(0-29)**	**SW846 8151A**
Dalapon	**66**	**(61 - 110)**			**SW846 8151A**
	69	**(61 - 110)**	**4.4**	**(0-37)**	**SW846 8151A**
Dicamba	**116**	**(70 - 116)**			**SW846 8151A**
	114	**(70 - 116)**	**2.0**	**(0-23)**	**SW846 8151A**
Dichlorprop	**102**	**(67 - 127)**			**SW846 8151A**
	103	**(67 - 127)**	**0.36**	**(0-14)**	**SW846 8151A**
Dinoseb	**20**	**(15 - 122)**			**SW846 8151A**
	20	**(15 - 122)**	**1.2**	**(0-61)**	**SW846 8151A**
MCPA	**86**	**(60 - 129)**			**SW846 8151A**
	89	**(60 - 129)**	**3.4**	**(0-19)**	**SW846 8151A**
MCPP	**112**	**(64 - 135)**			**SW846 8151A**
	115	**(64 - 135)**	**2.0**	**(0-22)**	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
DCAA	113	(42 - 125)
	114	(42 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

APPENDIX B

TestAmerica Analytical Report, Grafton South, 7/3/08

Via Email and Mail

July 15, 2008
Job No. 3080.901

BGC
BERLOGAR
GEOTECHNICAL
CONSULTANTS

Mr. Steve Herndon
Toll Brothers, Inc.
100 Park Place
San Ramon, California 94583

Subject: Analytical Testing of Existing Surface Soil
Grafton Center
Dublin Boulevard East of Landsdowne Street
Dublin, California

Dear Mr. Herndon:

Berlogar Geotechnical Consultants has completed analytical testing of soil located on the north side of Dublin Boulevard, east of Landsdowne Street. This area is located within the Grafton Center project area as shown on Plate 1, Vicinity Map and Plate 2, Site Plan. This location is considered "undisturbed," indicative of the native soil in the area that was utilized for fill for the Grafton Center project. Four soil samples were obtained at depths of 0.5 to 1.0 feet below the existing ground surface in the locations shown on Plate 2. The samples were transported to TestAmerica, a California State Certified analytical laboratory, in Pleasanton, California. The 4 samples were composited into a single sample for testing, and the following laboratory tests were performed:

1. 8260B, Volatile Organic Compounds by GC/MS;
2. CA_LUFTMS, Total Petroleum Hydrocarbons by GC/MS;
3. 8015B, Nonhalogenated Organics using GC/FID-Modified (Diesel Range Organics);
4. 8081A, Organochlorine Pesticides by Gas Chromatography;
5. 8082, PCB by Gas Chromatography;
6. 6010B, (CAM 17 Metals) Inductively Coupled Plasma – Atomic Emission Spectrometry;
7. 7471A, CAM 17 Metals) Mercury in Solid or Semisolid Waste;

The results of the testing are attached in the TestAmerica Analytical Report. The test results indicate that most of the constituents tested were nondetectable. The following table summarizes the constituents that were detected with several agency preliminary remediation or screening level goals.

Composite Sample	USEPA, ppm	CHHSL, ppm	SFRWQCB, ppm	Test Results, ppm
Diesel Range Organics (C10-C28)	--	--	83	13
Motor Oil Range Organics (C24-C36)	--	--	410	77
CAM 17, EPA 6010B				
Antimony and compounds	31	30	6.1	ND
Arsenic	0.39	0.07	0.38	4.8
Barium and compounds	5,400	5,200	750	230
Beryllium and compounds	150	150	4	ND
Cadmium and compounds	37	1.7	1.7	ND
Chromium, total	210	--	--	36
Chromium III	10,0000	10,0000	750	--
Chromium VI	30	17	8	--
Cobalt	900	660	40	11
Copper and compound	3,100	3000	230	21
Lead and lead compounds	400	150	200	7.0
Molybdenum	390	380	40	1.2
Nickel and compounds	1,600	1600	150	42
Selenium	390	380	10	ND
Silver and compound	390	380	20	ND
Thallium and compounds	5.2	5	1.2	ND
Vanadium and compounds	78	530	15	38
Zinc	23,000	23,000	600	44
Mercury, EPA 7471A	230	18	1	ND

Notes:

a) US EPA, Preliminary Remediation Goals, Region 9 PRG Table, Residential Land Use, October 2004.

b) California Human Health Screening Level for Soil, Table 1, Residential Land Use, January 2005.

c) San Francisco Bay Regional Water Quality Control Board, Table A, Environmental Screening Levels, Shallow Soils (< 3m bgs), Groundwater is Potable, Residential Land Use, November 2007.

Arsenic was detected above the 3 agency screening levels, and Vanadium was above the SFRWQCB remediation goals. The CHHSL and SFRWQCB do not have total Chromium level goals, and the testing was not performed for Chromium III and IV. However, it is our experience that the levels of Arsenic, Chromium, and Vanadium are typical of soils in the Bay Area. Hence, it is our opinion that the existing soil at this site is not considered to be contaminated, and can be utilized at most sites. The receiver of the soil should make the final determination as to the acceptance of this soil.

We trust that this letter provides the necessary information you require at this time. If you have any questions, please contact Bill Stevens at (925) 484-0220 or bstevens@berlogar.com.

Respectfully,

BERLOGAR GEOTECHNICAL CONSULTANTS



William R. Stevens
Principal Geotechnical Engineer
GE 2339, Exp. 3/31/10

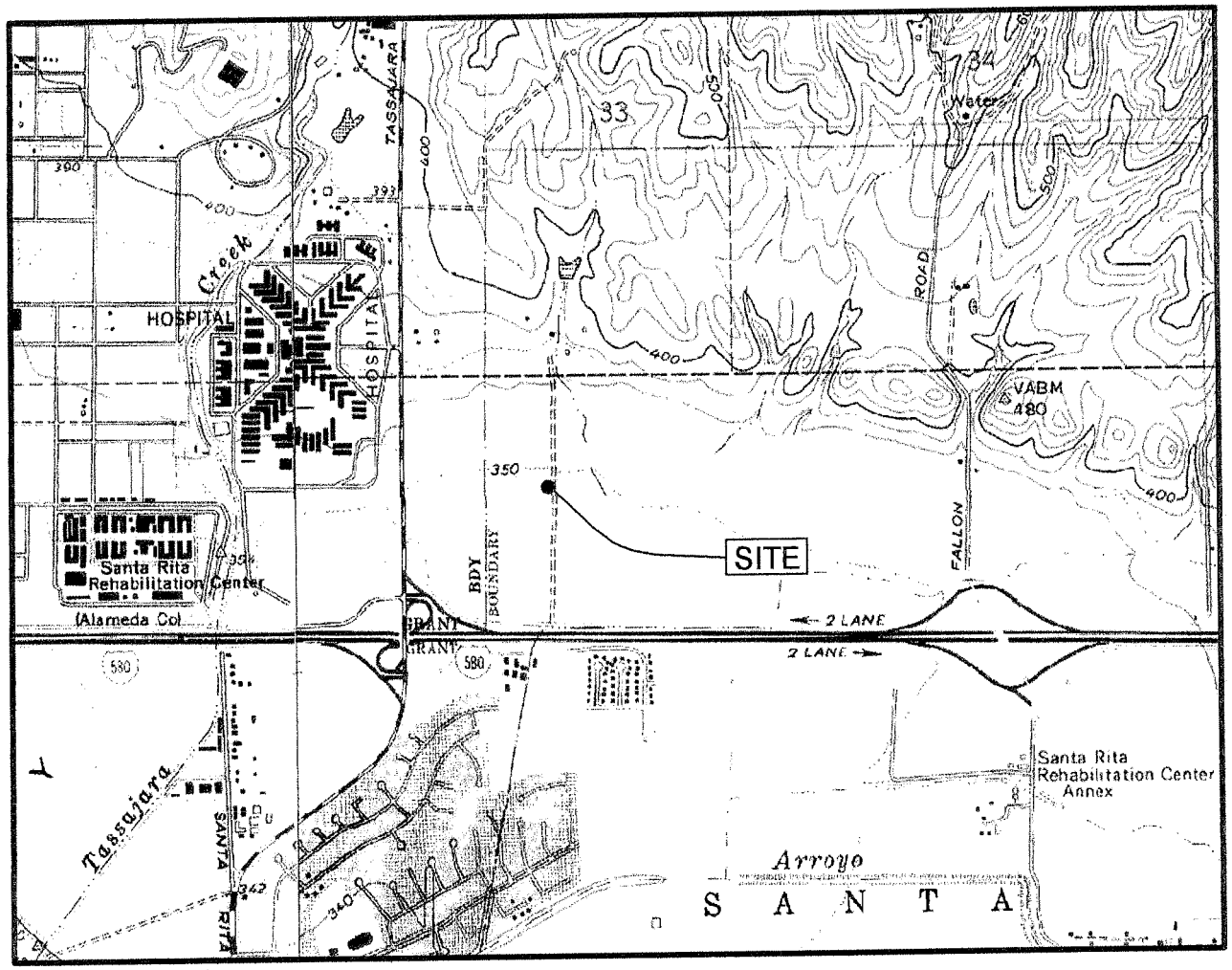
WRS:jmb

Attachments: Plate 1 – Vicinity Map
Plate 2 – Site Plan
TestAmerica Analytical Report

Copies: Addressee (5)

3080.901/21458.doc

JOB NUMBER: 3080.901 DATE: 7/3/08 BY: CC



VICINITY MAP

LANDSDOWNE

DUBLIN BOULEVARD

DUBLIN, CALIFORNIA

FOR

TOLL BROTHERS, INC.

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, LIVERMORE, CALIFORNIA, PHOTOREVISED 1983, AT A SCALE OF 1:24,000.

PLATE 1

BERLOGAR GEOTECHNICAL CONSULTANTS



JOB NUMBER: 3080.901 DATE: 7/3/08 DRAWN BY: CC CHECKED BY:

EXPLANATION

4
1.0'

APPROXIMATE SOIL SAMPLE LOCATION, SHOWING DEPTH OF SAMPLE IN FEET

N

0 100

1"=100'

SITE PLAN

LANDSDOWNE

DUBLIN BOULEVARD
DUBLIN, CALIFORNIA
FOR
TOLL BROTHERS, INC.

Berlogar Geotechnical Consultants
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: AERIAL IMAGE

PLATE 2

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-15015-1

Job Description: Landsdowne

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Melissa Brewer

Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
07/09/2008

cc: Scott Meeks

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 37783 were outside control limits. The associated laboratory control standard (LCS) met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-15015-5	**1,2,3,4**				
Diesel Range Organics [C10-C28]		13	1.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		77	50	mg/Kg	8015B
Arsenic		4.8	1.0	mg/Kg	6010B
Barium		230	1.0	mg/Kg	6010B
Chromium		36	1.0	mg/Kg	6010B
Cobalt		11	1.0	mg/Kg	6010B
Copper		21	1.0	mg/Kg	6010B
Lead		7.0	1.0	mg/Kg	6010B
Molybdenum		1.2	1.0	mg/Kg	6010B
Nickel		42	1.0	mg/Kg	6010B
Vanadium		38	1.0	mg/Kg	6010B
Zinc		44	1.0	mg/Kg	6010B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds by GC/MS	TAL SF	SW846 8260B	
Purge and Trap for Solids	TAL SF		SW846 5030B
Total Petroleum Hydrocarbons by GC/MS	TAL SF	CA_LUFTMS	
Purge and Trap for Solids	TAL SF		SW846 5030B
Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B
Organochlorine Pesticides by Gas Chromatography	TAL SF	SW846 8081A	
Ultrasonic Extraction	TAL SF		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL SF	SW846 8082	
Ultrasonic Extraction	TAL SF		SW846 3550B
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL SF	SW846 6010B	
Acid Digestion of Sediments, Sludges, and Soils	TAL SF		SW846 3050B
Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	TAL SF	SW846 7471A	
Mercury in Solid or Semi-Solid Waste (Manual Cold	TAL SF		SW846 7471A

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-15015-5	1,2,3,4	Solid	07/03/2008 1048	07/03/2008 1110

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: 1,2,3,4

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 07/07/2008 1130
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37861
Prep Batch: 720-37863

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.30 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Benzene		ND		0.0047
Ethylbenzene		ND		0.0047
Toluene		ND		0.0047
MTBE		ND		0.0047
Xylenes, Total		ND		0.0094

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	84	74 - 112
1,2-Dichloroethane-d4 (Surr)	116	54 - 134

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: **1,2,3,4**

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

CA_LUFTMS Total Petroleum Hydrocarbons by GC/MS

Method: CA_LUFTMS
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 07/07/2008 1130
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37862
Prep Batch: 720-37865

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.30 g
Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12		ND		0.24

Surrogate	%Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	116	54 - 134
Toluene-d8 (Surr)	84	74 - 112

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: **1,2,3,4**

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/04/2008 0406
Date Prepared: 07/03/2008 0810

Analysis Batch: 720-37864
Prep Batch: 720-37738

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		13		1.0
Motor Oil Range Organics [C24-C36]		77		50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	69	40 - 119

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: **1,2,3,4**

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/08/2008 1923
Date Prepared: 07/03/2008 1216

Analysis Batch: 720-37911
Prep Batch: 720-37755

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	80	62 - 114
DCB Decachlorobiphenyl	78	51 - 121

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: **1,2,3,4**

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/03/2008 1739
Date Prepared: 07/03/2008 1213

Analysis Batch: 720-37887
Prep Batch: 720-37754

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	87	52 - 114
DCB Decachlorobiphenyl	94	29 - 117

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Client Sample ID: 1,2,3,4

Lab Sample ID: 720-15015-5
Client Matrix: Solid

Date Sampled: 07/03/2008 1048
Date Received: 07/03/2008 1110

6010B Inductively Coupled Plasma - Atomic Emission Spectrometry

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 07/07/2008 0931
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.98 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Antimony		ND		2.0
Arsenic		4.8		1.0
Barium		230		1.0
Beryllium		ND		0.51
Cadmium		ND		0.51
Chromium		36		1.0
Cobalt		11		1.0
Copper		21		1.0
Lead		7.0		1.0
Molybdenum		1.2		1.0
Nickel		42		1.0
Selenium		ND		2.0
Silver		ND		1.0
Thallium		ND		1.0
Vanadium		38		1.0
Zinc		44		1.0

7471A Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 07/08/2008 0828
Date Prepared: 07/07/2008 0838

Analysis Batch: 720-37854
Prep Batch: 720-37799

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Mercury		ND		0.050

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-15015-1

Lab Section	Qualifier	Description
Metals		
	F	MS or MSD exceeds the control limits

Client: Berlogar Geotechnical

Job Number: 720-15015-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-37861					
LCS 720-37863/2-A	Lab Control Spike	T	Solid	8260B	720-37863
LCSD 720-37863/3-A	Lab Control Spike Duplicate	T	Solid	8260B	720-37863
MB 720-37863/1-A	Method Blank	T	Solid	8260B	720-37863
720-15015-5	1,2,3,4	T	Solid	8260B	720-37863
Analysis Batch:720-37862					
LCS 720-37865/2-A	Lab Control Spike	T	Solid	CA_LUFTMS	720-37865
LCSD 720-37865/3-A	Lab Control Spike Duplicate	T	Solid	CA_LUFTMS	720-37865
MB 720-37865/1-A	Method Blank	T	Solid	CA_LUFTMS	720-37865
720-15015-5	1,2,3,4	T	Solid	CA_LUFTMS	720-37865
Prep Batch: 720-37863					
LCS 720-37863/2-A	Lab Control Spike	T	Solid	5030B	
LCSD 720-37863/3-A	Lab Control Spike Duplicate	T	Solid	5030B	
MB 720-37863/1-A	Method Blank	T	Solid	5030B	
720-15015-5	1,2,3,4	T	Solid	5030B	
Prep Batch: 720-37865					
LCS 720-37865/2-A	Lab Control Spike	T	Solid	5030B	
LCSD 720-37865/3-A	Lab Control Spike Duplicate	T	Solid	5030B	
MB 720-37865/1-A	Method Blank	T	Solid	5030B	
720-15015-5	1,2,3,4	T	Solid	5030B	

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-15015-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-37738					
LCS 720-37738/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37738/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37738/1-A	Method Blank	T	Solid	3550B	
720-15015-5	1,2,3,4	T	Solid	3550B	
Prep Batch: 720-37754					
LCS 720-37754/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37754/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37754/1-A	Method Blank	T	Solid	3550B	
720-15015-5	1,2,3,4	T	Solid	3550B	
720-15015-5MS	Matrix Spike	T	Solid	3550B	
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	3550B	
Prep Batch: 720-37755					
LCS 720-37755/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-37755/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-37755/1-A	Method Blank	T	Solid	3550B	
720-15015-5	1,2,3,4	T	Solid	3550B	
720-15015-5MS	Matrix Spike	T	Solid	3550B	
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	3550B	
Analysis Batch:720-37864					
LCS 720-37738/2-A	Lab Control Spike	T	Solid	8015B	720-37738
LCSD 720-37738/3-A	Lab Control Spike Duplicate	T	Solid	8015B	720-37738
MB 720-37738/1-A	Method Blank	T	Solid	8015B	720-37738
720-15015-5	1,2,3,4	T	Solid	8015B	720-37738
Analysis Batch:720-37887					
LCS 720-37754/2-A	Lab Control Spike	T	Solid	8082	720-37754
LCSD 720-37754/3-A	Lab Control Spike Duplicate	T	Solid	8082	720-37754
MB 720-37754/1-A	Method Blank	T	Solid	8082	720-37754
720-15015-5	1,2,3,4	T	Solid	8082	720-37754
720-15015-5MS	Matrix Spike	T	Solid	8082	720-37754
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	8082	720-37754
Analysis Batch:720-37911					
LCS 720-37755/2-A	Lab Control Spike	T	Solid	8081A	720-37755
LCSD 720-37755/3-A	Lab Control Spike Duplicate	T	Solid	8081A	720-37755
MB 720-37755/1-A	Method Blank	T	Solid	8081A	720-37755
720-15015-5	1,2,3,4	T	Solid	8081A	720-37755
720-15015-5MS	Matrix Spike	T	Solid	8081A	720-37755
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	8081A	720-37755

Client: Berlogar Geotechnical

Job Number: 720-15015-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Report Basis					
T = Total					
Metals					
Prep Batch: 720-37783					
LCS 720-37783/2-A	Lab Control Spike	T	Solid	3050B	
LCSD 720-37783/3-A	Lab Control Spike Duplicate	T	Solid	3050B	
LCSSRM 720-37783/10-A	LCS-Standard Reference Material	T	Solid	3050B	
MB 720-37783/1-A	Method Blank	T	Solid	3050B	
720-15015-5	1,2,3,4	T	Solid	3050B	
720-15015-5MS	Matrix Spike	T	Solid	3050B	
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	3050B	
Prep Batch: 720-37799					
LCS 720-37799/2-A	Lab Control Spike	T	Solid	7471A	
LCSD 720-37799/3-A	Lab Control Spike Duplicate	T	Solid	7471A	
MB 720-37799/1-A	Method Blank	T	Solid	7471A	
720-15015-5	1,2,3,4	T	Solid	7471A	
Analysis Batch:720-37806					
LCS 720-37783/2-A	Lab Control Spike	T	Solid	6010B	720-37783
LCSD 720-37783/3-A	Lab Control Spike Duplicate	T	Solid	6010B	720-37783
LCSSRM 720-37783/10-A	LCS-Standard Reference Material	T	Solid	6010B	720-37783
MB 720-37783/1-A	Method Blank	T	Solid	6010B	720-37783
720-15015-5	1,2,3,4	T	Solid	6010B	720-37783
720-15015-5MS	Matrix Spike	T	Solid	6010B	720-37783
720-15015-5MSD	Matrix Spike Duplicate	T	Solid	6010B	720-37783
Analysis Batch:720-37854					
LCS 720-37799/2-A	Lab Control Spike	T	Solid	7471A	720-37799
LCSD 720-37799/3-A	Lab Control Spike Duplicate	T	Solid	7471A	720-37799
MB 720-37799/1-A	Method Blank	T	Solid	7471A	720-37799
720-15015-5	1,2,3,4	T	Solid	7471A	720-37799

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37863

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-37863/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1012
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37861
Prep Batch: 720-37863
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.0050
Ethylbenzene	ND		0.0050
Toluene	ND		0.0050
MTBE	ND		0.0050
Xylenes, Total	ND		0.010

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	96	74 - 112
1,2-Dichloroethane-d4 (Surr)	111	54 - 134

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37863

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-37863/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1035
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37861
Prep Batch: 720-37863
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-37863/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1059
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37861
Prep Batch: 720-37863
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	84	80	66 - 128	4	20		
Toluene	82	83	76 - 128	1	20		
MTBE	92	97	59 - 145	5	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8 (Surr)	98	97	74 - 112
1,2-Dichloroethane-d4 (Surr)	116	110	54 - 134

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37865

Method: CA_LUFTMS
Preparation: 5030B

Lab Sample ID: MB 720-37865/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1012
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37862
Prep Batch: 720-37865
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C5-C12	ND		0.25

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111	54 - 134
Toluene-d8 (Surr)	96	74 - 112

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37865

Method: CA_LUFTMS
Preparation: 5030B

LCS Lab Sample ID: LCS 720-37865/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1035
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37862
Prep Batch: 720-37865
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-37865/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 1059
Date Prepared: 07/07/2008 0800

Analysis Batch: 720-37862
Prep Batch: 720-37865
Units: mg/Kg

Instrument ID: Varian 3900E
Lab File ID: c:\varianws\data\200807\07
Initial Weight/Volume: 5.0 g
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	53	60	51 - 97	13	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	116	110	54 - 134
Toluene-d8 (Surr)	98	97	74 - 112

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37738

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-37738/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/04/2008 0604
Date Prepared: 07/03/2008 0810

Analysis Batch: 720-37864
Prep Batch: 720-37738
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.38 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		0.99
Motor Oil Range Organics [C24-C36]	ND		49

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	88	40 - 119

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37738

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37738/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/04/2008 0505
Date Prepared: 07/03/2008 0810

Analysis Batch: 720-37864
Prep Batch: 720-37738
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.37 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37738/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/04/2008 0535
Date Prepared: 07/03/2008 0810

Analysis Batch: 720-37864
Prep Batch: 720-37738
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.45 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	71	73	50 - 130	3	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	87	90	40 - 119

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37755

Method: 8081A
Preparation: 3550B

Lab Sample ID: MB 720-37755/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 1814
Date Prepared: 07/03/2008 1216

Analysis Batch: 720-37911
Prep Batch: 720-37755
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aldrin	ND		2.0
Dieldrin	ND		2.0
Endrin aldehyde	ND		2.0
Endrin	ND		2.0
Endrin ketone	ND		2.0
Heptachlor	ND		2.0
Heptachlor epoxide	ND		2.0
4,4'-DDT	ND		2.0
4,4'-DDE	ND		2.0
4,4'-DDD	ND		2.0
Endosulfan I	ND		2.0
Endosulfan II	ND		2.0
alpha-BHC	ND		2.0
beta-BHC	ND		2.0
gamma-BHC (Lindane)	ND		2.0
delta-BHC	ND		2.0
Endosulfan sulfate	ND		2.0
Methoxychlor	ND		2.0
Toxaphene	ND		40
Chlordane (technical)	ND		40
alpha-Chlordane	ND		2.0
gamma-Chlordane	ND		2.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	84	62 - 114
DCB Decachlorobiphenyl	90	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37755

Method: 8081A
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37755/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 1837
Date Prepared: 07/03/2008 1216

Analysis Batch: 720-37911
Prep Batch: 720-37755
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37755/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 1900
Date Prepared: 07/03/2008 1216

Analysis Batch: 720-37911
Prep Batch: 720-37755
Units: ug/Kg

Instrument ID: Varian Pest 2
Lab File ID: N/A
Initial Weight/Volume: 30.05 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aldrin	85	83	63 - 109	2	20		
Dieldrin	86	86	64 - 114	0	20		
Endrin	83	82	62 - 113	1	20		
Heptachlor	85	84	64 - 112	1	20		
4,4'-DDT	84	85	60 - 114	0	20		
gamma-BHC (Lindane)	83	83	64 - 109	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	81	84	62 - 114
DCB Decachlorobiphenyl	86	86	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37755

Method: 8081A
Preparation: 3550B

MS Lab Sample ID:	720-15015-5	Analysis Batch: 720-37911	Instrument ID: Varian Pest 2
Client Matrix:	Solid	Prep Batch: 720-37755	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.05 g
Date Analyzed:	07/08/2008 1946		Final Weight/Volume: 10 mL
Date Prepared:	07/03/2008 1216		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	720-15015-5	Analysis Batch: 720-37911	Instrument ID: Varian Pest 2
Client Matrix:	Solid	Prep Batch: 720-37755	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.03 g
Date Analyzed:	07/08/2008 2009		Final Weight/Volume: 10 mL
Date Prepared:	07/03/2008 1216		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aldrin	75	72	53 - 114	5	20		
Dieldrin	74	71	46 - 130	4	20		
Endrin	78	75	32 - 143	4	20		
Heptachlor	75	72	52 - 116	4	20		
4,4'-DDT	77	74	17 - 144	4	20		
gamma-BHC (Lindane)	74	70	60 - 106	6	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	77	75	62 - 114
DCB Decachlorobiphenyl	76	72	51 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37754

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 720-37754/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/03/2008 1637
Date Prepared: 07/03/2008 1213

Analysis Batch: 720-37887
Prep Batch: 720-37754
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.05 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		50
PCB-1221	ND		50
PCB-1232	ND		50
PCB-1242	ND		50
PCB-1248	ND		50
PCB-1254	ND		50
PCB-1260	ND		50

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	95	52 - 114
DCB Decachlorobiphenyl	101	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37754

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 720-37754/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/03/2008 1657
Date Prepared: 07/03/2008 1213

Analysis Batch: 720-37887
Prep Batch: 720-37754
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-37754/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/03/2008 1718
Date Prepared: 07/03/2008 1213

Analysis Batch: 720-37887
Prep Batch: 720-37754
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: N/A
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	102	97	76 - 116	5	20		
PCB-1260	102	98	60 - 116	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	92	83	52 - 114
DCB Decachlorobiphenyl	96	94	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37754

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	720-15015-5	Analysis Batch: 720-37887	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-37754	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.07 g
Date Analyzed:	07/03/2008 1759		Final Weight/Volume: 10 mL
Date Prepared:	07/03/2008 1213		Injection Volume: 1.0 uL
			Column ID: PRIMARY
MSD Lab Sample ID:	720-15015-5	Analysis Batch: 720-37887	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-37754	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.01 g
Date Analyzed:	07/03/2008 1820		Final Weight/Volume: 10 mL
Date Prepared:	07/03/2008 1213		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	95	87	37 - 143	9	20		
PCB-1260	92	92	14 - 130	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	86	85	52 - 114
DCB Decachlorobiphenyl	87	87	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37783

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 720-37783/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0912
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Antimony	ND		2.0
Arsenic	ND		1.0
Barium	ND		1.0
Beryllium	ND		0.50
Cadmium	ND		0.50
Chromium	ND		1.0
Cobalt	ND		1.0
Copper	ND		1.0
Lead	ND		1.0
Molybdenum	ND		1.0
Nickel	ND		1.0
Selenium	ND		2.0
Silver	ND		1.0
Thallium	ND		1.0
Vanadium	ND		1.0
Zinc	ND		1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

LCS-Standard Reference Material - Batch: 720-37783

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCSSRM 720-37783/10-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0945
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.98 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	27.4	9.86	36	11 - 101	
Arsenic	22.7	21.5	95	69 - 119	
Barium	145	135	93	61 - 117	
Beryllium	1.09	1.02	93	56 - 102	
Cadmium	42.2	41.1	97	67 - 118	
Chromium	246	241	98	67 - 121	
Cobalt	65.1	70.5	108	64 - 133	
Copper	58.5	58.9	101	68 - 126	
Lead	44.1	41.0	93	62 - 113	
Molybdenum	61.0	56.1	92	62 - 128	
Nickel	96.8	102	106	65 - 117	
Selenium	165	162	98	63 - 126	
Silver	79.5	57.0	72	51 - 130	
Thallium	55.9	56.0	100	64 - 124	
Vanadium	56.7	55.7	98	67 - 123	
Zinc	44.0	41.0	93	62 - 110	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37783

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 720-37783/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0915
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-37783/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0919
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Antimony	101	101	80 - 120	0	20		
Arsenic	110	108	80 - 120	2	20		
Barium	104	103	80 - 120	2	20		
Beryllium	110	108	80 - 120	2	20		
Cadmium	107	106	80 - 120	2	20		
Chromium	110	108	80 - 120	2	20		
Cobalt	108	106	80 - 120	2	20		
Copper	112	110	80 - 120	2	20		
Lead	107	105	80 - 120	2	20		
Molybdenum	111	110	80 - 120	1	20		
Nickel	107	105	80 - 120	2	20		
Selenium	111	109	80 - 120	2	20		
Silver	105	103	80 - 120	2	20		
Thallium	107	105	80 - 120	2	20		
Vanadium	111	109	80 - 120	2	20		
Zinc	107	105	80 - 120	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-37783

Method: 6010B
Preparation: 3050B

MS Lab Sample ID: 720-15015-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0923
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 720-15015-5
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/07/2008 0927
Date Prepared: 07/03/2008 1623

Analysis Batch: 720-37806
Prep Batch: 720-37783

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony	17	15	75 - 125	10	20	F	F
Arsenic	86	90	75 - 125	6	20		
Barium	73	82	75 - 125	5	20	F	
Beryllium	92	95	75 - 125	5	20		
Cadmium	82	85	75 - 125	5	20		
Chromium	88	91	75 - 125	4	20		
Cobalt	83	85	75 - 125	5	20		
Copper	94	97	75 - 125	5	20		
Lead	82	85	75 - 125	5	20		
Molybdenum	72	77	75 - 125	8	20	F	
Nickel	83	85	75 - 125	3	20		
Selenium	87	90	75 - 125	6	20		
Silver	87	87	75 - 125	3	20		
Thallium	82	84	75 - 125	5	20		
Vanadium	88	92	75 - 125	5	20		
Zinc	80	83	75 - 125	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Method Blank - Batch: 720-37799

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 720-37799/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 0820
Date Prepared: 07/07/2008 0838

Analysis Batch: 720-37854
Prep Batch: 720-37799
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	ND		0.050

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-37799

Method: 7471A
Preparation: 7471A

LCS Lab Sample ID: LCS 720-37799/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 0821
Date Prepared: 07/07/2008 0838

Analysis Batch: 720-37854
Prep Batch: 720-37799
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-37799/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/08/2008 0822
Date Prepared: 07/07/2008 0838

Analysis Batch: 720-37854
Prep Batch: 720-37799
Units: mg/Kg

Instrument ID: FIMS 100
Lab File ID: N/A
Initial Weight/Volume: 1 g
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	98	99	80 - 120	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756

Phone: (925) 484-1919 • Fax (925) 600-3002

Reference #: 111438

Date 7/3/08 Page 1 of 1

760-15015

Report To

Attn: Bill Stevens

Company: Berlogar Geotechnical Consultants

Address: 5587 Sunol Blvd, Pleasanton

Phone: 4840220 Email: bstevens@berlogar.com

Bill To: BGC

Sampled By: SM

Attn: Bill Stevens

Phone: 4840220

Analysis Request

Sample ID	Date	Time	Mat'l	Pres	TPH EPA - ☐ 8015 ☐ 8021 ☐ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☒ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471) *	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ TSS ☐ Alkalinity ☐ TDS ☐	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4				Number of Containers
1	7/3	10:43	S	N	1		1						1		1											1
2	"	10:45	S	N	1		1						1		1											1
3	"	10:47	S	N	1		1						1		1											1
4	"	10:48	S	N	1		1						1		1											1

RUSH

Project Info.

Project Name: Landsdowne 3080.907

Project#: 3080.90(

PO#:

Credit Card#:

Sample Receipt

of Containers: 4

Head Space:

Temp: 13.2° <4hrs

Conforms to record:

TAT: 5 Day | 72h | (48h) | 24h

Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank ☐ Fund EDF

Special Instructions / Comments: ☐ Global ID

Composite 4 into 1

See Terms and Conditions on reverse

*TestAmerica SF reports 8015M from C_9-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 11:10	Signature: Time:	Signature: Time:
Printed Name: SCOTT MEEKS Date: 7/3/08	Printed Name: Date:	Printed Name: Date:
Company: BGC	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] Time: 1110	Signature: Time:	Signature: Time:
Printed Name: Joan Mullen Date: 7-3-08	Printed Name: Date:	Printed Name: Date:
Company: Test America	Company:	Company:

Rev 06/04

07/09/2008

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Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-15015-1

Login Number: 15015
Creator: Mullen, Joan
List Number: 1

List Source: TestAmerica San Francisco

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

APPENDIX C

TestAmerica Analytical Report, Promenade, 6 - 9, 9/15/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-22576-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
9/23/2009 5:01 PM

Designee for
Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
09/23/2009

CA ELAP Certification # 2496
The Chain(s) of Custody are included and are an integral part of this report.
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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

TestAmerica Laboratories, Inc.
TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566
Tel (925) 484-1919 Fax (925) 600-3002 www.testamericainc.com

Comments
No additional comments.

Receipt
No project name or TAT specified on COC.

All other samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: Surrogate recovery for the following sample(s) was outside the upper control limit: 6 (720-22576-1), 7 (720-22576-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): 8 (720-22576-3), 9 (720-22576-4). The sample(s) shows evidence of matrix interference. Re-analysis of samples were done and confirmed low internal standard responses.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: Surrogate recovery for the following sample(s) was outside the upper control limit: 8 (720-22576-3). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical Job Number: 720-22576-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-22576-3	**8**				
Methylene Chloride		10	9.7	ug/Kg	8260B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL SF	SW846 8270C	
Ultrasonic Extraction	TAL SF		SW846 3550B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-22576-1	6	Solid	09/15/2009 1520	09/15/2009 1600
720-22576-2	7	Solid	09/15/2009 1510	09/15/2009 1600
720-22576-3	8	Solid	09/15/2009 1530	09/15/2009 1600
720-22576-4	9	Solid	09/15/2009 1500	09/15/2009 1600

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 6

Lab Sample ID: 720-22576-1
Client Matrix: Solid

Date Sampled: 09/15/2009 1520
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-57980		Instrument ID:	HP4
Preparation:	5030B	Prep Batch: 720-58090		Lab File ID:	09190932.D
Dilution:	1.0			Initial Weight/Volume:	5.05 g
Date Analyzed:	09/20/2009 0130			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		9.8
Acetone		ND		98
Benzene		ND		9.8
Dichlorobromomethane		ND		9.8
Bromobenzene		ND		9.8
Chlorobromomethane		ND		39
Bromoform		ND		9.8
Bromomethane		ND		20
2-Butanone (MEK)		ND		98
n-Butylbenzene		ND		9.8
sec-Butylbenzene		ND		9.8
tert-Butylbenzene		ND		9.8
Carbon disulfide		ND		9.8
Carbon tetrachloride		ND		9.8
Chlorobenzene		ND		9.8
Chloroethane		ND		20
Chloroform		ND		9.8
Chloromethane		ND		20
2-Chlorotoluene		ND		9.8
4-Chlorotoluene		ND		9.8
Chlorodibromomethane		ND		9.8
1,2-Dichlorobenzene		ND		9.8
1,3-Dichlorobenzene		ND		9.8
1,4-Dichlorobenzene		ND		9.8
1,3-Dichloropropane		ND		9.8
1,1-Dichloropropene		ND		9.8
1,2-Dibromo-3-Chloropropane		ND		9.8
Ethylene Dibromide		ND		9.8
Dibromomethane		ND		20
Dichlorodifluoromethane		ND		20
1,1-Dichloroethane		ND		9.8
1,2-Dichloroethane		ND		9.8
1,1-Dichloroethene		ND		9.8
cis-1,2-Dichloroethene		ND		9.8
trans-1,2-Dichloroethene		ND		9.8
1,2-Dichloropropane		ND		9.8
cis-1,3-Dichloropropene		ND		9.8
trans-1,3-Dichloropropene		ND		9.8
Ethylbenzene		ND		9.8
Hexachlorobutadiene		ND		9.8
2-Hexanone		ND		98
Isopropylbenzene		ND		9.8
4-Isopropyltoluene		ND		9.8
Methylene Chloride		ND		20
4-Methyl-2-pentanone (MIBK)		ND		98
Naphthalene		ND		20

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: **6**

Lab Sample ID: 720-22576-1
Client Matrix: Solid

Date Sampled: 09/15/2009 1520
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-57980		Instrument ID:	HP4
Preparation:	5030B	Prep Batch: 720-58090		Lab File ID:	09190932.D
Dilution:	1.0			Initial Weight/Volume:	5.05 g
Date Analyzed:	09/20/2009 0130			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		9.8
Styrene		ND		9.8
1,1,1,2-Tetrachloroethane		ND		9.8
1,1,2,2-Tetrachloroethane		ND		9.8
Tetrachloroethene		ND		9.8
Toluene		ND		9.8
1,2,3-Trichlorobenzene		ND		9.8
1,2,4-Trichlorobenzene		ND		9.8
1,1,1-Trichloroethane		ND		9.8
1,1,2-Trichloroethane		ND		9.8
Trichloroethene		ND		9.8
Trichlorofluoromethane		ND		9.8
1,2,3-Trichloropropane		ND		9.8
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		9.8
1,2,4-Trimethylbenzene		ND		9.8
1,3,5-Trimethylbenzene		ND		9.8
Vinyl acetate		ND		98
Vinyl chloride		ND		9.8
Xylenes, Total		ND		20
2,2-Dichloropropane		ND		9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	89		52 - 130
1,2-Dichloroethane-d4 (Surr)	157	X	67 - 132
Toluene-d8 (Surr)	105		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 7

Lab Sample ID: 720-22576-2
Client Matrix: Solid

Date Sampled: 09/15/2009 1510
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-57980		Instrument ID:	HP4
Preparation:	5030B	Prep Batch: 720-58090		Lab File ID:	09190942.D
Dilution:	1.0			Initial Weight/Volume:	5.04 g
Date Analyzed:	09/20/2009 0647			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		9.8
Acetone		ND		98
Benzene		ND		9.8
Dichlorobromomethane		ND		9.8
Bromobenzene		ND		9.8
Chlorobromomethane		ND		39
Bromoform		ND		9.8
Bromomethane		ND		20
2-Butanone (MEK)		ND		98
n-Butylbenzene		ND		9.8
sec-Butylbenzene		ND		9.8
tert-Butylbenzene		ND		9.8
Carbon disulfide		ND		9.8
Carbon tetrachloride		ND		9.8
Chlorobenzene		ND		9.8
Chloroethane		ND		20
Chloroform		ND		9.8
Chloromethane		ND		20
2-Chlorotoluene		ND		9.8
4-Chlorotoluene		ND		9.8
Chlorodibromomethane		ND		9.8
1,2-Dichlorobenzene		ND		9.8
1,3-Dichlorobenzene		ND		9.8
1,4-Dichlorobenzene		ND		9.8
1,3-Dichloropropane		ND		9.8
1,1-Dichloropropene		ND		9.8
1,2-Dibromo-3-Chloropropane		ND		9.8
Ethylene Dibromide		ND		9.8
Dibromomethane		ND		20
Dichlorodifluoromethane		ND		20
1,1-Dichloroethane		ND		9.8
1,2-Dichloroethane		ND		9.8
1,1-Dichloroethene		ND		9.8
cis-1,2-Dichloroethene		ND		9.8
trans-1,2-Dichloroethene		ND		9.8
1,2-Dichloropropane		ND		9.8
cis-1,3-Dichloropropene		ND		9.8
trans-1,3-Dichloropropene		ND		9.8
Ethylbenzene		ND		9.8
Hexachlorobutadiene		ND		9.8
2-Hexanone		ND		98
Isopropylbenzene		ND		9.8
4-Isopropyltoluene		ND		9.8
Methylene Chloride		ND		20
4-Methyl-2-pentanone (MIBK)		ND		98
Naphthalene		ND		20

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 7

Lab Sample ID: 720-22576-2
Client Matrix: Solid

Date Sampled: 09/15/2009 1510
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-57980		Instrument ID:	HP4
Preparation:	5030B	Prep Batch: 720-58090		Lab File ID:	09190942.D
Dilution:	1.0			Initial Weight/Volume:	5.04 g
Date Analyzed:	09/20/2009 0647			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		9.8
Styrene		ND		9.8
1,1,1,2-Tetrachloroethane		ND		9.8
1,1,2,2-Tetrachloroethane		ND		9.8
Tetrachloroethene		ND		9.8
Toluene		ND		9.8
1,2,3-Trichlorobenzene		ND		9.8
1,2,4-Trichlorobenzene		ND		9.8
1,1,1-Trichloroethane		ND		9.8
1,1,2-Trichloroethane		ND		9.8
Trichloroethene		ND		9.8
Trichlorofluoromethane		ND		9.8
1,2,3-Trichloropropane		ND		9.8
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		9.8
1,2,4-Trimethylbenzene		ND		9.8
1,3,5-Trimethylbenzene		ND		9.8
Vinyl acetate		ND		98
Vinyl chloride		ND		9.8
Xylenes, Total		ND		20
2,2-Dichloropropane		ND		9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	86		52 - 130
1,2-Dichloroethane-d4 (Surr)	158	X	67 - 132
Toluene-d8 (Surr)	92		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 8

Lab Sample ID: 720-22576-3
Client Matrix: Solid

Date Sampled: 09/15/2009 1530
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58116		Instrument ID:	CHMSV2
Preparation:	5030B	Prep Batch: 720-58173		Lab File ID:	09220913.D
Dilution:	1.0			Initial Weight/Volume:	5.17 g
Date Analyzed:	09/22/2009 1759			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		4.8
Acetone		ND		48
Benzene		ND		4.8
Dichlorobromomethane		ND		4.8
Bromobenzene		ND		4.8
Chlorobromomethane		ND		19
Bromoform		ND		4.8
Bromomethane		ND		9.7
2-Butanone (MEK)		ND		48
n-Butylbenzene		ND		4.8
sec-Butylbenzene		ND		4.8
tert-Butylbenzene		ND		4.8
Carbon disulfide		ND		4.8
Carbon tetrachloride		ND		4.8
Chlorobenzene		ND		4.8
Chloroethane		ND		9.7
Chloroform		ND		4.8
Chloromethane		ND		9.7
2-Chlorotoluene		ND		4.8
4-Chlorotoluene		ND		4.8
Chlorodibromomethane		ND		4.8
1,2-Dichlorobenzene		ND		4.8
1,3-Dichlorobenzene		ND		4.8
1,4-Dichlorobenzene		ND		4.8
1,3-Dichloropropane		ND		4.8
1,1-Dichloropropene		ND		4.8
1,2-Dibromo-3-Chloropropane		ND		4.8
Ethylene Dibromide		ND		4.8
Dibromomethane		ND		9.7
Dichlorodifluoromethane		ND		9.7
1,1-Dichloroethane		ND		4.8
1,2-Dichloroethane		ND		4.8
1,1-Dichloroethene		ND		4.8
cis-1,2-Dichloroethene		ND		4.8
trans-1,2-Dichloroethene		ND		4.8
1,2-Dichloropropane		ND		4.8
cis-1,3-Dichloropropene		ND		4.8
trans-1,3-Dichloropropene		ND		4.8
Ethylbenzene		ND		4.8
Hexachlorobutadiene		ND		4.8
2-Hexanone		ND		48
Isopropylbenzene		ND		4.8
4-Isopropyltoluene		ND		4.8
Methylene Chloride		10		9.7
4-Methyl-2-pentanone (MIBK)		ND		48
Naphthalene		ND		9.7

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: **8**

Lab Sample ID: 720-22576-3
Client Matrix: Solid

Date Sampled: 09/15/2009 1530
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58116		Instrument ID:	CHMSV2
Preparation:	5030B	Prep Batch: 720-58173		Lab File ID:	09220913.D
Dilution:	1.0			Initial Weight/Volume:	5.17 g
Date Analyzed:	09/22/2009 1759			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		4.8
Styrene		ND		4.8
1,1,1,2-Tetrachloroethane		ND		4.8
1,1,2,2-Tetrachloroethane		ND		4.8
Tetrachloroethene		ND		4.8
Toluene		ND		4.8
1,2,3-Trichlorobenzene		ND		4.8
1,2,4-Trichlorobenzene		ND		4.8
1,1,1-Trichloroethane		ND		4.8
1,1,2-Trichloroethane		ND		4.8
Trichloroethene		ND		4.8
Trichlorofluoromethane		ND		4.8
1,2,3-Trichloropropane		ND		4.8
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		4.8
1,2,4-Trimethylbenzene		ND		4.8
1,3,5-Trimethylbenzene		ND		4.8
Vinyl acetate		ND		48
Vinyl chloride		ND		4.8
Xylenes, Total		ND		9.7
2,2-Dichloropropane		ND		4.8

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	80		52 - 130
1,2-Dichloroethane-d4 (Surr)	113		67 - 132
Toluene-d8 (Surr)	95		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: **9**

Lab Sample ID: 720-22576-4
Client Matrix: Solid

Date Sampled: 09/15/2009 1500
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58116		Instrument ID:	CHMSV2
Preparation:	5030B	Prep Batch: 720-58173		Lab File ID:	09220914.D
Dilution:	1.0			Initial Weight/Volume:	4.95 g
Date Analyzed:	09/22/2009 1830			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		5.1
Acetone		ND		51
Benzene		ND		5.1
Dichlorobromomethane		ND		5.1
Bromobenzene		ND		5.1
Chlorobromomethane		ND		20
Bromoform		ND		5.1
Bromomethane		ND		10
2-Butanone (MEK)		ND		51
n-Butylbenzene		ND		5.1
sec-Butylbenzene		ND		5.1
tert-Butylbenzene		ND		5.1
Carbon disulfide		ND		5.1
Carbon tetrachloride		ND		5.1
Chlorobenzene		ND		5.1
Chloroethane		ND		10
Chloroform		ND		5.1
Chloromethane		ND		10
2-Chlorotoluene		ND		5.1
4-Chlorotoluene		ND		5.1
Chlorodibromomethane		ND		5.1
1,2-Dichlorobenzene		ND		5.1
1,3-Dichlorobenzene		ND		5.1
1,4-Dichlorobenzene		ND		5.1
1,3-Dichloropropane		ND		5.1
1,1-Dichloropropene		ND		5.1
1,2-Dibromo-3-Chloropropane		ND		5.1
Ethylene Dibromide		ND		5.1
Dibromomethane		ND		10
Dichlorodifluoromethane		ND		10
1,1-Dichloroethane		ND		5.1
1,2-Dichloroethane		ND		5.1
1,1-Dichloroethene		ND		5.1
cis-1,2-Dichloroethene		ND		5.1
trans-1,2-Dichloroethene		ND		5.1
1,2-Dichloropropane		ND		5.1
cis-1,3-Dichloropropene		ND		5.1
trans-1,3-Dichloropropene		ND		5.1
Ethylbenzene		ND		5.1
Hexachlorobutadiene		ND		5.1
2-Hexanone		ND		51
Isopropylbenzene		ND		5.1
4-Isopropyltoluene		ND		5.1
Methylene Chloride		ND		10
4-Methyl-2-pentanone (MIBK)		ND		51
Naphthalene		ND		10

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: **9**

Lab Sample ID: 720-22576-4
Client Matrix: Solid

Date Sampled: 09/15/2009 1500
Date Received: 09/15/2009 1600

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58116		Instrument ID:	CHMSV2
Preparation:	5030B	Prep Batch: 720-58173		Lab File ID:	09220914.D
Dilution:	1.0			Initial Weight/Volume:	4.95 g
Date Analyzed:	09/22/2009 1830			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		5.1
Styrene		ND		5.1
1,1,1,2-Tetrachloroethane		ND		5.1
1,1,2,2-Tetrachloroethane		ND		5.1
Tetrachloroethene		ND		5.1
Toluene		ND		5.1
1,2,3-Trichlorobenzene		ND		5.1
1,2,4-Trichlorobenzene		ND		5.1
1,1,1-Trichloroethane		ND		5.1
1,1,2-Trichloroethane		ND		5.1
Trichloroethene		ND		5.1
Trichlorofluoromethane		ND		5.1
1,2,3-Trichloropropane		ND		5.1
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		5.1
1,2,4-Trimethylbenzene		ND		5.1
1,3,5-Trimethylbenzene		ND		5.1
Vinyl acetate		ND		51
Vinyl chloride		ND		5.1
Xylenes, Total		ND		10
2,2-Dichloropropane		ND		5.1

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	74		52 - 130
1,2-Dichloroethane-d4 (Surr)	108		67 - 132
Toluene-d8 (Surr)	91		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 6

Lab Sample ID: 720-22576-1
Client Matrix: Solid

Date Sampled: 09/15/2009 1520
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-1-B
Dilution:	1.0			Initial Weight/Volume:	30.03 g
Date Analyzed:	09/22/2009 1815			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND	*	0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical | Job Number: 720-22576-1

Client Sample ID: 6

Lab Sample ID: 720-22576-1 | Date Sampled: 09/15/2009 1520
Client Matrix: Solid | Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126	Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977	Lab File ID:	720-22576-A-1-B
Dilution:	1.0		Initial Weight/Volume:	30.03 g
Date Analyzed:	09/22/2009 1815		Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	90		21 - 98
2-Fluorobiphenyl	87		38 - 96
Terphenyl-d14	82		32 - 117
2-Fluorophenol	83		28 - 98
Phenol-d5	73		23 - 101
2,4,6-Tribromophenol	78		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 7

Lab Sample ID: 720-22576-2
Client Matrix: Solid

Date Sampled: 09/15/2009 1510
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-2-D
Dilution:	1.0			Initial Weight/Volume:	30.24 g
Date Analyzed:	09/22/2009 1631			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.066
Bis(2-chloroethyl)ether		ND		0.066
2-Chlorophenol		ND		0.066
1,3-Dichlorobenzene		ND		0.066
1,4-Dichlorobenzene		ND		0.066
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.066
2-Methylphenol		ND		0.066
4-Methylphenol		ND		0.066
N-Nitrosodi-n-propylamine		ND		0.066
Hexachloroethane		ND		0.066
Nitrobenzene		ND		0.066
Isophorone		ND		0.066
2-Nitrophenol		ND		0.066
2,4-Dimethylphenol		ND		0.066
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.066
Naphthalene		ND		0.066
4-Chloroaniline		ND	*	0.066
Hexachlorobutadiene		ND		0.066
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.066
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.066
2,4,5-Trichlorophenol		ND		0.066
2-Chloronaphthalene		ND		0.066
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.066
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.066
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.066
2,4-Dinitrotoluene		ND		0.066
2,6-Dinitrotoluene		ND		0.066
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.066
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.066
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.066
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 7

Lab Sample ID: 720-22576-2
Client Matrix: Solid

Date Sampled: 09/15/2009 1510
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-2-D
Dilution:	1.0			Initial Weight/Volume:	30.24 g
Date Analyzed:	09/22/2009 1631			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.066
Anthracene		ND		0.066
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.066
Pyrene		ND		0.066
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.066
Di-n-octyl phthalate		ND		0.99
Benzo[b]fluoranthene		ND		0.066
Benzo[a]pyrene		ND		0.066
Benzo[k]fluoranthene		ND		0.066
Indeno[1,2,3-cd]pyrene		ND		0.066
Benzo[g,h,i]perylene		ND		0.066
Benzoic acid		ND		0.33
Azobenzene		ND		0.066
Dibenz(a,h)anthracene		ND		0.066

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	75		21 - 98
2-Fluorobiphenyl	89		38 - 96
Terphenyl-d14	74		32 - 117
2-Fluorophenol	73		28 - 98
Phenol-d5	70		23 - 101
2,4,6-Tribromophenol	82		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 8

Lab Sample ID: 720-22576-3
Client Matrix: Solid

Date Sampled: 09/15/2009 1530
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-3-B
Dilution:	1.0			Initial Weight/Volume:	30.31 g
Date Analyzed:	09/22/2009 1706			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.066
Bis(2-chloroethyl)ether		ND		0.066
2-Chlorophenol		ND		0.066
1,3-Dichlorobenzene		ND		0.066
1,4-Dichlorobenzene		ND		0.066
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.066
2-Methylphenol		ND		0.066
4-Methylphenol		ND		0.066
N-Nitrosodi-n-propylamine		ND		0.066
Hexachloroethane		ND		0.066
Nitrobenzene		ND		0.066
Isophorone		ND		0.066
2-Nitrophenol		ND		0.066
2,4-Dimethylphenol		ND		0.066
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.066
Naphthalene		ND		0.066
4-Chloroaniline		ND	*	0.066
Hexachlorobutadiene		ND		0.066
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.066
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.066
2,4,5-Trichlorophenol		ND		0.066
2-Chloronaphthalene		ND		0.066
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.066
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.066
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.066
2,4-Dinitrotoluene		ND		0.066
2,6-Dinitrotoluene		ND		0.066
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.066
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.066
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.066
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical | Job Number: 720-22576-1

Client Sample ID: 8

Lab Sample ID: 720-22576-3 | Date Sampled: 09/15/2009 1530
Client Matrix: Solid | Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-3-B
Dilution:	1.0			Initial Weight/Volume:	30.31 g
Date Analyzed:	09/22/2009 1706			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.066
Anthracene		ND		0.066
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.066
Pyrene		ND		0.066
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.066
Di-n-octyl phthalate		ND		0.99
Benzo[b]fluoranthene		ND		0.066
Benzo[a]pyrene		ND		0.066
Benzo[k]fluoranthene		ND		0.066
Indeno[1,2,3-cd]pyrene		ND		0.066
Benzo[g,h,i]perylene		ND		0.066
Benzoic acid		ND		0.33
Azobenzene		ND		0.066
Dibenz(a,h)anthracene		ND		0.066

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	80		21 - 98
2-Fluorobiphenyl	103	X	38 - 96
Terphenyl-d14	78		32 - 117
2-Fluorophenol	78		28 - 98
Phenol-d5	70		23 - 101
2,4,6-Tribromophenol	99		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: 9

Lab Sample ID: 720-22576-4
Client Matrix: Solid

Date Sampled: 09/15/2009 1500
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977		Lab File ID:	720-22576-A-4-B
Dilution:	1.0			Initial Weight/Volume:	30.26 g
Date Analyzed:	09/22/2009 1741			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.066
Bis(2-chloroethyl)ether		ND		0.066
2-Chlorophenol		ND		0.066
1,3-Dichlorobenzene		ND		0.066
1,4-Dichlorobenzene		ND		0.066
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.066
2-Methylphenol		ND		0.066
4-Methylphenol		ND		0.066
N-Nitrosodi-n-propylamine		ND		0.066
Hexachloroethane		ND		0.066
Nitrobenzene		ND		0.066
Isophorone		ND		0.066
2-Nitrophenol		ND		0.066
2,4-Dimethylphenol		ND		0.066
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.066
Naphthalene		ND		0.066
4-Chloroaniline		ND	*	0.066
Hexachlorobutadiene		ND		0.066
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.066
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.066
2,4,5-Trichlorophenol		ND		0.066
2-Chloronaphthalene		ND		0.066
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.066
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.066
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.066
2,4-Dinitrotoluene		ND		0.066
2,6-Dinitrotoluene		ND		0.066
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.066
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.066
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.066
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Client Sample ID: **9**

Lab Sample ID: 720-22576-4
Client Matrix: Solid

Date Sampled: 09/15/2009 1500
Date Received: 09/15/2009 1600

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58126	Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-57977	Lab File ID:	720-22576-A-4-B
Dilution:	1.0		Initial Weight/Volume:	30.26 g
Date Analyzed:	09/22/2009 1741		Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.066
Anthracene		ND		0.066
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.066
Pyrene		ND		0.066
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.066
Di-n-octyl phthalate		ND		0.99
Benzo[b]fluoranthene		ND		0.066
Benzo[a]pyrene		ND		0.066
Benzo[k]fluoranthene		ND		0.066
Indeno[1,2,3-cd]pyrene		ND		0.066
Benzo[g,h,i]perylene		ND		0.066
Benzoic acid		ND		0.33
Azobenzene		ND		0.066
Dibenz(a,h)anthracene		ND		0.066

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	82		21 - 98
2-Fluorobiphenyl	90		38 - 96
Terphenyl-d14	75		32 - 117
2-Fluorophenol	79		28 - 98
Phenol-d5	70		23 - 101
2,4,6-Tribromophenol	87		37 - 114

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-22576-1

Lab Section	Qualifier	Description
GC/MS VOA		
	F	MS or MSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	X	Surrogate exceeds the control limits

Client: Berlogar Geotechnical

Job Number: 720-22576-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-57980					
LCS 720-58090/2-A	Lab Control Sample	T	Solid	8260B	720-58090
LCSD 720-58090/3-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58090
MB 720-58090/1-A	Method Blank	T	Solid	8260B	720-58090
720-22576-1	6	T	Solid	8260B	720-58090
720-22576-1MS	Matrix Spike	T	Solid	8260B	720-58090
720-22576-1MSD	Matrix Spike Duplicate	T	Solid	8260B	720-58090
720-22576-2	7	T	Solid	8260B	720-58090
Prep Batch: 720-58090					
LCS 720-58090/2-A	Lab Control Sample	T	Solid	5030B	
LCSD 720-58090/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 720-58090/1-A	Method Blank	T	Solid	5030B	
720-22576-1	6	T	Solid	5030B	
720-22576-1MS	Matrix Spike	T	Solid	5030B	
720-22576-1MSD	Matrix Spike Duplicate	T	Solid	5030B	
720-22576-2	7	T	Solid	5030B	
Analysis Batch:720-58116					
LCS 720-58173/2-A	Lab Control Sample	T	Solid	8260B	720-58173
LCSD 720-58173/3-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58173
MB 720-58173/1-A	Method Blank	T	Solid	8260B	720-58173
720-22576-3	8	T	Solid	8260B	720-58173
720-22576-4	9	T	Solid	8260B	720-58173
720-22576-4MS	Matrix Spike	T	Solid	8260B	720-58173
720-22576-4MSD	Matrix Spike Duplicate	T	Solid	8260B	720-58173
Prep Batch: 720-58173					
LCS 720-58173/2-A	Lab Control Sample	T	Solid	5030B	
LCSD 720-58173/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 720-58173/1-A	Method Blank	T	Solid	5030B	
720-22576-3	8	T	Solid	5030B	
720-22576-4	9	T	Solid	5030B	
720-22576-4MS	Matrix Spike	T	Solid	5030B	
720-22576-4MSD	Matrix Spike Duplicate	T	Solid	5030B	

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-22576-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 720-57977					
LCS 720-57977/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-57977/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-57977/1-A	Method Blank	T	Solid	3550B	
720-22576-1	6	T	Solid	3550B	
720-22576-1MS	Matrix Spike	T	Solid	3550B	
720-22576-1MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-22576-2	7	T	Solid	3550B	
720-22576-3	8	T	Solid	3550B	
720-22576-4	9	T	Solid	3550B	
Analysis Batch:720-58126					
720-22576-1	6	T	Solid	8270C	720-57977
720-22576-1MS	Matrix Spike	T	Solid	8270C	720-57977
720-22576-1MSD	Matrix Spike Duplicate	T	Solid	8270C	720-57977
720-22576-2	7	T	Solid	8270C	720-57977
720-22576-3	8	T	Solid	8270C	720-57977
720-22576-4	9	T	Solid	8270C	720-57977
Analysis Batch:720-58150					
LCS 720-57977/2-A	Lab Control Sample	T	Solid	8270C	720-57977
LCSD 720-57977/3-A	Lab Control Sample Duplicate	T	Solid	8270C	720-57977
MB 720-57977/1-A	Method Blank	T	Solid	8270C	720-57977

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-58090

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58090/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/20/2009 0058
Date Prepared: 09/19/2009 0736

Analysis Batch: 720-57980
Prep Batch: 720-58090
Units: ug/Kg

Instrument ID: Agilent 75MSD
Lab File ID: 09190931.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		10
Acetone	ND		100
Benzene	ND		10
Dichlorobromomethane	ND		10
Bromobenzene	ND		10
Chlorobromomethane	ND		40
Bromoform	ND		10
Bromomethane	ND		20
2-Butanone (MEK)	ND		100
n-Butylbenzene	ND		10
sec-Butylbenzene	ND		10
tert-Butylbenzene	ND		10
Carbon disulfide	ND		10
Carbon tetrachloride	ND		10
Chlorobenzene	ND		10
Chloroethane	ND		20
Chloroform	ND		10
Chloromethane	ND		20
2-Chlorotoluene	ND		10
4-Chlorotoluene	ND		10
Chlorodibromomethane	ND		10
1,2-Dichlorobenzene	ND		10
1,3-Dichlorobenzene	ND		10
1,4-Dichlorobenzene	ND		10
1,3-Dichloropropane	ND		10
1,1-Dichloropropene	ND		10
1,2-Dibromo-3-Chloropropane	ND		10
Ethylene Dibromide	ND		10
Dibromomethane	ND		20
Dichlorodifluoromethane	ND		20
1,1-Dichloroethane	ND		10
1,2-Dichloroethane	ND		10
1,1-Dichloroethene	ND		10
cis-1,2-Dichloroethene	ND		10
trans-1,2-Dichloroethene	ND		10
1,2-Dichloropropane	ND		10
cis-1,3-Dichloropropene	ND		10
trans-1,3-Dichloropropene	ND		10
Ethylbenzene	ND		10
Hexachlorobutadiene	ND		10
2-Hexanone	ND		100

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-58090

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58090/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/20/2009 0058
Date Prepared: 09/19/2009 0736

Analysis Batch: 720-57980
Prep Batch: 720-58090
Units: ug/Kg

Instrument ID: Agilent 75MSD
Lab File ID: 09190931.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		10
4-Isopropyltoluene	ND		10
Methylene Chloride	ND		20
4-Methyl-2-pentanone (MIBK)	ND		100
Naphthalene	ND		20
N-Propylbenzene	ND		10
Styrene	ND		10
1,1,1,2-Tetrachloroethane	ND		10
1,1,2,2-Tetrachloroethane	ND		10
Tetrachloroethene	ND		10
Toluene	ND		10
1,2,3-Trichlorobenzene	ND		10
1,2,4-Trichlorobenzene	ND		10
1,1,1-Trichloroethane	ND		10
1,1,2-Trichloroethane	ND		10
Trichloroethene	ND		10
Trichlorofluoromethane	ND		10
1,2,3-Trichloropropane	ND		10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10
1,2,4-Trimethylbenzene	ND		10
1,3,5-Trimethylbenzene	ND		10
Vinyl acetate	ND		100
Vinyl chloride	ND		10
Xylenes, Total	ND		20
2,2-Dichloropropane	ND		10

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	96	52 - 130
1,2-Dichloroethane-d4 (Surr)	126	67 - 132
Toluene-d8 (Surr)	105	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58090/2-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190927.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2252			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

LCSD Lab Sample ID:	LCSD 720-58090/3-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190928.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2324			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	107	113	69 - 125	6	20		
Acetone	80	88	37 - 171	10	20		
Benzene	103	101	72 - 120	1	20		
Dichlorobromomethane	110	111	64 - 135	1	20		
Bromobenzene	105	107	77 - 121	1	20		
Chlorobromomethane	108	109	65 - 128	1	20		
Bromoform	100	103	58 - 132	2	20		
Bromomethane	107	103	56 - 124	4	20		
2-Butanone (MEK)	93	104	41 - 158	11	20		
n-Butylbenzene	113	110	60 - 145	3	20		
sec-Butylbenzene	114	111	64 - 137	2	20		
tert-Butylbenzene	115	114	63 - 134	1	20		
Carbon disulfide	101	101	10 - 175	1	20		
Carbon tetrachloride	111	108	54 - 141	2	20		
Chlorobenzene	104	103	70 - 121	2	20		
Chloroethane	112	110	61 - 125	2	20		
Chloroform	115	114	67 - 125	1	20		
Chloromethane	114	112	50 - 131	2	20		
2-Chlorotoluene	114	114	75 - 131	0	20		
4-Chlorotoluene	108	107	76 - 129	0	20		
Chlorodibromomethane	109	113	60 - 140	3	20		
1,2-Dichlorobenzene	106	107	73 - 126	1	20		
1,3-Dichlorobenzene	107	109	73 - 128	2	20		
1,4-Dichlorobenzene	102	102	72 - 122	1	20		
1,3-Dichloropropane	112	113	74 - 127	1	20		
1,1-Dichloropropene	115	114	67 - 128	1	20		
1,2-Dibromo-3-Chloropropane	80	92	57 - 130	14	20		
Ethylene Dibromide	108	112	66 - 135	4	20		
Dibromomethane	108	112	65 - 131	3	20		
Dichlorodifluoromethane	92	90	38 - 120	2	20		
1,1-Dichloroethane	114	112	67 - 126	2	20		
1,2-Dichloroethane	114	117	73 - 122	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58090/2-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190927.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2252			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

LCSD Lab Sample ID:	LCSD 720-58090/3-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190928.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2324			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	102	101	64 - 129	2	20		
cis-1,2-Dichloroethene	118	117	68 - 131	1	20		
trans-1,2-Dichloroethene	98	96	70 - 130	2	20		
1,2-Dichloropropane	107	110	65 - 133	3	20		
cis-1,3-Dichloropropene	108	109	46 - 139	0	20		
trans-1,3-Dichloropropene	103	103	55 - 131	0	20		
Ethylbenzene	113	110	65 - 130	2	20		
Hexachlorobutadiene	113	106	58 - 132	6	20		
2-Hexanone	111	123	44 - 158	10	20		
Isopropylbenzene	97	94	65 - 130	4	20		
4-Isopropyltoluene	111	109	69 - 134	2	20		
Methylene Chloride	100	99	63 - 129	1	20		
4-Methyl-2-pentanone (MIBK)	111	123	51 - 140	10	20		
Naphthalene	101	111	45 - 146	9	20		
N-Propylbenzene	107	107	71 - 130	0	20		
Styrene	103	101	58 - 135	1	20		
1,1,1,2-Tetrachloroethane	113	112	64 - 133	1	20		
1,1,2,2-Tetrachloroethane	106	115	75 - 131	9	20		
Tetrachloroethene	103	101	67 - 128	2	20		
Toluene	103	102	72 - 120	2	20		
1,2,3-Trichlorobenzene	105	108	58 - 138	3	20		
1,2,4-Trichlorobenzene	97	100	49 - 144	3	20		
1,1,1-Trichloroethane	118	116	57 - 133	2	20		
1,1,2-Trichloroethane	112	115	68 - 132	3	20		
Trichloroethene	110	109	66 - 125	1	20		
Trichlorofluoromethane	109	107	61 - 127	2	20		
1,2,3-Trichloropropane	102	112	62 - 156	9	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	104	104	52 - 126	0	20		
1,2,4-Trimethylbenzene	115	114	64 - 140	1	20		
1,3,5-Trimethylbenzene	112	110	67 - 134	1	20		
Vinyl acetate	73	80	52 - 170	10	20		
Vinyl chloride	117	110	62 - 120	6	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58090/2-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190927.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2252			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

LCSD Lab Sample ID:	LCSD 720-58090/3-A	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190928.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/19/2009 2324			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	112	109	63 - 130	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	108	107	52 - 130
1,2-Dichloroethane-d4 (Surr)	107	113	67 - 132
Toluene-d8 (Surr)	102	102	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190933.D
Dilution:	1.0			Initial Weight/Volume:	5.11 g
Date Analyzed:	09/20/2009 0201			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190934.D
Dilution:	1.0			Initial Weight/Volume:	5.20 g
Date Analyzed:	09/20/2009 0233			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Methyl tert-butyl ether	117	124	70 - 130	2	20		
Acetone	150	153	70 - 130	1	20	F	F
Benzene	101	102	70 - 130	2	20		
Dichlorobromomethane	110	112	70 - 130	2	20		
Bromobenzene	111	116	70 - 130	0	20		
Chlorobromomethane	111	115	70 - 130	0	20		
Bromoform	103	108	70 - 130	1	20		
Bromomethane	93	93	70 - 130	3	20		
2-Butanone (MEK)	103	109	70 - 130	2	20		
n-Butylbenzene	109	103	70 - 130	9	20		
sec-Butylbenzene	117	115	70 - 130	5	20		
tert-Butylbenzene	121	122	70 - 130	3	20		
Carbon disulfide	95	94	70 - 130	5	20		
Carbon tetrachloride	106	105	70 - 130	4	20		
Chlorobenzene	103	103	70 - 130	4	20		
Chloroethane	108	106	70 - 130	5	20		
Chloroform	115	116	70 - 130	2	20		
Chloromethane	106	107	70 - 130	3	20		
2-Chlorotoluene	119	120	70 - 130	2	20		
4-Chlorotoluene	110	110	70 - 130	4	20		
Chlorodibromomethane	108	113	70 - 130	1	20		
1,2-Dichlorobenzene	104	109	70 - 130	0	20		
1,3-Dichlorobenzene	108	108	70 - 130	4	20		
1,4-Dichlorobenzene	100	100	70 - 130	3	20		
1,3-Dichloropropane	115	121	70 - 130	1	20		
1,1-Dichloropropene	112	112	70 - 130	4	20		
1,2-Dibromo-3-Chloropropane	92	97	70 - 130	1	20		
Ethylene Dibromide	111	116	70 - 130	0	20		
Dibromomethane	116	118	70 - 130	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190933.D
Dilution:	1.0			Initial Weight/Volume:	5.11 g
Date Analyzed:	09/20/2009 0201			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190934.D
Dilution:	1.0			Initial Weight/Volume:	5.20 g
Date Analyzed:	09/20/2009 0233			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dichlorodifluoromethane	91	90	70 - 130	4	20		
1,1-Dichloroethane	113	115	70 - 130	2	20		
1,2-Dichloroethane	120	123	70 - 130	1	20		
1,1-Dichloroethene	103	101	70 - 130	6	20		
cis-1,2-Dichloroethene	118	119	70 - 130	2	20		
trans-1,2-Dichloroethene	97	96	70 - 130	4	20		
1,2-Dichloropropane	113	115	70 - 130	1	20		
cis-1,3-Dichloropropene	95	101	70 - 130	3	20		
trans-1,3-Dichloropropene	90	96	70 - 130	3	20		
Ethylbenzene	111	110	70 - 130	5	20		
Hexachlorobutadiene	102	95	70 - 130	10	20		
2-Hexanone	122	130	70 - 130	3	20		
Isopropylbenzene	94	91	70 - 130	6	20		
4-Isopropyltoluene	113	109	70 - 130	7	20		
Methylene Chloride	103	104	70 - 130	2	20		
4-Methyl-2-pentanone (MIBK)	122	130	70 - 130	3	20		
Naphthalene	90	98	70 - 130	5	20		
N-Propylbenzene	113	112	70 - 130	4	20		
Styrene	97	97	70 - 130	3	20		
1,1,1,2-Tetrachloroethane	114	116	70 - 130	2	20		
1,1,2,2-Tetrachloroethane	80	71	70 - 130	15	20		
Tetrachloroethene	102	98	70 - 130	7	20		
Toluene	106	105	70 - 130	5	20		
1,2,3-Trichlorobenzene	88	89	70 - 130	2	20		
1,2,4-Trichlorobenzene	83	80	70 - 130	7	20		
1,1,1-Trichloroethane	115	114	70 - 130	4	20		
1,1,2-Trichloroethane	118	121	70 - 130	0	20		
Trichloroethene	136	144	70 - 130	2	20	F	F
Trichlorofluoromethane	106	104	70 - 130	5	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58090

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190933.D
Dilution:	1.0			Initial Weight/Volume:	5.11 g
Date Analyzed:	09/20/2009 0201			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-57980	Instrument ID:	Agilent 75MSD
Client Matrix:	Solid	Prep Batch:	720-58090	Lab File ID:	09190934.D
Dilution:	1.0			Initial Weight/Volume:	5.20 g
Date Analyzed:	09/20/2009 0233			Final Weight/Volume:	10 mL
Date Prepared:	09/19/2009 0736				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,2,3-Trichloropropane	120	130	70 - 130	4	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	104	102	70 - 130	6	20		
1,2,4-Trimethylbenzene	118	118	70 - 130	4	20		
1,3,5-Trimethylbenzene	117	116	70 - 130	5	20		
Vinyl acetate	0	0	70 - 130	NC	20	F	F
Vinyl chloride	110	110	70 - 130	4	20		
2,2-Dichloropropane	105	106	70 - 130	3	20		

Surrogate	MS % Rec	MSD % Rec		Acceptance Limits
4-Bromofluorobenzene	102	102		52 - 130
1,2-Dichloroethane-d4 (Surr)	131	139	X	67 - 132
Toluene-d8 (Surr)	105	104		58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-58173

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58173/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/22/2009 1525
Date Prepared: 09/22/2009 0832

Analysis Batch: 720-58116
Prep Batch: 720-58173
Units: ug/Kg

Instrument ID: Agilent 5973
Lab File ID: 09220908.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		5.0
Dichlorobromomethane	ND		5.0
Bromobenzene	ND		5.0
Chlorobromomethane	ND		20
Bromoform	ND		5.0
Bromomethane	ND		10
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		5.0
sec-Butylbenzene	ND		5.0
tert-Butylbenzene	ND		5.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		5.0
Chlorobenzene	ND		5.0
Chloroethane	ND		10
Chloroform	ND		5.0
Chloromethane	ND		10
2-Chlorotoluene	ND		5.0
4-Chlorotoluene	ND		5.0
Chlorodibromomethane	ND		5.0
1,2-Dichlorobenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0
1,3-Dichloropropane	ND		5.0
1,1-Dichloropropene	ND		5.0
1,2-Dibromo-3-Chloropropane	ND		5.0
Ethylene Dibromide	ND		5.0
Dibromomethane	ND		10
Dichlorodifluoromethane	ND		10
1,1-Dichloroethane	ND		5.0
1,2-Dichloroethane	ND		5.0
1,1-Dichloroethene	ND		5.0
cis-1,2-Dichloroethene	ND		5.0
trans-1,2-Dichloroethene	ND		5.0
1,2-Dichloropropane	ND		5.0
cis-1,3-Dichloropropene	ND		5.0
trans-1,3-Dichloropropene	ND		5.0
Ethylbenzene	ND		5.0
Hexachlorobutadiene	ND		5.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-58173

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58173/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/22/2009 1525
Date Prepared: 09/22/2009 0832

Analysis Batch: 720-58116
Prep Batch: 720-58173
Units: ug/Kg

Instrument ID: Agilent 5973
Lab File ID: 09220908.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		5.0
4-Isopropyltoluene	ND		5.0
Methylene Chloride	ND		10
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		10
N-Propylbenzene	ND		5.0
Styrene	ND		5.0
1,1,1,2-Tetrachloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0
Tetrachloroethene	ND		5.0
Toluene	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0
1,1,2-Trichloroethane	ND		5.0
Trichloroethene	ND		5.0
Trichlorofluoromethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0
Vinyl acetate	ND		50
Vinyl chloride	ND		5.0
Xylenes, Total	ND		10
2,2-Dichloropropane	ND		5.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	87	52 - 130
1,2-Dichloroethane-d4 (Surr)	104	67 - 132
Toluene-d8 (Surr)	95	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58173/2-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1322			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

LCSD Lab Sample ID:	LCSD 720-58173/3-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1352			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	108	114	69 - 125	5	20		
Acetone	94	107	37 - 171	12	20		
Benzene	107	104	72 - 120	2	20		
Dichlorobromomethane	110	110	64 - 135	0	20		
Bromobenzene	105	102	77 - 121	3	20		
Chlorobromomethane	108	110	65 - 128	2	20		
Bromoform	112	118	58 - 132	5	20		
Bromomethane	106	109	56 - 124	3	20		
2-Butanone (MEK)	100	112	41 - 158	11	20		
n-Butylbenzene	110	108	60 - 145	2	20		
sec-Butylbenzene	110	105	64 - 137	5	20		
tert-Butylbenzene	111	105	63 - 134	6	20		
Carbon disulfide	115	111	10 - 175	3	20		
Carbon tetrachloride	110	107	54 - 141	3	20		
Chlorobenzene	107	106	70 - 121	1	20		
Chloroethane	104	107	61 - 125	3	20		
Chloroform	102	101	67 - 125	1	20		
Chloromethane	112	114	50 - 131	2	20		
2-Chlorotoluene	111	106	75 - 131	5	20		
4-Chlorotoluene	110	107	76 - 129	3	20		
Chlorodibromomethane	88	91	60 - 140	3	20		
1,2-Dichlorobenzene	104	104	73 - 126	0	20		
1,3-Dichlorobenzene	109	107	73 - 128	1	20		
1,4-Dichlorobenzene	104	103	72 - 122	1	20		
1,3-Dichloropropane	112	113	74 - 127	1	20		
1,1-Dichloropropene	113	108	67 - 128	4	20		
1,2-Dibromo-3-Chloropropane	104	112	57 - 130	7	20		
Ethylene Dibromide	115	121	66 - 135	5	20		
Dibromomethane	108	112	65 - 131	4	20		
Dichlorodifluoromethane	116	114	38 - 120	2	20		
1,1-Dichloroethane	106	104	67 - 126	2	20		
1,2-Dichloroethane	108	111	73 - 122	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58173/2-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1322			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

LCSD Lab Sample ID:	LCSD 720-58173/3-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1352			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	109	106	64 - 129	3	20		
cis-1,2-Dichloroethene	111	109	68 - 131	1	20		
trans-1,2-Dichloroethene	109	104	70 - 130	4	20		
1,2-Dichloropropane	105	106	65 - 133	0	20		
cis-1,3-Dichloropropene	118	120	46 - 139	1	20		
trans-1,3-Dichloropropene	116	119	55 - 131	2	20		
Ethylbenzene	112	109	65 - 130	2	20		
Hexachlorobutadiene	94	94	58 - 132	0	20		
2-Hexanone	89	102	44 - 158	13	20		
Isopropylbenzene	96	94	65 - 130	2	20		
4-Isopropyltoluene	108	105	69 - 134	3	20		
Methylene Chloride	107	105	63 - 129	2	20		
4-Methyl-2-pentanone (MIBK)	108	121	51 - 140	12	20		
Naphthalene	102	111	45 - 146	8	20		
N-Propylbenzene	109	104	71 - 130	5	20		
Styrene	111	111	58 - 135	0	20		
1,1,1,2-Tetrachloroethane	108	106	64 - 133	2	20		
1,1,2,2-Tetrachloroethane	116	116	75 - 131	0	20		
Tetrachloroethene	102	100	67 - 128	3	20		
Toluene	106	101	72 - 120	5	20		
1,2,3-Trichlorobenzene	98	102	58 - 138	4	20		
1,2,4-Trichlorobenzene	99	100	49 - 144	2	20		
1,1,1-Trichloroethane	106	103	57 - 133	3	20		
1,1,2-Trichloroethane	113	116	68 - 132	3	20		
Trichloroethene	109	106	66 - 125	3	20		
Trichlorofluoromethane	101	99	61 - 127	2	20		
1,2,3-Trichloropropane	111	112	62 - 156	1	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	105	115	52 - 126	9	20		
1,2,4-Trimethylbenzene	112	108	64 - 140	4	20		
1,3,5-Trimethylbenzene	109	104	67 - 134	5	20		
Vinyl acetate	77	81	52 - 170	5	20		
Vinyl chloride	104	101	62 - 120	3	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58173/2-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1322			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

LCSD Lab Sample ID:	LCSD 720-58173/3-A	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/22/2009 1352			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	112	110	63 - 130	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	102	106	52 - 130
1,2-Dichloroethane-d4 (Surr)	102	104	67 - 132
Toluene-d8 (Surr)	102	103	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220915.D
Dilution:	1.0			Initial Weight/Volume:	5.17 g
Date Analyzed:	09/22/2009 1901			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

MSD Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220916.D
Dilution:	1.0			Initial Weight/Volume:	5.21 g
Date Analyzed:	09/22/2009 1932			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Methyl tert-butyl ether	102	120	69 - 130	15	20		
Acetone	182	175	70 - 130	4	20	F	F
Benzene	99	100	70 - 130	0	20		
Dichlorobromomethane	105	112	70 - 130	6	20		
Bromobenzene	113	108	70 - 130	5	20		
Chlorobromomethane	105	113	70 - 130	7	20		
Bromoform	111	128	58 - 132	13	20		
Bromomethane	116	116	70 - 130	0	20		
2-Butanone (MEK)	98	128	41 - 130	26	20		F
n-Butylbenzene	95	86	60 - 145	11	20		
sec-Butylbenzene	110	96	70 - 130	15	20		
tert-Butylbenzene	116	101	63 - 134	15	20		
Carbon disulfide	112	97	70 - 130	15	20		
Carbon tetrachloride	101	96	70 - 130	5	20		
Chlorobenzene	99	99	70 - 130	1	20		
Chloroethane	118	114	70 - 130	4	20		
Chloroform	99	102	67 - 130	2	20		
Chloromethane	122	119	50 - 131	3	20		
2-Chlorotoluene	117	105	70 - 130	12	20		
4-Chlorotoluene	112	102	70 - 130	10	20		
Chlorodibromomethane	83	94	60 - 140	12	20		
1,2-Dichlorobenzene	98	102	70 - 130	4	20		
1,3-Dichlorobenzene	101	99	70 - 130	3	20		
1,4-Dichlorobenzene	95	97	70 - 130	1	20		
1,3-Dichloropropane	105	126	70 - 130	17	20		
1,1-Dichloropropene	99	94	67 - 130	6	20		
1,2-Dibromo-3-Chloropropane	121	133	57 - 130	9	20		F
Ethylene Dibromide	109	125	66 - 135	13	20		
Dibromomethane	108	122	70 - 130	11	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220915.D
Dilution:	1.0			Initial Weight/Volume:	5.17 g
Date Analyzed:	09/22/2009 1901			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

MSD Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220916.D
Dilution:	1.0			Initial Weight/Volume:	5.21 g
Date Analyzed:	09/22/2009 1932			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dichlorodifluoromethane	129	121	38 - 130	7	20		
1,1-Dichloroethane	101	101	67 - 130	1	20		
1,2-Dichloroethane	108	122	70 - 130	12	20		
1,1-Dichloroethene	117	111	64 - 130	6	20		
cis-1,2-Dichloroethene	104	107	68 - 131	2	20		
trans-1,2-Dichloroethene	99	95	70 - 130	5	20		
1,2-Dichloropropane	100	106	65 - 133	5	20		
cis-1,3-Dichloropropene	100	112	70 - 130	10	20		
trans-1,3-Dichloropropene	102	118	70 - 130	15	20		
Ethylbenzene	103	98	65 - 130	6	20		
Hexachlorobutadiene	64	69	58 - 132	7	20		
2-Hexanone	82	124	70 - 130	40	20		F
Isopropylbenzene	85	81	65 - 130	5	20		
4-Isopropyltoluene	104	92	69 - 134	13	20		
Methylene Chloride	126	121	63 - 130	3	20		
4-Methyl-2-pentanone (MIBK)	106	141	51 - 140	28	20		F
Naphthalene	61	101	45 - 146	48	20		F
N-Propylbenzene	114	97	70 - 130	17	20		
Styrene	93	96	70 - 130	3	20		
1,1,1,2-Tetrachloroethane	104	108	70 - 130	2	20		
1,1,2,2-Tetrachloroethane	144	142	70 - 131	2	20	F	F
Tetrachloroethene	86	83	67 - 130	4	20		
Toluene	101	98	70 - 130	4	20		
1,2,3-Trichlorobenzene	58	88	70 - 130	40	20	F	F
1,2,4-Trichlorobenzene	58	78	70 - 130	28	20	F	F
1,1,1-Trichloroethane	99	96	57 - 133	4	20		
1,1,2-Trichloroethane	111	127	68 - 132	12	20		
Trichloroethene	101	101	66 - 130	0	20		
Trichlorofluoromethane	110	101	61 - 130	9	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58173

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220915.D
Dilution:	1.0			Initial Weight/Volume:	5.17 g
Date Analyzed:	09/22/2009 1901			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

MSD Lab Sample ID:	720-22576-4	Analysis Batch:	720-58116	Instrument ID:	Agilent 5973
Client Matrix:	Solid	Prep Batch:	720-58173	Lab File ID:	09220916.D
Dilution:	1.0			Initial Weight/Volume:	5.21 g
Date Analyzed:	09/22/2009 1932			Final Weight/Volume:	10 mL
Date Prepared:	09/22/2009 0832				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,2,3-Trichloropropane	138	145	70 - 130	5	20	F	F
1,1,2-Trichloro-1,2,2-trifluoroethane	117	106	52 - 130	11	20		
1,2,4-Trimethylbenzene	114	102	64 - 140	11	20		
1,3,5-Trimethylbenzene	114	99	67 - 134	15	20		
Vinyl acetate	9	16	52 - 170	58	20	F	F
Vinyl chloride	127	118	70 - 130	8	20		
2,2-Dichloropropane	101	98	63 - 130	4	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
4-Bromofluorobenzene	93	100	52 - 130
1,2-Dichloroethane-d4 (Surr)	106	119	67 - 132
Toluene-d8 (Surr)	100	99	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-57977

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-57977/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/22/2009 1516
Date Prepared: 09/19/2009 1412

Analysis Batch: 720-58150
Prep Batch: 720-57977
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.19 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Phenol	ND		0.067
Bis(2-chloroethyl)ether	ND		0.067
2-Chlorophenol	ND		0.067
1,3-Dichlorobenzene	ND		0.067
1,4-Dichlorobenzene	ND		0.067
Benzyl alcohol	ND		0.17
1,2-Dichlorobenzene	ND		0.067
2-Methylphenol	ND		0.067
4-Methylphenol	ND		0.067
N-Nitrosodi-n-propylamine	ND		0.067
Hexachloroethane	ND		0.067
Nitrobenzene	ND		0.067
Isophorone	ND		0.067
2-Nitrophenol	ND		0.067
2,4-Dimethylphenol	ND		0.067
Bis(2-chloroethoxy)methane	ND		0.17
2,4-Dichlorophenol	ND		0.33
1,2,4-Trichlorobenzene	ND		0.067
Naphthalene	ND		0.067
4-Chloroaniline	ND		0.067
Hexachlorobutadiene	ND		0.067
4-Chloro-3-methylphenol	ND		0.17
2-Methylnaphthalene	ND		0.067
Hexachlorocyclopentadiene	ND		0.17
2,4,6-Trichlorophenol	ND		0.067
2,4,5-Trichlorophenol	ND		0.067
2-Chloronaphthalene	ND		0.067
2-Nitroaniline	ND		0.33
Dimethyl phthalate	ND		0.17
Acenaphthylene	ND		0.067
3-Nitroaniline	ND		0.17
Acenaphthene	ND		0.067
2,4-Dinitrophenol	ND		0.33
4-Nitrophenol	ND		0.33
Dibenzofuran	ND		0.067
2,4-Dinitrotoluene	ND		0.067
2,6-Dinitrotoluene	ND		0.067
Diethyl phthalate	ND		0.17
4-Chlorophenyl phenyl ether	ND		0.17
Fluorene	ND		0.067
4-Nitroaniline	ND		0.33

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Method Blank - Batch: 720-57977

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-57977/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/22/2009 1516
Date Prepared: 09/19/2009 1412

Analysis Batch: 720-58150
Prep Batch: 720-57977
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.19 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
2-Methyl-4,6-dinitrophenol	ND		0.33
N-Nitrosodiphenylamine	ND		0.067
4-Bromophenyl phenyl ether	ND		0.17
Hexachlorobenzene	ND		0.067
Pentachlorophenol	ND		0.33
Phenanthrene	ND		0.067
Anthracene	ND		0.067
Di-n-butyl phthalate	ND		0.17
Fluoranthene	ND		0.067
Pyrene	ND		0.067
Butyl benzyl phthalate	ND		0.17
3,3'-Dichlorobenzidine	ND		0.17
Benzo[a]anthracene	ND		0.33
Bis(2-ethylhexyl) phthalate	ND		0.33
Chrysene	ND		0.067
Di-n-octyl phthalate	ND		0.99
Benzo[b]fluoranthene	ND		0.067
Benzo[a]pyrene	ND		0.067
Benzo[k]fluoranthene	ND		0.067
Indeno[1,2,3-cd]pyrene	ND		0.067
Benzo[g,h,i]perylene	ND		0.067
Benzoic acid	ND		0.33
Azobenzene	ND		0.067
Dibenz(a,h)anthracene	ND		0.067

Surrogate	% Rec		Acceptance Limits
Nitrobenzene-d5	82		21 - 98
2-Fluorobiphenyl	89		38 - 96
Terphenyl-d14	84		32 - 117
2-Fluorophenol	107	X	28 - 98
Phenol-d5	91		23 - 101
2,4,6-Tribromophenol	91		37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-57977/2-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.28 g
Date Analyzed:	09/22/2009 1411			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-57977/3-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.38 g
Date Analyzed:	09/22/2009 1443			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	81	75	48 - 90	8	35		
Bis(2-chloroethyl)ether	86	92	45 - 92	6	35		
2-Chlorophenol	83	82	48 - 93	1	35		
1,3-Dichlorobenzene	75	73	41 - 91	3	35		
1,4-Dichlorobenzene	78	78	40 - 89	0	35		
Benzyl alcohol	91	81	54 - 102	12	35		
1,2-Dichlorobenzene	82	84	44 - 92	3	35		
2-Methylphenol	91	89	54 - 97	3	35		
4-Methylphenol	82	80	50 - 95	3	35		
N-Nitrosodi-n-propylamine	92	92	46 - 98	0	35		
Hexachloroethane	75	77	44 - 94	3	35		
Nitrobenzene	86	86	48 - 99	0	35		
Isophorone	98	95	54 - 100	4	35		
2-Nitrophenol	78	75	48 - 99	5	35		
2,4-Dimethylphenol	85	84	52 - 106	2	35		
Bis(2-chloroethoxy)methane	86	87	46 - 97	2	35		
2,4-Dichlorophenol	84	84	49 - 100	1	35		
1,2,4-Trichlorobenzene	80	73	47 - 95	10	35		
Naphthalene	78	78	44 - 92	1	35		
4-Chloroaniline	55	52	20 - 49	4	35	*	*
Hexachlorobutadiene	75	75	44 - 95	0	35		
4-Chloro-3-methylphenol	100	94	58 - 104	7	35		
2-Methylnaphthalene	78	85	49 - 100	8	35		
Hexachlorocyclopentadiene	70	80	42 - 132	13	35		
2,4,6-Trichlorophenol	83	88	45 - 102	6	35		
2,4,5-Trichlorophenol	67	89	48 - 105	29	35		
2-Chloronaphthalene	81	84	52 - 102	3	35		
2-Nitroaniline	84	92	54 - 105	8	35		
Dimethyl phthalate	95	103	64 - 119	7	35		
Acenaphthylene	87	96	61 - 129	10	35		
3-Nitroaniline	87	102	50 - 103	15	35		
Acenaphthene	77	88	50 - 98	13	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-57977/2-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.28 g
Date Analyzed:	09/22/2009 1411			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-57977/3-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.38 g
Date Analyzed:	09/22/2009 1443			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,4-Dinitrophenol	55	54	21 - 96	4	35		
4-Nitrophenol	84	91	54 - 125	9	35		
Dibenzofuran	85	93	55 - 100	9	35		
2,4-Dinitrotoluene	93	102	57 - 110	9	35		
2,6-Dinitrotoluene	97	99	54 - 119	2	35		
Diethyl phthalate	82	99	49 - 117	18	35		
4-Chlorophenyl phenyl ether	85	94	57 - 103	9	35		
Fluorene	80	89	54 - 104	10	35		
4-Nitroaniline	88	103	59 - 114	15	35		
2-Methyl-4,6-dinitrophenol	76	74	48 - 111	3	35		
N-Nitrosodiphenylamine	90	90	56 - 105	0	35		
4-Bromophenyl phenyl ether	79	80	53 - 101	0	35		
Hexachlorobenzene	80	82	55 - 105	1	35		
Pentachlorophenol	68	65	35 - 90	6	35		
Phenanthrene	82	81	54 - 100	2	35		
Anthracene	89	87	55 - 101	3	35		
Di-n-butyl phthalate	86	82	55 - 102	4	35		
Fluoranthene	86	87	54 - 102	0	35		
Pyrene	79	86	48 - 91	8	35		
Butyl benzyl phthalate	78	85	53 - 98	8	35		
3,3'-Dichlorobenzidine	70	76	42 - 87	7	35		
Benzo[a]anthracene	79	85	55 - 91	6	35		
Bis(2-ethylhexyl) phthalate	80	83	53 - 98	3	35		
Chrysene	86	88	49 - 96	2	35		
Di-n-octyl phthalate	78	88	53 - 91	11	35		
Benzo[b]fluoranthene	87	91	56 - 105	4	35		
Benzo[a]pyrene	96	97	55 - 102	1	35		
Benzo[k]fluoranthene	85	80	51 - 93	7	35		
Indeno[1,2,3-cd]pyrene	89	91	56 - 110	2	35		
Benzo[g,h,i]perylene	90	96	56 - 106	6	35		
Benzoic acid	14	13	8 - 35	4	35		
Azobenzene	87	94	52 - 100	7	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-57977/2-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.28 g
Date Analyzed:	09/22/2009 1411			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-57977/3-A	Analysis Batch:	720-58150	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.38 g
Date Analyzed:	09/22/2009 1443			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dibenz(a,h)anthracene	96	97	58 - 108	0	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	89	88	21 - 98
2-Fluorobiphenyl	78	85	38 - 96
Terphenyl-d14	84	87	32 - 117
2-Fluorophenol	88	84	28 - 98
Phenol-d5	89	86	23 - 101
2,4,6-Tribromophenol	91	103	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-C MS
Dilution:	2.0			Initial Weight/Volume:	30.41 g
Date Analyzed:	09/22/2009 1850			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-D MSD
Dilution:	2.0			Initial Weight/Volume:	30.04 g
Date Analyzed:	09/22/2009 1925			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	66	67	23 - 95	3	35		
Bis(2-chloroethyl)ether	67	69	27 - 90	3	35		
2-Chlorophenol	68	71	16 - 102	5	35		
1,3-Dichlorobenzene	70	71	22 - 86	2	35		
1,4-Dichlorobenzene	71	70	21 - 83	1	35		
Benzyl alcohol	72	72	28 - 104	2	35		
1,2-Dichlorobenzene	73	73	25 - 90	1	35		
2-Methylphenol	74	74	32 - 100	1	35		
4-Methylphenol	71	74	28 - 100	6	35		
N-Nitrosodi-n-propylamine	68	76	27 - 92	12	35		
Hexachloroethane	73	76	19 - 93	5	35		
Nitrobenzene	91	89	30 - 99	1	35		
Isophorone	86	86	36 - 101	2	35		
2-Nitrophenol	77	80	11 - 116	5	35		
2,4-Dimethylphenol	75	79	36 - 108	7	35		
Bis(2-chloroethoxy)methane	71	75	28 - 96	8	35		
2,4-Dichlorophenol	81	77	17 - 117	4	35		
1,2,4-Trichlorobenzene	76	75	29 - 92	0	35		
Naphthalene	80	76	22 - 97	4	35		
4-Chloroaniline	56	58	7 - 63	6	35		
Hexachlorobutadiene	81	79	26 - 92	1	35		
4-Chloro-3-methylphenol	80	81	42 - 106	3	35		
2-Methylnaphthalene	86	80	28 - 101	6	35		
Hexachlorocyclopentadiene	50	48	15 - 109	3	35		
2,4,6-Trichlorophenol	87	84	25 - 112	3	35		
2,4,5-Trichlorophenol	83	79	38 - 111	4	35		
2-Chloronaphthalene	84	79	38 - 97	5	35		
2-Nitroaniline	75	74	43 - 103	1	35		
Dimethyl phthalate	85	77	55 - 116	9	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-C MS
Dilution:	2.0			Initial Weight/Volume:	30.41 g
Date Analyzed:	09/22/2009 1850			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-D MSD
Dilution:	2.0			Initial Weight/Volume:	30.04 g
Date Analyzed:	09/22/2009 1925			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthylene	94	89	49 - 120	4	35		
3-Nitroaniline	81	70	39 - 103	13	35		
Acenaphthene	79	73	42 - 90	7	35		
2,4-Dinitrophenol	31	33	13 - 122	10	35		
4-Nitrophenol	105	100	25 - 147	4	35		
Dibenzofuran	86	81	43 - 96	4	35		
2,4-Dinitrotoluene	86	79	47 - 107	6	35		
2,6-Dinitrotoluene	83	77	55 - 111	6	35		
Diethyl phthalate	79	75	48 - 105	5	35		
4-Chlorophenyl phenyl ether	84	79	44 - 105	5	35		
Fluorene	81	76	41 - 102	5	35		
4-Nitroaniline	77	74	47 - 120	2	35		
2-Methyl-4,6-dinitrophenol	51	52	19 - 132	4	35		
N-Nitrosodiphenylamine	70	78	43 - 107	13	35		
4-Bromophenyl phenyl ether	66	68	45 - 96	4	35		
Hexachlorobenzene	74	72	48 - 99	2	35		
Pentachlorophenol	52	56	7 - 132	8	35		
Phenanthrene	74	71	38 - 107	3	35		
Anthracene	70	74	47 - 98	6	35		
Di-n-butyl phthalate	72	84	46 - 112	17	35		
Fluoranthene	70	78	40 - 113	13	35		
Pyrene	83	79	35 - 101	4	35		
Butyl benzyl phthalate	88	74	40 - 106	16	35		
3,3'-Dichlorobenzidine	75	62	17 - 96	17	35		
Benzo[a]anthracene	79	78	42 - 102	0	35		
Bis(2-ethylhexyl) phthalate	85	80	42 - 102	5	35		
Chrysene	88	75	37 - 97	15	35		
Di-n-octyl phthalate	80	77	46 - 94	3	35		
Benzo[b]fluoranthene	81	79	43 - 100	0	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-57977

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-C MS
Dilution:	2.0			Initial Weight/Volume:	30.41 g
Date Analyzed:	09/22/2009 1850			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22576-1	Analysis Batch:	720-58126	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-57977	Lab File ID:	720-22576-A-1-D MSD
Dilution:	2.0			Initial Weight/Volume:	30.04 g
Date Analyzed:	09/22/2009 1925			Final Weight/Volume:	1 mL
Date Prepared:	09/19/2009 1412			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]pyrene	94	90	48 - 95	3	35		
Benzo[k]fluoranthene	84	71	39 - 88	15	35		
Indeno[1,2,3-cd]pyrene	94	84	50 - 105	10	35		
Benzo[g,h,i]perylene	100	89	43 - 113	10	35		
Benzoic acid	29	29	0 - 85	0	35		
Azobenzene	86	80	48 - 95	6	35		
Dibenz(a,h)anthracene	94	83	49 - 103	11	35		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	84	86	21 - 98
2-Fluorobiphenyl	83	83	38 - 96
Terphenyl-d14	90	90	32 - 117
2-Fluorophenol	70	74	28 - 98
Phenol-d5	69	71	23 - 101
2,4,6-Tribromophenol	87	77	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

720-22576

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 119012

Date _____ Page _____ of _____

Report To

Attn: BILL STEVIENS
Company: BERLOGAR CREATECH
Address: 5587 SUNOL BLVD
Phone: 484-0220 Email: BSTEVIENS@BERLOGAR.COM
Bill To: BCL
Sampled By: RDL
Attn: BILL ST.
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other ___	Low Level Metals by EPA 200.8/6020 (ICP-MS): ___	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ pH (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS ☐	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4				Number of Containers
6	9.15.09	3:20		-						X	X															4
7	"	3:10		-						X	X															4
8	"	3:30		-						X	X															4
9	"	3:00		-						X	X															4

Project Info.

Project Name:
Project#:
PO#:
Credit Card#:

Sample Receipt

of Containers: 4
Head Space:
Temp: 5.8°C
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF
Special Instructions / Comments: ☐ Global ID: _____

See Terms and Conditions on reverse.
*TestAmerica SF reports 8015M from C_{12}-C_{24} (industry norm). Default for 8015B is C_{12}-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 4:00PM	Signature: Time:	Signature: Time:
Printed Name: RAHMOVAHMANCI Date: 9.15.09	Printed Name: Date:	Printed Name: Date:
Company: BERLOGAR CREATECH	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] 1600 Time:	Signature: Time:	Signature: Time:
Printed Name: Mullen Date: 9-15-09	Printed Name: Date:	Printed Name: Date:
Company: test America	Company:	Company:

Rev02/09

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-22576-1

Login Number: 22576

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	NO PROJECT NAME OR TAT SPECIFIED
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

VOLUME 2 OF 2

ANALYTICAL SOIL SAMPLING AND TESTING
PROMENADE, AREA G OF DUBLIN RANCH
GRAFTON STREET AND CENTRAL PARKWAY
DUBLIN, CALIFORNIA

FOR
TOLL BROTHERS, INC.
October 16, 2009

Job No. 3180.900

APPENDIX D

TestAmerica Analytical Report, Promenade, 1A - 5F, Part 1, 9/22/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-22752-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
9/30/2009 7:50 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
09/30/2009

CA ELAP Certification # 2496
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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

TestAmerica Laboratories, Inc.
TestAmerica San Francisco 1220 Quarry Lane, Pleasanton, CA 94566
Tel (925) 484-1919 Fax (925) 600-3002 www.testamericainc.com

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch #58296 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch #58296 was outside control limits. Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance ciriteria.

Method(s) 8270C: The following sample(s) was diluted due to the abundance of non-target analytes: 1C1 (720-22752-5), 3A1 (720-22752-25), 3B1 (720-22752-27), 3C1 (720-22752-29), 4C1 (720-22752-35). Elevated reporting limits (RLs) are provided.

Method(s) 8270C: The following sample(s) was diluted due to the abundance of non-target analytes: 1B1 (720-22752-3), 1E1 (720-22752-9), 2C1 (720-22752-17), 2F1 (720-22752-23), 4B1 (720-22752-33). Elevated reporting limits (RLs) are provided.

Method(s) 8270C: Due to the level of dilution required for the following sample(s), surrogate recoveries are not applicable: 1B1 (720-22752-3), 1E1 (720-22752-9), 2C1 (720-22752-17), 2F1 (720-22752-23).

Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch #58348 was outside control limits. Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance ciriteria.

Method(s) 8270C: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for three analytes to recover outside criteria for this method when a full list spike is utilized. The LCS/LCSD/MS/MSD associated with batch #58348 had two(Bis-[2-ethylhexyl]phthalate, Di-n-octyl phthalate) analytes outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: C4 (720-22752-58).

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: C7 (720-22752-61).

No other analytical or quality issues were noted.

Organic Prep
Method(s) 9071B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 58515 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-22752-55	**C1**				
Diesel Range Organics [C10-C28]		2.1	0.99	mg/Kg	8015B
720-22752-57	**C3**				
Diesel Range Organics [C10-C28]		30	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		270	50	mg/Kg	8015B
720-22752-58	**C4**				
Diesel Range Organics [C10-C28]		57	5.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		420	250	mg/Kg	8015B
720-22752-59	**C5**				
Diesel Range Organics [C10-C28]		3.9	1.0	mg/Kg	8015B
720-22752-60	**C6**				
Diesel Range Organics [C10-C28]		19	1.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		130	50	mg/Kg	8015B
720-22752-61	**C7**				
Diesel Range Organics [C10-C28]		190	4.9	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		1500	250	mg/Kg	8015B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL SF	SW846 8270C	
Ultrasonic Extraction	TAL SF		SW846 3550B
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B
Organochlorine Pesticides (GC)	TAL SF	SW846 8081A	
Ultrasonic Extraction	TAL SF		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL SF	SW846 8082	
Ultrasonic Extraction	TAL SF		SW846 3550B
HEM	TAL SF	SW846 9071B	
HEM	TAL SF		SW846 9071B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-22752-1	1A1	Solid	09/22/2009 1110	09/22/2009 1535
720-22752-3	1B1	Solid	09/22/2009 1050	09/22/2009 1535
720-22752-5	1C1	Solid	09/22/2009 1040	09/22/2009 1535
720-22752-7	1D1	Solid	09/22/2009 1120	09/22/2009 1535
720-22752-9	1E1	Solid	09/22/2009 1135	09/22/2009 1535
720-22752-11	1F1	Solid	09/22/2009 1200	09/22/2009 1535
720-22752-13	2A1	Solid	09/22/2009 0930	09/22/2009 1535
720-22752-15	2B1	Solid	09/22/2009 0940	09/22/2009 1535
720-22752-17	2C1	Solid	09/22/2009 0950	09/22/2009 1535
720-22752-19	2D1	Solid	09/22/2009 1050	09/22/2009 1535
720-22752-20	2D2	Solid	09/22/2009 1050	09/22/2009 1535
720-22752-21	2E1	Solid	09/22/2009 1030	09/22/2009 1535
720-22752-23	2F1	Solid	09/22/2009 1015	09/22/2009 1535
720-22752-25	3A1	Solid	09/22/2009 1000	09/22/2009 1535
720-22752-27	3B1	Solid	09/22/2009 0910	09/22/2009 1535
720-22752-29	3C1	Solid	09/22/2009 0900	09/22/2009 1535
720-22752-31	4A1	Solid	09/22/2009 0840	09/22/2009 1535
720-22752-33	4B1	Solid	09/22/2009 0845	09/22/2009 1535
720-22752-35	4C1	Solid	09/22/2009 0850	09/22/2009 1535
720-22752-37	4D1	Solid	09/22/2009 0940	09/22/2009 1535
720-22752-39	4E1	Solid	09/22/2009 0930	09/22/2009 1535
720-22752-41	4F1	Solid	09/22/2009 0920	09/22/2009 1535
720-22752-43	5A1	Solid	09/22/2009 0810	09/22/2009 1535
720-22752-45	5B1	Solid	09/22/2009 0805	09/22/2009 1535
720-22752-47	5C1	Solid	09/22/2009 0820	09/22/2009 1535
720-22752-49	5D1	Solid	09/22/2009 0830	09/22/2009 1535
720-22752-51	5E1	Solid	09/22/2009 0825	09/22/2009 1535
720-22752-53	5F1	Solid	09/22/2009 0835	09/22/2009 1535
720-22752-55	C1	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-56	C2	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-57	C3	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-58	C4	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-59	C5	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-60	C6	Solid	09/22/2009 0000	09/22/2009 1535
720-22752-61	C7	Solid	09/22/2009 0000	09/22/2009 1535

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2D2**

Lab Sample ID: 720-22752-20
Client Matrix: Solid

Date Sampled: 09/22/2009 1050
Date Received: 09/22/2009 1535

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58358		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-58486		Lab File ID:	09250917.D
Dilution:	1.0			Initial Weight/Volume:	5.20 g
Date Analyzed:	09/25/2009 2041			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.8
Ethylbenzene		ND		4.8
Toluene		ND		4.8
Xylenes, Total		ND		9.6
Gasoline Range Organics (GRO)-C5-C12		ND		240
MTBE		ND		4.8

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	104		52 - 130
1,2-Dichloroethane-d4 (Surr)	106		67 - 132
Toluene-d8 (Surr)	103		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C4**

Lab Sample ID: 720-22752-58
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58358		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-58486		Lab File ID:	09250918.D
Dilution:	1.0			Initial Weight/Volume:	5.54 g
Date Analyzed:	09/25/2009 2114			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.5
Ethylbenzene		ND		4.5
Toluene		ND		4.5
Xylenes, Total		ND		9.0
MTBE		ND		4.5
Gasoline Range Organics (GRO)-C5-C12		ND		230

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	101		52 - 130
1,2-Dichloroethane-d4 (Surr)	112		67 - 132
Toluene-d8 (Surr)	99		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C5**

Lab Sample ID: 720-22752-59
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58358		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-58486		Lab File ID:	09250919.D
Dilution:	1.0			Initial Weight/Volume:	5.95 g
Date Analyzed:	09/25/2009 2146			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.2
Ethylbenzene		ND		4.2
Toluene		ND		4.2
Xylenes, Total		ND		8.4
MTBE		ND		4.2
Gasoline Range Organics (GRO)-C5-C12		ND		210

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	104		52 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 132
Toluene-d8 (Surr)	102		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C7**

Lab Sample ID: 720-22752-61
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-58423		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-58522		Lab File ID:	09260911.D
Dilution:	1.0			Initial Weight/Volume:	5.48 g
Date Analyzed:	09/26/2009 1347			Final Weight/Volume:	10 mL
Date Prepared:	09/26/2009 0800				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene		ND		4.6
Ethylbenzene		ND		4.6
Toluene		ND		4.6
Xylenes, Total		ND		9.1
Gasoline Range Organics (GRO)-C5-C12		ND		230
MTBE		ND		4.6

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	99		52 - 130
1,2-Dichloroethane-d4 (Surr)	114		67 - 132
Toluene-d8 (Surr)	99		58 - 130

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **1A1**

Lab Sample ID: 720-22752-1 | Date Sampled: 09/22/2009 1110
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-1-B
Dilution:	1.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/26/2009 0426			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1A1**

Lab Sample ID: 720-22752-1
Client Matrix: Solid

Date Sampled: 09/22/2009 1110
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-1-B
Dilution:	1.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/26/2009 0426			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	59		21 - 98
2-Fluorobiphenyl	68		38 - 96
Terphenyl-d14	74		32 - 117
2-Fluorophenol	52		28 - 98
Phenol-d5	54		23 - 101
2,4,6-Tribromophenol	87		37 - 114

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **1B1**

Lab Sample ID: 720-22752-3 | Date Sampled: 09/22/2009 1050
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	10			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/29/2009 0027			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		3.3
Bis(2-chloroethyl)ether		ND		3.3
2-Chlorophenol		ND		3.3
1,3-Dichlorobenzene		ND		3.3
1,4-Dichlorobenzene		ND		3.3
Benzyl alcohol		ND		8.5
1,2-Dichlorobenzene		ND		3.3
2-Methylphenol		ND		3.3
4-Methylphenol		ND		3.3
N-Nitrosodi-n-propylamine		ND		3.3
Hexachloroethane		ND		3.3
Nitrobenzene		ND		3.3
Isophorone		ND		3.3
2-Nitrophenol		ND		3.3
2,4-Dimethylphenol		ND		3.3
Bis(2-chloroethoxy)methane		ND		8.5
2,4-Dichlorophenol		ND		16
1,2,4-Trichlorobenzene		ND		3.3
Naphthalene		ND		3.3
4-Chloroaniline		ND		3.3
Hexachlorobutadiene		ND		3.3
4-Chloro-3-methylphenol		ND		8.5
2-Methylnaphthalene		ND		3.3
Hexachlorocyclopentadiene		ND		8.5
2,4,6-Trichlorophenol		ND		3.3
2,4,5-Trichlorophenol		ND		3.3
2-Chloronaphthalene		ND		3.3
2-Nitroaniline		ND		16
Dimethyl phthalate		ND		8.5
Acenaphthylene		ND		3.3
3-Nitroaniline		ND		8.5
Acenaphthene		ND		3.3
2,4-Dinitrophenol		ND		16
4-Nitrophenol		ND		16
Dibenzofuran		ND		3.3
2,4-Dinitrotoluene		ND		3.3
2,6-Dinitrotoluene		ND		3.3
Diethyl phthalate		ND		8.5
4-Chlorophenyl phenyl ether		ND		8.5
Fluorene		ND		3.3
4-Nitroaniline		ND		16
2-Methyl-4,6-dinitrophenol		ND		16
N-Nitrosodiphenylamine		ND		3.3
4-Bromophenyl phenyl ether		ND		8.5
Hexachlorobenzene		ND		3.3
Pentachlorophenol		ND		16

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **1B1**

Lab Sample ID: 720-22752-3 | Date Sampled: 09/22/2009 1050
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	10			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/29/2009 0027			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		3.3
Anthracene		ND		3.3
Di-n-butyl phthalate		ND		8.5
Fluoranthene		ND		3.3
Pyrene		ND		3.3
Butyl benzyl phthalate		ND		8.5
3,3'-Dichlorobenzidine		ND		8.5
Benzo[a]anthracene		ND		16
Bis(2-ethylhexyl) phthalate		ND		16
Chrysene		ND		3.3
Di-n-octyl phthalate		ND		50
Benzo[b]fluoranthene		ND		3.3
Benzo[a]pyrene		ND		3.3
Benzo[k]fluoranthene		ND		3.3
Indeno[1,2,3-cd]pyrene		ND		3.3
Benzo[g,h,i]perylene		ND		3.3
Benzoic acid		ND		16
Azobenzene		ND		3.3
Dibenz(a,h)anthracene		ND		3.3

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	0	X	21 - 98
2-Fluorobiphenyl	69		38 - 96
Terphenyl-d14	86		32 - 117
2-Fluorophenol	46		28 - 98
Phenol-d5	0	X	23 - 101
2,4,6-Tribromophenol	58		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1C1**

Lab Sample ID: 720-22752-5
Client Matrix: Solid

Date Sampled: 09/22/2009 1040
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 2039			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.33
Bis(2-chloroethyl)ether		ND		0.33
2-Chlorophenol		ND		0.33
1,3-Dichlorobenzene		ND		0.33
1,4-Dichlorobenzene		ND		0.33
Benzyl alcohol		ND		0.85
1,2-Dichlorobenzene		ND		0.33
2-Methylphenol		ND		0.33
4-Methylphenol		ND		0.33
N-Nitrosodi-n-propylamine		ND		0.33
Hexachloroethane		ND		0.33
Nitrobenzene		ND		0.33
Isophorone		ND		0.33
2-Nitrophenol		ND		0.33
2,4-Dimethylphenol		ND		0.33
Bis(2-chloroethoxy)methane		ND		0.85
2,4-Dichlorophenol		ND		1.6
1,2,4-Trichlorobenzene		ND		0.33
Naphthalene		ND		0.33
4-Chloroaniline		ND		0.33
Hexachlorobutadiene		ND		0.33
4-Chloro-3-methylphenol		ND		0.85
2-Methylnaphthalene		ND		0.33
Hexachlorocyclopentadiene		ND		0.85
2,4,6-Trichlorophenol		ND		0.33
2,4,5-Trichlorophenol		ND		0.33
2-Chloronaphthalene		ND		0.33
2-Nitroaniline		ND		1.6
Dimethyl phthalate		ND		0.85
Acenaphthylene		ND		0.33
3-Nitroaniline		ND		0.85
Acenaphthene		ND		0.33
2,4-Dinitrophenol		ND		1.6
4-Nitrophenol		ND		1.6
Dibenzofuran		ND		0.33
2,4-Dinitrotoluene		ND		0.33
2,6-Dinitrotoluene		ND		0.33
Diethyl phthalate		ND		0.85
4-Chlorophenyl phenyl ether		ND		0.85
Fluorene		ND		0.33
4-Nitroaniline		ND		1.6
2-Methyl-4,6-dinitrophenol		ND		1.6
N-Nitrosodiphenylamine		ND		0.33
4-Bromophenyl phenyl ether		ND		0.85
Hexachlorobenzene		ND		0.33
Pentachlorophenol		ND		1.6

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1C1**

Lab Sample ID: 720-22752-5
Client Matrix: Solid

Date Sampled: 09/22/2009 1040
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 2039			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.33
Anthracene		ND		0.33
Di-n-butyl phthalate		ND		0.85
Fluoranthene		ND		0.33
Pyrene		ND		0.33
Butyl benzyl phthalate		ND		0.85
3,3'-Dichlorobenzidine		ND		0.85
Benzo[a]anthracene		ND		1.6
Bis(2-ethylhexyl) phthalate		ND		1.6
Chrysene		ND		0.33
Di-n-octyl phthalate		ND		5.0
Benzo[b]fluoranthene		ND		0.33
Benzo[a]pyrene		ND		0.33
Benzo[k]fluoranthene		ND		0.33
Indeno[1,2,3-cd]pyrene		ND		0.33
Benzo[g,h,i]perylene		ND		0.33
Benzoic acid		ND		1.6
Azobenzene		ND		0.33
Dibenz(a,h)anthracene		ND		0.33

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	45		21 - 98
2-Fluorobiphenyl	68		38 - 96
Terphenyl-d14	77		32 - 117
2-Fluorophenol	66		28 - 98
Phenol-d5	64		23 - 101
2,4,6-Tribromophenol	75		37 - 114

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **1D1**

Lab Sample ID: 720-22752-7 | Date Sampled: 09/22/2009 1120
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/27/2009 1828			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1D1**

Lab Sample ID: 720-22752-7
Client Matrix: Solid

Date Sampled: 09/22/2009 1120
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/27/2009 1828			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	45		21 - 98
2-Fluorobiphenyl	54		38 - 96
Terphenyl-d14	85		32 - 117
2-Fluorophenol	53		28 - 98
Phenol-d5	53		23 - 101
2,4,6-Tribromophenol	92		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1E1**

Lab Sample ID: 720-22752-9
Client Matrix: Solid

Date Sampled: 09/22/2009 1135
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	10			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/29/2009 0100			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		3.3
Bis(2-chloroethyl)ether		ND		3.3
2-Chlorophenol		ND		3.3
1,3-Dichlorobenzene		ND		3.3
1,4-Dichlorobenzene		ND		3.3
Benzyl alcohol		ND		8.5
1,2-Dichlorobenzene		ND		3.3
2-Methylphenol		ND		3.3
4-Methylphenol		ND		3.3
N-Nitrosodi-n-propylamine		ND		3.3
Hexachloroethane		ND		3.3
Nitrobenzene		ND		3.3
Isophorone		ND		3.3
2-Nitrophenol		ND		3.3
2,4-Dimethylphenol		ND		3.3
Bis(2-chloroethoxy)methane		ND		8.5
2,4-Dichlorophenol		ND		16
1,2,4-Trichlorobenzene		ND		3.3
Naphthalene		ND		3.3
4-Chloroaniline		ND		3.3
Hexachlorobutadiene		ND		3.3
4-Chloro-3-methylphenol		ND		8.5
2-Methylnaphthalene		ND		3.3
Hexachlorocyclopentadiene		ND		8.5
2,4,6-Trichlorophenol		ND		3.3
2,4,5-Trichlorophenol		ND		3.3
2-Chloronaphthalene		ND		3.3
2-Nitroaniline		ND		16
Dimethyl phthalate		ND		8.5
Acenaphthylene		ND		3.3
3-Nitroaniline		ND		8.5
Acenaphthene		ND		3.3
2,4-Dinitrophenol		ND		16
4-Nitrophenol		ND		16
Dibenzofuran		ND		3.3
2,4-Dinitrotoluene		ND		3.3
2,6-Dinitrotoluene		ND		3.3
Diethyl phthalate		ND		8.5
4-Chlorophenyl phenyl ether		ND		8.5
Fluorene		ND		3.3
4-Nitroaniline		ND		16
2-Methyl-4,6-dinitrophenol		ND		16
N-Nitrosodiphenylamine		ND		3.3
4-Bromophenyl phenyl ether		ND		8.5
Hexachlorobenzene		ND		3.3
Pentachlorophenol		ND		16

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **1E1**

Lab Sample ID: 720-22752-9 | Date Sampled: 09/22/2009 1135
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	10			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/29/2009 0100			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		3.3
Anthracene		ND		3.3
Di-n-butyl phthalate		ND		8.5
Fluoranthene		ND		3.3
Pyrene		ND		3.3
Butyl benzyl phthalate		ND		8.5
3,3'-Dichlorobenzidine		ND		8.5
Benzo[a]anthracene		ND		16
Bis(2-ethylhexyl) phthalate		ND		16
Chrysene		ND		3.3
Di-n-octyl phthalate		ND		50
Benzo[b]fluoranthene		ND		3.3
Benzo[a]pyrene		ND		3.3
Benzo[k]fluoranthene		ND		3.3
Indeno[1,2,3-cd]pyrene		ND		3.3
Benzo[g,h,i]perylene		ND		3.3
Benzoic acid		ND		16
Azobenzene		ND		3.3
Dibenz(a,h)anthracene		ND		3.3

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	0	X	21 - 98
2-Fluorobiphenyl	92		38 - 96
Terphenyl-d14	99		32 - 117
2-Fluorophenol	48		28 - 98
Phenol-d5	0	X	23 - 101
2,4,6-Tribromophenol	70		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1F1**

Lab Sample ID: 720-22752-11
Client Matrix: Solid

Date Sampled: 09/22/2009 1200
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-11-B
Dilution:	1.0			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/26/2009 0242			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **1F1**

Lab Sample ID: 720-22752-11
Client Matrix: Solid

Date Sampled: 09/22/2009 1200
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-11-B
Dilution:	1.0			Initial Weight/Volume:	30.05 g
Date Analyzed:	09/26/2009 0242			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	79		21 - 98
2-Fluorobiphenyl	85		38 - 96
Terphenyl-d14	80		32 - 117
2-Fluorophenol	48		28 - 98
Phenol-d5	59		23 - 101
2,4,6-Tribromophenol	15	X	37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2A1**

Lab Sample ID: 720-22752-13
Client Matrix: Solid

Date Sampled: 09/22/2009 0930
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 1901			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2A1**

Lab Sample ID: 720-22752-13
Client Matrix: Solid

Date Sampled: 09/22/2009 0930
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 1901			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	58		21 - 98
2-Fluorobiphenyl	64		38 - 96
Terphenyl-d14	85		32 - 117
2-Fluorophenol	73		28 - 98
Phenol-d5	61		23 - 101
2,4,6-Tribromophenol	94		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2B1**

Lab Sample ID: 720-22752-15
Client Matrix: Solid

Date Sampled: 09/22/2009 0940
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.06 g
Date Analyzed:	09/27/2009 1933			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2B1**

Lab Sample ID: 720-22752-15
Client Matrix: Solid

Date Sampled: 09/22/2009 0940
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.06 g
Date Analyzed:	09/27/2009 1933			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	73		21 - 98
2-Fluorobiphenyl	70		38 - 96
Terphenyl-d14	79		32 - 117
2-Fluorophenol	88		28 - 98
Phenol-d5	76		23 - 101
2,4,6-Tribromophenol	96		37 - 114

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **2C1**

Lab Sample ID: 720-22752-17 | Date Sampled: 09/22/2009 0950
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.01 g
Date Analyzed:	09/28/2009 1547			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		1.7
Bis(2-chloroethyl)ether		ND		1.7
2-Chlorophenol		ND		1.7
1,3-Dichlorobenzene		ND		1.7
1,4-Dichlorobenzene		ND		1.7
Benzyl alcohol		ND		4.2
1,2-Dichlorobenzene		ND		1.7
2-Methylphenol		ND		1.7
4-Methylphenol		ND		1.7
N-Nitrosodi-n-propylamine		ND		1.7
Hexachloroethane		ND		1.7
Nitrobenzene		ND		1.7
Isophorone		ND		1.7
2-Nitrophenol		ND		1.7
2,4-Dimethylphenol		ND		1.7
Bis(2-chloroethoxy)methane		ND		4.2
2,4-Dichlorophenol		ND		8.2
1,2,4-Trichlorobenzene		ND		1.7
Naphthalene		ND		1.7
4-Chloroaniline		ND		1.7
Hexachlorobutadiene		ND		1.7
4-Chloro-3-methylphenol		ND		4.2
2-Methylnaphthalene		ND		1.7
Hexachlorocyclopentadiene		ND		4.2
2,4,6-Trichlorophenol		ND		1.7
2,4,5-Trichlorophenol		ND		1.7
2-Chloronaphthalene		ND		1.7
2-Nitroaniline		ND		8.2
Dimethyl phthalate		ND		4.2
Acenaphthylene		ND		1.7
3-Nitroaniline		ND		4.2
Acenaphthene		ND		1.7
2,4-Dinitrophenol		ND		8.2
4-Nitrophenol		ND		8.2
Dibenzofuran		ND		1.7
2,4-Dinitrotoluene		ND		1.7
2,6-Dinitrotoluene		ND		1.7
Diethyl phthalate		ND		4.2
4-Chlorophenyl phenyl ether		ND		4.2
Fluorene		ND		1.7
4-Nitroaniline		ND		8.2
2-Methyl-4,6-dinitrophenol		ND		8.2
N-Nitrosodiphenylamine		ND		1.7
4-Bromophenyl phenyl ether		ND		4.2
Hexachlorobenzene		ND		1.7
Pentachlorophenol		ND		8.2

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2C1**

Lab Sample ID: 720-22752-17
Client Matrix: Solid

Date Sampled: 09/22/2009 0950
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.01 g
Date Analyzed:	09/28/2009 1547			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		1.7
Anthracene		ND		1.7
Di-n-butyl phthalate		ND		4.2
Fluoranthene		ND		1.7
Pyrene		ND		1.7
Butyl benzyl phthalate		ND		4.2
3,3'-Dichlorobenzidine		ND		4.2
Benzo[a]anthracene		ND		8.2
Bis(2-ethylhexyl) phthalate		ND		8.2
Chrysene		ND		1.7
Di-n-octyl phthalate		ND		25
Benzo[b]fluoranthene		ND		1.7
Benzo[a]pyrene		ND		1.7
Benzo[k]fluoranthene		ND		1.7
Indeno[1,2,3-cd]pyrene		ND		1.7
Benzo[g,h,i]perylene		ND		1.7
Benzoic acid		ND		8.2
Azobenzene		ND		1.7
Dibenz(a,h)anthracene		ND		1.7

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	13	X	21 - 98
2-Fluorobiphenyl	79		38 - 96
Terphenyl-d14	88		32 - 117
2-Fluorophenol	63		28 - 98
Phenol-d5	76		23 - 101
2,4,6-Tribromophenol	75		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2D1**

Lab Sample ID: 720-22752-19
Client Matrix: Solid

Date Sampled: 09/22/2009 1050
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-19-A
Dilution:	1.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/26/2009 0500			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2D1**

Lab Sample ID: 720-22752-19
Client Matrix: Solid

Date Sampled: 09/22/2009 1050
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-19-A
Dilution:	1.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/26/2009 0500			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	49		21 - 98
2-Fluorobiphenyl	59		38 - 96
Terphenyl-d14	80		32 - 117
2-Fluorophenol	41		28 - 98
Phenol-d5	39		23 - 101
2,4,6-Tribromophenol	80		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2E1**

Lab Sample ID: 720-22752-21
Client Matrix: Solid

Date Sampled: 09/22/2009 1030
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-21-A
Dilution:	1.0			Initial Weight/Volume:	30.02 g
Date Analyzed:	09/26/2009 0535			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2E1**

Lab Sample ID: 720-22752-21
Client Matrix: Solid

Date Sampled: 09/22/2009 1030
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58413		Instrument ID:	CHSAT2K1
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	720-22752-A-21-A
Dilution:	1.0			Initial Weight/Volume:	30.02 g
Date Analyzed:	09/26/2009 0535			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	70		21 - 98
2-Fluorobiphenyl	75		38 - 96
Terphenyl-d14	80		32 - 117
2-Fluorophenol	60		28 - 98
Phenol-d5	59		23 - 101
2,4,6-Tribromophenol	91		37 - 114

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **2F1**

Lab Sample ID: 720-22752-23 | Date Sampled: 09/22/2009 1015
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/28/2009 1618			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		1.7
Bis(2-chloroethyl)ether		ND		1.7
2-Chlorophenol		ND		1.7
1,3-Dichlorobenzene		ND		1.7
1,4-Dichlorobenzene		ND		1.7
Benzyl alcohol		ND		4.2
1,2-Dichlorobenzene		ND		1.7
2-Methylphenol		ND		1.7
4-Methylphenol		ND		1.7
N-Nitrosodi-n-propylamine		ND		1.7
Hexachloroethane		ND		1.7
Nitrobenzene		ND		1.7
Isophorone		ND		1.7
2-Nitrophenol		ND		1.7
2,4-Dimethylphenol		ND		1.7
Bis(2-chloroethoxy)methane		ND		4.2
2,4-Dichlorophenol		ND		8.2
1,2,4-Trichlorobenzene		ND		1.7
Naphthalene		ND		1.7
4-Chloroaniline		ND		1.7
Hexachlorobutadiene		ND		1.7
4-Chloro-3-methylphenol		ND		4.2
2-Methylnaphthalene		ND		1.7
Hexachlorocyclopentadiene		ND		4.2
2,4,6-Trichlorophenol		ND		1.7
2,4,5-Trichlorophenol		ND		1.7
2-Chloronaphthalene		ND		1.7
2-Nitroaniline		ND		8.2
Dimethyl phthalate		ND		4.2
Acenaphthylene		ND		1.7
3-Nitroaniline		ND		4.2
Acenaphthene		ND		1.7
2,4-Dinitrophenol		ND		8.2
4-Nitrophenol		ND		8.2
Dibenzofuran		ND		1.7
2,4-Dinitrotoluene		ND		1.7
2,6-Dinitrotoluene		ND		1.7
Diethyl phthalate		ND		4.2
4-Chlorophenyl phenyl ether		ND		4.2
Fluorene		ND		1.7
4-Nitroaniline		ND		8.2
2-Methyl-4,6-dinitrophenol		ND		8.2
N-Nitrosodiphenylamine		ND		1.7
4-Bromophenyl phenyl ether		ND		4.2
Hexachlorobenzene		ND		1.7
Pentachlorophenol		ND		8.2

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2F1**

Lab Sample ID: 720-22752-23
Client Matrix: Solid

Date Sampled: 09/22/2009 1015
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/28/2009 1618			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		1.7
Anthracene		ND		1.7
Di-n-butyl phthalate		ND		4.2
Fluoranthene		ND		1.7
Pyrene		ND		1.7
Butyl benzyl phthalate		ND		4.2
3,3'-Dichlorobenzidine		ND		4.2
Benzo[a]anthracene		ND		8.2
Bis(2-ethylhexyl) phthalate		ND		8.2
Chrysene		ND		1.7
Di-n-octyl phthalate		ND		25
Benzo[b]fluoranthene		ND		1.7
Benzo[a]pyrene		ND		1.7
Benzo[k]fluoranthene		ND		1.7
Indeno[1,2,3-cd]pyrene		ND		1.7
Benzo[g,h,i]perylene		ND		1.7
Benzoic acid		ND		8.2
Azobenzene		ND		1.7
Dibenz(a,h)anthracene		ND		1.7

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	20	X	21 - 98
2-Fluorobiphenyl	92		38 - 96
Terphenyl-d14	83		32 - 117
2-Fluorophenol	59		28 - 98
Phenol-d5	85		23 - 101
2,4,6-Tribromophenol	87		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3A1**

Lab Sample ID: 720-22752-25
Client Matrix: Solid

Date Sampled: 09/22/2009 1000
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 2111			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.13
Bis(2-chloroethyl)ether		ND		0.13
2-Chlorophenol		ND		0.13
1,3-Dichlorobenzene		ND		0.13
1,4-Dichlorobenzene		ND		0.13
Benzyl alcohol		ND		0.34
1,2-Dichlorobenzene		ND		0.13
2-Methylphenol		ND		0.13
4-Methylphenol		ND		0.13
N-Nitrosodi-n-propylamine		ND		0.13
Hexachloroethane		ND		0.13
Nitrobenzene		ND		0.13
Isophorone		ND		0.13
2-Nitrophenol		ND		0.13
2,4-Dimethylphenol		ND		0.13
Bis(2-chloroethoxy)methane		ND		0.34
2,4-Dichlorophenol		ND		0.66
1,2,4-Trichlorobenzene		ND		0.13
Naphthalene		ND		0.13
4-Chloroaniline		ND		0.13
Hexachlorobutadiene		ND		0.13
4-Chloro-3-methylphenol		ND		0.34
2-Methylnaphthalene		ND		0.13
Hexachlorocyclopentadiene		ND		0.34
2,4,6-Trichlorophenol		ND		0.13
2,4,5-Trichlorophenol		ND		0.13
2-Chloronaphthalene		ND		0.13
2-Nitroaniline		ND		0.66
Dimethyl phthalate		ND		0.34
Acenaphthylene		ND		0.13
3-Nitroaniline		ND		0.34
Acenaphthene		ND		0.13
2,4-Dinitrophenol		ND		0.66
4-Nitrophenol		ND		0.66
Dibenzofuran		ND		0.13
2,4-Dinitrotoluene		ND		0.13
2,6-Dinitrotoluene		ND		0.13
Diethyl phthalate		ND		0.34
4-Chlorophenyl phenyl ether		ND		0.34
Fluorene		ND		0.13
4-Nitroaniline		ND		0.66
2-Methyl-4,6-dinitrophenol		ND		0.66
N-Nitrosodiphenylamine		ND		0.13
4-Bromophenyl phenyl ether		ND		0.34
Hexachlorobenzene		ND		0.13
Pentachlorophenol		ND		0.66

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3A1**

Lab Sample ID: 720-22752-25
Client Matrix: Solid

Date Sampled: 09/22/2009 1000
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.07 g
Date Analyzed:	09/27/2009 2111			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.13
Anthracene		ND		0.13
Di-n-butyl phthalate		ND		0.34
Fluoranthene		ND		0.13
Pyrene		ND		0.13
Butyl benzyl phthalate		ND		0.34
3,3'-Dichlorobenzidine		ND		0.34
Benzo[a]anthracene		ND		0.66
Bis(2-ethylhexyl) phthalate		ND		0.66
Chrysene		ND		0.13
Di-n-octyl phthalate		ND		2.0
Benzo[b]fluoranthene		ND		0.13
Benzo[a]pyrene		ND		0.13
Benzo[k]fluoranthene		ND		0.13
Indeno[1,2,3-cd]pyrene		ND		0.13
Benzo[g,h,i]perylene		ND		0.13
Benzoic acid		ND		0.66
Azobenzene		ND		0.13
Dibenz(a,h)anthracene		ND		0.13

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	54		21 - 98
2-Fluorobiphenyl	68		38 - 96
Terphenyl-d14	77		32 - 117
2-Fluorophenol	77		28 - 98
Phenol-d5	58		23 - 101
2,4,6-Tribromophenol	79		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3B1**

Lab Sample ID: 720-22752-27
Client Matrix: Solid

Date Sampled: 09/22/2009 0910
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.06 g
Date Analyzed:	09/27/2009 2144			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.33
Bis(2-chloroethyl)ether		ND		0.33
2-Chlorophenol		ND		0.33
1,3-Dichlorobenzene		ND		0.33
1,4-Dichlorobenzene		ND		0.33
Benzyl alcohol		ND		0.85
1,2-Dichlorobenzene		ND		0.33
2-Methylphenol		ND		0.33
4-Methylphenol		ND		0.33
N-Nitrosodi-n-propylamine		ND		0.33
Hexachloroethane		ND		0.33
Nitrobenzene		ND		0.33
Isophorone		ND		0.33
2-Nitrophenol		ND		0.33
2,4-Dimethylphenol		ND		0.33
Bis(2-chloroethoxy)methane		ND		0.85
2,4-Dichlorophenol		ND		1.6
1,2,4-Trichlorobenzene		ND		0.33
Naphthalene		ND		0.33
4-Chloroaniline		ND		0.33
Hexachlorobutadiene		ND		0.33
4-Chloro-3-methylphenol		ND		0.85
2-Methylnaphthalene		ND		0.33
Hexachlorocyclopentadiene		ND		0.85
2,4,6-Trichlorophenol		ND		0.33
2,4,5-Trichlorophenol		ND		0.33
2-Chloronaphthalene		ND		0.33
2-Nitroaniline		ND		1.6
Dimethyl phthalate		ND		0.85
Acenaphthylene		ND		0.33
3-Nitroaniline		ND		0.85
Acenaphthene		ND		0.33
2,4-Dinitrophenol		ND		1.6
4-Nitrophenol		ND		1.6
Dibenzofuran		ND		0.33
2,4-Dinitrotoluene		ND		0.33
2,6-Dinitrotoluene		ND		0.33
Diethyl phthalate		ND		0.85
4-Chlorophenyl phenyl ether		ND		0.85
Fluorene		ND		0.33
4-Nitroaniline		ND		1.6
2-Methyl-4,6-dinitrophenol		ND		1.6
N-Nitrosodiphenylamine		ND		0.33
4-Bromophenyl phenyl ether		ND		0.85
Hexachlorobenzene		ND		0.33
Pentachlorophenol		ND		1.6

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3B1**

Lab Sample ID: 720-22752-27
Client Matrix: Solid

Date Sampled: 09/22/2009 0910
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	5.0			Initial Weight/Volume:	30.06 g
Date Analyzed:	09/27/2009 2144			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.33
Anthracene		ND		0.33
Di-n-butyl phthalate		ND		0.85
Fluoranthene		ND		0.33
Pyrene		ND		0.33
Butyl benzyl phthalate		ND		0.85
3,3'-Dichlorobenzidine		ND		0.85
Benzo[a]anthracene		ND		1.6
Bis(2-ethylhexyl) phthalate		ND		1.6
Chrysene		ND		0.33
Di-n-octyl phthalate		ND		5.0
Benzo[b]fluoranthene		ND		0.33
Benzo[a]pyrene		ND		0.33
Benzo[k]fluoranthene		ND		0.33
Indeno[1,2,3-cd]pyrene		ND		0.33
Benzo[g,h,i]perylene		ND		0.33
Benzoic acid		ND		1.6
Azobenzene		ND		0.33
Dibenz(a,h)anthracene		ND		0.33

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	50		21 - 98
2-Fluorobiphenyl	64		38 - 96
Terphenyl-d14	78		32 - 117
2-Fluorophenol	68		28 - 98
Phenol-d5	66		23 - 101
2,4,6-Tribromophenol	75		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3C1**

Lab Sample ID: 720-22752-29
Client Matrix: Solid

Date Sampled: 09/22/2009 0900
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/27/2009 2216			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.13
Bis(2-chloroethyl)ether		ND		0.13
2-Chlorophenol		ND		0.13
1,3-Dichlorobenzene		ND		0.13
1,4-Dichlorobenzene		ND		0.13
Benzyl alcohol		ND		0.34
1,2-Dichlorobenzene		ND		0.13
2-Methylphenol		ND		0.13
4-Methylphenol		ND		0.13
N-Nitrosodi-n-propylamine		ND		0.13
Hexachloroethane		ND		0.13
Nitrobenzene		ND		0.13
Isophorone		ND		0.13
2-Nitrophenol		ND		0.13
2,4-Dimethylphenol		ND		0.13
Bis(2-chloroethoxy)methane		ND		0.34
2,4-Dichlorophenol		ND		0.66
1,2,4-Trichlorobenzene		ND		0.13
Naphthalene		ND		0.13
4-Chloroaniline		ND		0.13
Hexachlorobutadiene		ND		0.13
4-Chloro-3-methylphenol		ND		0.34
2-Methylnaphthalene		ND		0.13
Hexachlorocyclopentadiene		ND		0.34
2,4,6-Trichlorophenol		ND		0.13
2,4,5-Trichlorophenol		ND		0.13
2-Chloronaphthalene		ND		0.13
2-Nitroaniline		ND		0.66
Dimethyl phthalate		ND		0.34
Acenaphthylene		ND		0.13
3-Nitroaniline		ND		0.34
Acenaphthene		ND		0.13
2,4-Dinitrophenol		ND		0.66
4-Nitrophenol		ND		0.66
Dibenzofuran		ND		0.13
2,4-Dinitrotoluene		ND		0.13
2,6-Dinitrotoluene		ND		0.13
Diethyl phthalate		ND		0.34
4-Chlorophenyl phenyl ether		ND		0.34
Fluorene		ND		0.13
4-Nitroaniline		ND		0.66
2-Methyl-4,6-dinitrophenol		ND		0.66
N-Nitrosodiphenylamine		ND		0.13
4-Bromophenyl phenyl ether		ND		0.34
Hexachlorobenzene		ND		0.13
Pentachlorophenol		ND		0.66

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **3C1**

Lab Sample ID: 720-22752-29
Client Matrix: Solid

Date Sampled: 09/22/2009 0900
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.08 g
Date Analyzed:	09/27/2009 2216			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.13
Anthracene		ND		0.13
Di-n-butyl phthalate		ND		0.34
Fluoranthene		ND		0.13
Pyrene		ND		0.13
Butyl benzyl phthalate		ND		0.34
3,3'-Dichlorobenzidine		ND		0.34
Benzo[a]anthracene		ND		0.66
Bis(2-ethylhexyl) phthalate		ND		0.66
Chrysene		ND		0.13
Di-n-octyl phthalate		ND		2.0
Benzo[b]fluoranthene		ND		0.13
Benzo[a]pyrene		ND		0.13
Benzo[k]fluoranthene		ND		0.13
Indeno[1,2,3-cd]pyrene		ND		0.13
Benzo[g,h,i]perylene		ND		0.13
Benzoic acid		ND		0.66
Azobenzene		ND		0.13
Dibenz(a,h)anthracene		ND		0.13

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	60		21 - 98
2-Fluorobiphenyl	70		38 - 96
Terphenyl-d14	74		32 - 117
2-Fluorophenol	76		28 - 98
Phenol-d5	66		23 - 101
2,4,6-Tribromophenol	80		37 - 114

Client: Berlogar Geotechnical | Job Number: 720-22752-1

Client Sample ID: **4A1**

Lab Sample ID: 720-22752-31 | Date Sampled: 09/22/2009 0840
Client Matrix: Solid | Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/27/2009 2006			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4A1**

Lab Sample ID: 720-22752-31
Client Matrix: Solid

Date Sampled: 09/22/2009 0840
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/27/2009 2006			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND		0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND		1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	61		21 - 98
2-Fluorobiphenyl	72		38 - 96
Terphenyl-d14	86		32 - 117
2-Fluorophenol	71		28 - 98
Phenol-d5	59		23 - 101
2,4,6-Tribromophenol	90		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4B1**

Lab Sample ID: 720-22752-33
Client Matrix: Solid

Date Sampled: 09/22/2009 0845
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/28/2009 1651			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.67
Bis(2-chloroethyl)ether		ND		0.67
2-Chlorophenol		ND		0.67
1,3-Dichlorobenzene		ND		0.67
1,4-Dichlorobenzene		ND		0.67
Benzyl alcohol		ND		1.7
1,2-Dichlorobenzene		ND		0.67
2-Methylphenol		ND		0.67
4-Methylphenol		ND		0.67
N-Nitrosodi-n-propylamine		ND		0.67
Hexachloroethane		ND		0.67
Nitrobenzene		ND		0.67
Isophorone		ND		0.67
2-Nitrophenol		ND		0.67
2,4-Dimethylphenol		ND		0.67
Bis(2-chloroethoxy)methane		ND		1.7
2,4-Dichlorophenol		ND		3.3
1,2,4-Trichlorobenzene		ND		0.67
Naphthalene		ND		0.67
4-Chloroaniline		ND		0.67
Hexachlorobutadiene		ND		0.67
4-Chloro-3-methylphenol		ND		1.7
2-Methylnaphthalene		ND		0.67
Hexachlorocyclopentadiene		ND		1.7
2,4,6-Trichlorophenol		ND		0.67
2,4,5-Trichlorophenol		ND		0.67
2-Chloronaphthalene		ND		0.67
2-Nitroaniline		ND		3.3
Dimethyl phthalate		ND		1.7
Acenaphthylene		ND		0.67
3-Nitroaniline		ND		1.7
Acenaphthene		ND		0.67
2,4-Dinitrophenol		ND		3.3
4-Nitrophenol		ND		3.3
Dibenzofuran		ND		0.67
2,4-Dinitrotoluene		ND		0.67
2,6-Dinitrotoluene		ND		0.67
Diethyl phthalate		ND		1.7
4-Chlorophenyl phenyl ether		ND		1.7
Fluorene		ND		0.67
4-Nitroaniline		ND		3.3
2-Methyl-4,6-dinitrophenol		ND		3.3
N-Nitrosodiphenylamine		ND		0.67
4-Bromophenyl phenyl ether		ND		1.7
Hexachlorobenzene		ND		0.67
Pentachlorophenol		ND		3.3

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4B1**

Lab Sample ID: 720-22752-33
Client Matrix: Solid

Date Sampled: 09/22/2009 0845
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/28/2009 1651			Final Weight/Volume:	5 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.67
Anthracene		ND		0.67
Di-n-butyl phthalate		ND		1.7
Fluoranthene		ND		0.67
Pyrene		ND		0.67
Butyl benzyl phthalate		ND		1.7
3,3'-Dichlorobenzidine		ND		1.7
Benzo[a]anthracene		ND		3.3
Bis(2-ethylhexyl) phthalate		ND		3.3
Chrysene		ND		0.67
Di-n-octyl phthalate		ND		10
Benzo[b]fluoranthene		ND		0.67
Benzo[a]pyrene		ND		0.67
Benzo[k]fluoranthene		ND		0.67
Indeno[1,2,3-cd]pyrene		ND		0.67
Benzo[g,h,i]perylene		ND		0.67
Benzoic acid		ND		3.3
Azobenzene		ND		0.67
Dibenz(a,h)anthracene		ND		0.67

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	35		21 - 98
2-Fluorobiphenyl	73		38 - 96
Terphenyl-d14	77		32 - 117
2-Fluorophenol	63		28 - 98
Phenol-d5	62		23 - 101
2,4,6-Tribromophenol	77		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4C1**

Lab Sample ID: 720-22752-35
Client Matrix: Solid

Date Sampled: 09/22/2009 0850
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/27/2009 2249			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.13
Bis(2-chloroethyl)ether		ND		0.13
2-Chlorophenol		ND		0.13
1,3-Dichlorobenzene		ND		0.13
1,4-Dichlorobenzene		ND		0.13
Benzyl alcohol		ND		0.34
1,2-Dichlorobenzene		ND		0.13
2-Methylphenol		ND		0.13
4-Methylphenol		ND		0.13
N-Nitrosodi-n-propylamine		ND		0.13
Hexachloroethane		ND		0.13
Nitrobenzene		ND		0.13
Isophorone		ND		0.13
2-Nitrophenol		ND		0.13
2,4-Dimethylphenol		ND		0.13
Bis(2-chloroethoxy)methane		ND		0.34
2,4-Dichlorophenol		ND		0.66
1,2,4-Trichlorobenzene		ND		0.13
Naphthalene		ND		0.13
4-Chloroaniline		ND		0.13
Hexachlorobutadiene		ND		0.13
4-Chloro-3-methylphenol		ND		0.34
2-Methylnaphthalene		ND		0.13
Hexachlorocyclopentadiene		ND		0.34
2,4,6-Trichlorophenol		ND		0.13
2,4,5-Trichlorophenol		ND		0.13
2-Chloronaphthalene		ND		0.13
2-Nitroaniline		ND		0.66
Dimethyl phthalate		ND		0.34
Acenaphthylene		ND		0.13
3-Nitroaniline		ND		0.34
Acenaphthene		ND		0.13
2,4-Dinitrophenol		ND		0.66
4-Nitrophenol		ND		0.66
Dibenzofuran		ND		0.13
2,4-Dinitrotoluene		ND		0.13
2,6-Dinitrotoluene		ND		0.13
Diethyl phthalate		ND		0.34
4-Chlorophenyl phenyl ether		ND		0.34
Fluorene		ND		0.13
4-Nitroaniline		ND		0.66
2-Methyl-4,6-dinitrophenol		ND		0.66
N-Nitrosodiphenylamine		ND		0.13
4-Bromophenyl phenyl ether		ND		0.34
Hexachlorobenzene		ND		0.13
Pentachlorophenol		ND		0.66

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4C1**

Lab Sample ID: 720-22752-35
Client Matrix: Solid

Date Sampled: 09/22/2009 0850
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58485		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58296		Lab File ID:	c:\saturnws\epdata\da
Dilution:	2.0			Initial Weight/Volume:	30.09 g
Date Analyzed:	09/27/2009 2249			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.13
Anthracene		ND		0.13
Di-n-butyl phthalate		ND		0.34
Fluoranthene		ND		0.13
Pyrene		ND		0.13
Butyl benzyl phthalate		ND		0.34
3,3'-Dichlorobenzidine		ND		0.34
Benzo[a]anthracene		ND		0.66
Bis(2-ethylhexyl) phthalate		ND		0.66
Chrysene		ND		0.13
Di-n-octyl phthalate		ND		2.0
Benzo[b]fluoranthene		ND		0.13
Benzo[a]pyrene		ND		0.13
Benzo[k]fluoranthene		ND		0.13
Indeno[1,2,3-cd]pyrene		ND		0.13
Benzo[g,h,i]perylene		ND		0.13
Benzoic acid		ND		0.66
Azobenzene		ND		0.13
Dibenz(a,h)anthracene		ND		0.13

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	59		21 - 98
2-Fluorobiphenyl	67		38 - 96
Terphenyl-d14	74		32 - 117
2-Fluorophenol	83		28 - 98
Phenol-d5	72		23 - 101
2,4,6-Tribromophenol	78		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4D1**

Lab Sample ID: 720-22752-37
Client Matrix: Solid

Date Sampled: 09/22/2009 0940
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.20 g
Date Analyzed:	09/28/2009 1933			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4D1**

Lab Sample ID: 720-22752-37
Client Matrix: Solid

Date Sampled: 09/22/2009 0940
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.20 g
Date Analyzed:	09/28/2009 1933		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	59		21 - 98
2-Fluorobiphenyl	67		38 - 96
Terphenyl-d14	79		32 - 117
2-Fluorophenol	79		28 - 98
Phenol-d5	64		23 - 101
2,4,6-Tribromophenol	70		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4E1**

Lab Sample ID: 720-22752-39
Client Matrix: Solid

Date Sampled: 09/22/2009 0930
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.00 g
Date Analyzed:	09/28/2009 2007			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4E1**

Lab Sample ID: 720-22752-39
Client Matrix: Solid

Date Sampled: 09/22/2009 0930
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.00 g
Date Analyzed:	09/28/2009 2007		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	79		21 - 98
2-Fluorobiphenyl	81		38 - 96
Terphenyl-d14	86		32 - 117
2-Fluorophenol	95		28 - 98
Phenol-d5	77		23 - 101
2,4,6-Tribromophenol	86		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4F1**

Lab Sample ID: 720-22752-41
Client Matrix: Solid

Date Sampled: 09/22/2009 0920
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.14 g
Date Analyzed:	09/28/2009 2040			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **4F1**

Lab Sample ID: 720-22752-41
Client Matrix: Solid

Date Sampled: 09/22/2009 0920
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.14 g
Date Analyzed:	09/28/2009 2040		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	76		21 - 98
2-Fluorobiphenyl	74		38 - 96
Terphenyl-d14	87		32 - 117
2-Fluorophenol	96		28 - 98
Phenol-d5	77		23 - 101
2,4,6-Tribromophenol	86		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5A1**

Lab Sample ID: 720-22752-43
Client Matrix: Solid

Date Sampled: 09/22/2009 0810
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.18 g
Date Analyzed:	09/28/2009 2112			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5A1**

Lab Sample ID: 720-22752-43
Client Matrix: Solid

Date Sampled: 09/22/2009 0810
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.18 g
Date Analyzed:	09/28/2009 2112			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	71		21 - 98
2-Fluorobiphenyl	72		38 - 96
Terphenyl-d14	89		32 - 117
2-Fluorophenol	92		28 - 98
Phenol-d5	64		23 - 101
2,4,6-Tribromophenol	85		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5B1**

Lab Sample ID: 720-22752-45
Client Matrix: Solid

Date Sampled: 09/22/2009 0805
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.22 g
Date Analyzed:	09/28/2009 2145			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5B1**

Lab Sample ID: 720-22752-45
Client Matrix: Solid

Date Sampled: 09/22/2009 0805
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.22 g
Date Analyzed:	09/28/2009 2145		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	69		21 - 98
2-Fluorobiphenyl	72		38 - 96
Terphenyl-d14	85		32 - 117
2-Fluorophenol	84		28 - 98
Phenol-d5	66		23 - 101
2,4,6-Tribromophenol	85		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5C1**

Lab Sample ID: 720-22752-47
Client Matrix: Solid

Date Sampled: 09/22/2009 0820
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.14 g
Date Analyzed:	09/28/2009 2217			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5C1**

Lab Sample ID: 720-22752-47
Client Matrix: Solid

Date Sampled: 09/22/2009 0820
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.14 g
Date Analyzed:	09/28/2009 2217		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	1.0
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	70		21 - 98
2-Fluorobiphenyl	77		38 - 96
Terphenyl-d14	87		32 - 117
2-Fluorophenol	86		28 - 98
Phenol-d5	67		23 - 101
2,4,6-Tribromophenol	80		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5D1**

Lab Sample ID: 720-22752-49
Client Matrix: Solid

Date Sampled: 09/22/2009 0830
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.41 g
Date Analyzed:	09/28/2009 2250			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.066
Bis(2-chloroethyl)ether		ND		0.066
2-Chlorophenol		ND		0.066
1,3-Dichlorobenzene		ND		0.066
1,4-Dichlorobenzene		ND		0.066
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.066
2-Methylphenol		ND		0.066
4-Methylphenol		ND		0.066
N-Nitrosodi-n-propylamine		ND		0.066
Hexachloroethane		ND		0.066
Nitrobenzene		ND		0.066
Isophorone		ND		0.066
2-Nitrophenol		ND		0.066
2,4-Dimethylphenol		ND		0.066
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.066
Naphthalene		ND		0.066
4-Chloroaniline		ND		0.066
Hexachlorobutadiene		ND		0.066
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.066
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.066
2,4,5-Trichlorophenol		ND		0.066
2-Chloronaphthalene		ND		0.066
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.066
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.066
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.066
2,4-Dinitrotoluene		ND		0.066
2,6-Dinitrotoluene		ND		0.066
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.066
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.066
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.066
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5D1**

Lab Sample ID: 720-22752-49
Client Matrix: Solid

Date Sampled: 09/22/2009 0830
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.41 g
Date Analyzed:	09/28/2009 2250		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.066
Anthracene		ND		0.066
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.066
Pyrene		ND		0.066
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.066
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.066
Benzo[a]pyrene		ND		0.066
Benzo[k]fluoranthene		ND		0.066
Indeno[1,2,3-cd]pyrene		ND		0.066
Benzo[g,h,i]perylene		ND		0.066
Benzoic acid		ND		0.33
Azobenzene		ND		0.066
Dibenz(a,h)anthracene		ND		0.066

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	58		21 - 98
2-Fluorobiphenyl	64		38 - 96
Terphenyl-d14	82		32 - 117
2-Fluorophenol	72		28 - 98
Phenol-d5	65		23 - 101
2,4,6-Tribromophenol	70		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5E1**

Lab Sample ID: 720-22752-51
Client Matrix: Solid

Date Sampled: 09/22/2009 0825
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.22 g
Date Analyzed:	09/28/2009 2322			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.067
Bis(2-chloroethyl)ether		ND		0.067
2-Chlorophenol		ND		0.067
1,3-Dichlorobenzene		ND		0.067
1,4-Dichlorobenzene		ND		0.067
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.067
2-Methylphenol		ND		0.067
4-Methylphenol		ND		0.067
N-Nitrosodi-n-propylamine		ND		0.067
Hexachloroethane		ND		0.067
Nitrobenzene		ND		0.067
Isophorone		ND		0.067
2-Nitrophenol		ND		0.067
2,4-Dimethylphenol		ND		0.067
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.067
Naphthalene		ND		0.067
4-Chloroaniline		ND		0.067
Hexachlorobutadiene		ND		0.067
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.067
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.067
2,4,5-Trichlorophenol		ND		0.067
2-Chloronaphthalene		ND		0.067
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.067
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.067
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.067
2,4-Dinitrotoluene		ND		0.067
2,6-Dinitrotoluene		ND		0.067
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.067
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.067
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.067
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5E1**

Lab Sample ID: 720-22752-51
Client Matrix: Solid

Date Sampled: 09/22/2009 0825
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.22 g
Date Analyzed:	09/28/2009 2322		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.067
Anthracene		ND		0.067
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.067
Pyrene		ND		0.067
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.067
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.067
Benzo[a]pyrene		ND		0.067
Benzo[k]fluoranthene		ND		0.067
Indeno[1,2,3-cd]pyrene		ND		0.067
Benzo[g,h,i]perylene		ND		0.067
Benzoic acid		ND		0.33
Azobenzene		ND		0.067
Dibenz(a,h)anthracene		ND		0.067

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	58		21 - 98
2-Fluorobiphenyl	63		38 - 96
Terphenyl-d14	84		32 - 117
2-Fluorophenol	78		28 - 98
Phenol-d5	67		23 - 101
2,4,6-Tribromophenol	79		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5F1**

Lab Sample ID: 720-22752-53
Client Matrix: Solid

Date Sampled: 09/22/2009 0835
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524		Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348		Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0			Initial Weight/Volume:	30.23 g
Date Analyzed:	09/28/2009 2355			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0937			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenol		ND		0.066
Bis(2-chloroethyl)ether		ND		0.066
2-Chlorophenol		ND		0.066
1,3-Dichlorobenzene		ND		0.066
1,4-Dichlorobenzene		ND		0.066
Benzyl alcohol		ND		0.17
1,2-Dichlorobenzene		ND		0.066
2-Methylphenol		ND		0.066
4-Methylphenol		ND		0.066
N-Nitrosodi-n-propylamine		ND		0.066
Hexachloroethane		ND		0.066
Nitrobenzene		ND		0.066
Isophorone		ND		0.066
2-Nitrophenol		ND		0.066
2,4-Dimethylphenol		ND		0.066
Bis(2-chloroethoxy)methane		ND		0.17
2,4-Dichlorophenol		ND		0.33
1,2,4-Trichlorobenzene		ND		0.066
Naphthalene		ND		0.066
4-Chloroaniline		ND		0.066
Hexachlorobutadiene		ND		0.066
4-Chloro-3-methylphenol		ND		0.17
2-Methylnaphthalene		ND		0.066
Hexachlorocyclopentadiene		ND		0.17
2,4,6-Trichlorophenol		ND		0.066
2,4,5-Trichlorophenol		ND		0.066
2-Chloronaphthalene		ND		0.066
2-Nitroaniline		ND		0.33
Dimethyl phthalate		ND		0.17
Acenaphthylene		ND		0.066
3-Nitroaniline		ND		0.17
Acenaphthene		ND		0.066
2,4-Dinitrophenol		ND		0.33
4-Nitrophenol		ND		0.33
Dibenzofuran		ND		0.066
2,4-Dinitrotoluene		ND		0.066
2,6-Dinitrotoluene		ND		0.066
Diethyl phthalate		ND		0.17
4-Chlorophenyl phenyl ether		ND		0.17
Fluorene		ND		0.066
4-Nitroaniline		ND		0.33
2-Methyl-4,6-dinitrophenol		ND		0.33
N-Nitrosodiphenylamine		ND		0.066
4-Bromophenyl phenyl ether		ND		0.17
Hexachlorobenzene		ND		0.066
Pentachlorophenol		ND		0.33

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **5F1**

Lab Sample ID: 720-22752-53
Client Matrix: Solid

Date Sampled: 09/22/2009 0835
Date Received: 09/22/2009 1535

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 720-58524	Instrument ID:	SAT 2K2
Preparation:	3550B	Prep Batch: 720-58348	Lab File ID:	c:\saturnws\epdata\da
Dilution:	1.0		Initial Weight/Volume:	30.23 g
Date Analyzed:	09/28/2009 2355		Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0937		Injection Volume:	1.0 uL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Phenanthrene		ND		0.066
Anthracene		ND		0.066
Di-n-butyl phthalate		ND		0.17
Fluoranthene		ND		0.066
Pyrene		ND		0.066
Butyl benzyl phthalate		ND		0.17
3,3'-Dichlorobenzidine		ND		0.17
Benzo[a]anthracene		ND		0.33
Bis(2-ethylhexyl) phthalate		ND	*	0.33
Chrysene		ND		0.066
Di-n-octyl phthalate		ND	*	0.99
Benzo[b]fluoranthene		ND		0.066
Benzo[a]pyrene		ND		0.066
Benzo[k]fluoranthene		ND		0.066
Indeno[1,2,3-cd]pyrene		ND		0.066
Benzo[g,h,i]perylene		ND		0.066
Benzoic acid		ND		0.33
Azobenzene		ND		0.066
Dibenz(a,h)anthracene		ND		0.066

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	58		21 - 98
2-Fluorobiphenyl	70		38 - 96
Terphenyl-d14	84		32 - 117
2-Fluorophenol	74		28 - 98
Phenol-d5	54		23 - 101
2,4,6-Tribromophenol	71		37 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **2D2**

Lab Sample ID: 720-22752-20
Client Matrix: Solid

Date Sampled: 09/22/2009 1050
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58325		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.18 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/25/2009 2044			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		ND		0.99
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	81		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C1**

Lab Sample ID: 720-22752-55
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58325		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.32 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/25/2009 2204			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		2.1		0.99
Motor Oil Range Organics [C24-C36]		ND		49

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	83		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C2**

Lab Sample ID: 720-22752-56
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58325		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.13 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/25/2009 2231			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		ND		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	81		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C3**

Lab Sample ID: 720-22752-57
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58431		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.25 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/26/2009 1302			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		30		0.99
Motor Oil Range Organics [C24-C36]		270		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	98		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C4**

Lab Sample ID: 720-22752-58
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58325		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.20 g
Dilution:	5.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/25/2009 2324			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		57		5.0
Motor Oil Range Organics [C24-C36]		420		250

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	0	D	31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C5**

Lab Sample ID: 720-22752-59
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58325		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.07 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/25/2009 2351			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		3.9		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	82		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C6**

Lab Sample ID: 720-22752-60
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58431		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.03 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/26/2009 1329			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		19		1.0
Motor Oil Range Organics [C24-C36]		130		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	88		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C7**

Lab Sample ID: 720-22752-61
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-58431		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-58345		Initial Weight/Volume:	30.35 g
Dilution:	5.0			Final Weight/Volume:	5 mL
Date Analyzed:	09/26/2009 1356			Injection Volume:	1 uL
Date Prepared:	09/25/2009 0857			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		190		4.9
Motor Oil Range Organics [C24-C36]		1500		250

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	0	D	31 - 114

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C1**

Lab Sample ID: 720-22752-55
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 720-58483		Instrument ID:	CHPEST3
Preparation:	3550B	Prep Batch: 720-58351		Initial Weight/Volume:	30.21 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/28/2009 1353			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0946			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	80		54 - 109
DCB Decachlorobiphenyl	122		27 - 136

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C3**

Lab Sample ID: 720-22752-57
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 720-58483		Instrument ID:	CHPEST3
Preparation:	3550B	Prep Batch: 720-58351		Initial Weight/Volume:	30.08 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/28/2009 1408			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0946			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	86		54 - 109
DCB Decachlorobiphenyl	124		27 - 136

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C4**

Lab Sample ID: 720-22752-58
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 720-58483		Instrument ID:	CHPEST3
Preparation:	3550B	Prep Batch: 720-58351		Initial Weight/Volume:	30.23 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/28/2009 1423			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0946			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	84		54 - 109
DCB Decachlorobiphenyl	131		27 - 136

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C5**

Lab Sample ID: 720-22752-59
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 720-58483		Instrument ID:	CHPEST3
Preparation:	3550B	Prep Batch: 720-58351		Initial Weight/Volume:	30.13 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/28/2009 1438			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0946			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	77		54 - 109
DCB Decachlorobiphenyl	108		27 - 136

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C6**

Lab Sample ID: 720-22752-60
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8081A Organochlorine Pesticides (GC)

Method:	8081A	Analysis Batch: 720-58483		Instrument ID:	CHPEST3
Preparation:	3550B	Prep Batch: 720-58351		Initial Weight/Volume:	30.11 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/28/2009 1454			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0946			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		2.0
Dieldrin		ND		2.0
Endrin aldehyde		ND		2.0
Endrin		ND		2.0
Endrin ketone		ND		2.0
Heptachlor		ND		2.0
Heptachlor epoxide		ND		2.0
4,4'-DDT		ND		2.0
4,4'-DDE		ND		2.0
4,4'-DDD		ND		2.0
Endosulfan I		ND		2.0
Endosulfan II		ND		2.0
alpha-BHC		ND		2.0
beta-BHC		ND		2.0
gamma-BHC (Lindane)		ND		2.0
delta-BHC		ND		2.0
Endosulfan sulfate		ND		2.0
Methoxychlor		ND		2.0
Toxaphene		ND		40
Chlordane (technical)		ND		40
alpha-Chlordane		ND		2.0
gamma-Chlordane		ND		2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	85		54 - 109
DCB Decachlorobiphenyl	107		27 - 136

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C1**

Lab Sample ID: 720-22752-55
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.03 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0100			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	83		52 - 114
DCB Decachlorobiphenyl	85		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C2**

Lab Sample ID: 720-22752-56
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.25 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0122			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	73		52 - 114
DCB Decachlorobiphenyl	81		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C3**

Lab Sample ID: 720-22752-57
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.08 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0144			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	94		52 - 114
DCB Decachlorobiphenyl	72		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C4**

Lab Sample ID: 720-22752-58
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.24 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0206			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	80		52 - 114
DCB Decachlorobiphenyl	59		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C5**

Lab Sample ID: 720-22752-59
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.18 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0228			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	86		52 - 114
DCB Decachlorobiphenyl	66		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C6**

Lab Sample ID: 720-22752-60
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.08 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0250			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	82		52 - 114
DCB Decachlorobiphenyl	69		29 - 117

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Client Sample ID: **C7**

Lab Sample ID: 720-22752-61
Client Matrix: Solid

Date Sampled: 09/22/2009 0000
Date Received: 09/22/2009 1535

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 720-58490		Instrument ID:	CHPCB # 2
Preparation:	3550B	Prep Batch: 720-58349		Initial Weight/Volume:	30.14 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Date Analyzed:	09/29/2009 0355			Injection Volume:	1.0 uL
Date Prepared:	09/25/2009 0941			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
PCB-1016		ND		50
PCB-1221		ND		50
PCB-1232		ND		50
PCB-1242		ND		50
PCB-1248		ND		50
PCB-1254		ND		50
PCB-1260		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	74		52 - 114
DCB Decachlorobiphenyl	50		29 - 117

General Chemistry

Client Sample ID: **2D2**

Lab Sample ID: 720-22752-20 Date Sampled: 09/22/2009 1050
Client Matrix: Solid Date Received: 09/22/2009 1535

Analyte	Result	Qual	Units	RL	Dil	Method
HEM	ND		mg/Kg	100	1.0	9071B

Analysis Batch: 720-58515 Date Analyzed: 09/28/2009 1514 DryWt Corrected: N
Prep Batch: 720-58503 Date Prepared: 09/28/2009 1347

General Chemistry

Client Sample ID: **C1**

Lab Sample ID: 720-22752-55 Date Sampled: 09/22/2009 0000

Client Matrix: Solid Date Received: 09/22/2009 1535

Analyte	Result	Qual	Units	RL	Dil	Method
HEM	ND		mg/Kg	100	1.0	9071B

Analysis Batch: 720-58515 Date Analyzed: 09/28/2009 1514 DryWt Corrected: N

Prep Batch: 720-58503 Date Prepared: 09/28/2009 1347

General Chemistry

Client Sample ID: **C2**

Lab Sample ID: 720-22752-56 Date Sampled: 09/22/2009 0000

Client Matrix: Solid Date Received: 09/22/2009 1535

Analyte	Result	Qual	Units	RL	Dil	Method
HEM	ND		mg/Kg	100	1.0	9071B

Analysis Batch: 720-58515 Date Analyzed: 09/28/2009 1514 DryWt Corrected: N

Prep Batch: 720-58503 Date Prepared: 09/28/2009 1347

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-22752-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC Semi VOA		
	F	MS or MSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
General Chemistry		
	F	MS or MSD exceeds the control limits

Client: Berlogar Geotechnical

Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-58358					
LCS 720-58486/2-A	Lab Control Sample	T	Solid	8260B	720-58486
LCS 720-58486/4-A	Lab Control Sample	T	Solid	8260B	720-58486
LCSD 720-58486/3-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58486
LCSD 720-58486/5-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58486
MB 720-58486/1-A	Method Blank	T	Solid	8260B	720-58486
720-22752-20	2D2	T	Solid	8260B	720-58486
720-22752-58	C4	T	Solid	8260B	720-58486
720-22752-59	C5	T	Solid	8260B	720-58486
Analysis Batch:720-58423					
LCS 720-58522/2-A	Lab Control Sample	T	Solid	8260B	720-58522
LCS 720-58522/4-A	Lab Control Sample	T	Solid	8260B	720-58522
LCSD 720-58522/3-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58522
LCSD 720-58522/5-A	Lab Control Sample Duplicate	T	Solid	8260B	720-58522
MB 720-58522/1-A	Method Blank	T	Solid	8260B	720-58522
720-22752-61	C7	T	Solid	8260B	720-58522
Prep Batch: 720-58486					
LCS 720-58486/2-A	Lab Control Sample	T	Solid	5030B	
LCS 720-58486/4-A	Lab Control Sample	T	Solid	5030B	
LCSD 720-58486/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
LCSD 720-58486/5-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 720-58486/1-A	Method Blank	T	Solid	5030B	
720-22752-20	2D2	T	Solid	5030B	
720-22752-58	C4	T	Solid	5030B	
720-22752-59	C5	T	Solid	5030B	
Prep Batch: 720-58522					
LCS 720-58522/2-A	Lab Control Sample	T	Solid	5030B	
LCS 720-58522/4-A	Lab Control Sample	T	Solid	5030B	
LCSD 720-58522/3-A	Lab Control Sample Duplicate	T	Solid	5030B	
LCSD 720-58522/5-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 720-58522/1-A	Method Blank	T	Solid	5030B	
720-22752-61	C7	T	Solid	5030B	

Report Basis

T = Total

Client: Berlogar Geotechnical Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 720-58296					
LCS 720-58296/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-58296/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-58296/1-A	Method Blank	T	Solid	3550B	
720-22752-1	1A1	T	Solid	3550B	
720-22752-3	1B1	T	Solid	3550B	
720-22752-5	1C1	T	Solid	3550B	
720-22752-7	1D1	T	Solid	3550B	
720-22752-9	1E1	T	Solid	3550B	
720-22752-11	1F1	T	Solid	3550B	
720-22752-11MS	Matrix Spike	T	Solid	3550B	
720-22752-11MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-22752-13	2A1	T	Solid	3550B	
720-22752-15	2B1	T	Solid	3550B	
720-22752-17	2C1	T	Solid	3550B	
720-22752-19	2D1	T	Solid	3550B	
720-22752-21	2E1	T	Solid	3550B	
720-22752-23	2F1	T	Solid	3550B	
720-22752-25	3A1	T	Solid	3550B	
720-22752-27	3B1	T	Solid	3550B	
720-22752-29	3C1	T	Solid	3550B	
720-22752-31	4A1	T	Solid	3550B	
720-22752-33	4B1	T	Solid	3550B	
720-22752-35	4C1	T	Solid	3550B	
Prep Batch: 720-58348					
LCS 720-58348/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-58348/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-58348/1-A	Method Blank	T	Solid	3550B	
720-22752-37	4D1	T	Solid	3550B	
720-22752-39	4E1	T	Solid	3550B	
720-22752-41	4F1	T	Solid	3550B	
720-22752-43	5A1	T	Solid	3550B	
720-22752-45	5B1	T	Solid	3550B	
720-22752-47	5C1	T	Solid	3550B	
720-22752-49	5D1	T	Solid	3550B	
720-22752-51	5E1	T	Solid	3550B	
720-22752-53	5F1	T	Solid	3550B	
Analysis Batch:720-58403					
LCS 720-58296/2-A	Lab Control Sample	T	Solid	8270C	720-58296
LCSD 720-58296/3-A	Lab Control Sample Duplicate	T	Solid	8270C	720-58296
MB 720-58296/1-A	Method Blank	T	Solid	8270C	720-58296
LCS 720-58348/2-A	Lab Control Sample	T	Solid	8270C	720-58348
LCSD 720-58348/3-A	Lab Control Sample Duplicate	T	Solid	8270C	720-58348
MB 720-58348/1-A	Method Blank	T	Solid	8270C	720-58348

Client: Berlogar Geotechnical

Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Analysis Batch:720-58413					
720-22752-1	1A1	T	Solid	8270C	720-58296
720-22752-11	1F1	T	Solid	8270C	720-58296
720-22752-11MS	Matrix Spike	T	Solid	8270C	720-58296
720-22752-11MSD	Matrix Spike Duplicate	T	Solid	8270C	720-58296
720-22752-19	2D1	T	Solid	8270C	720-58296
720-22752-21	2E1	T	Solid	8270C	720-58296
Analysis Batch:720-58485					
720-22752-5	1C1	T	Solid	8270C	720-58296
720-22752-7	1D1	T	Solid	8270C	720-58296
720-22752-13	2A1	T	Solid	8270C	720-58296
720-22752-15	2B1	T	Solid	8270C	720-58296
720-22752-25	3A1	T	Solid	8270C	720-58296
720-22752-27	3B1	T	Solid	8270C	720-58296
720-22752-29	3C1	T	Solid	8270C	720-58296
720-22752-31	4A1	T	Solid	8270C	720-58296
720-22752-35	4C1	T	Solid	8270C	720-58296
Analysis Batch:720-58524					
720-22752-3	1B1	T	Solid	8270C	720-58296
720-22752-9	1E1	T	Solid	8270C	720-58296
720-22752-17	2C1	T	Solid	8270C	720-58296
720-22752-23	2F1	T	Solid	8270C	720-58296
720-22752-33	4B1	T	Solid	8270C	720-58296
720-22752-37	4D1	T	Solid	8270C	720-58348
720-22752-39	4E1	T	Solid	8270C	720-58348
720-22752-41	4F1	T	Solid	8270C	720-58348
720-22752-43	5A1	T	Solid	8270C	720-58348
720-22752-45	5B1	T	Solid	8270C	720-58348
720-22752-47	5C1	T	Solid	8270C	720-58348
720-22752-49	5D1	T	Solid	8270C	720-58348
720-22752-51	5E1	T	Solid	8270C	720-58348
720-22752-53	5F1	T	Solid	8270C	720-58348

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:720-58324					
LCS 720-58345/2-A	Lab Control Sample	T	Solid	8015B	720-58345
LCSD 720-58345/3-A	Lab Control Sample Duplicate	T	Solid	8015B	720-58345
MB 720-58345/1-A	Method Blank	T	Solid	8015B	720-58345
Analysis Batch:720-58325					
720-22752-20	2D2	T	Solid	8015B	720-58345
720-22752-20MS	Matrix Spike	T	Solid	8015B	720-58345
720-22752-20MSD	Matrix Spike Duplicate	T	Solid	8015B	720-58345
720-22752-55	C1	T	Solid	8015B	720-58345
720-22752-56	C2	T	Solid	8015B	720-58345
720-22752-58	C4	T	Solid	8015B	720-58345
720-22752-59	C5	T	Solid	8015B	720-58345
Prep Batch: 720-58345					
LCS 720-58345/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-58345/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-58345/1-A	Method Blank	T	Solid	3550B	
720-22752-20	2D2	T	Solid	3550B	
720-22752-20MS	Matrix Spike	T	Solid	3550B	
720-22752-20MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-22752-55	C1	T	Solid	3550B	
720-22752-56	C2	T	Solid	3550B	
720-22752-57	C3	T	Solid	3550B	
720-22752-58	C4	T	Solid	3550B	
720-22752-59	C5	T	Solid	3550B	
720-22752-60	C6	T	Solid	3550B	
720-22752-61	C7	T	Solid	3550B	
Prep Batch: 720-58349					
LCS 720-58349/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-58349/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-58349/1-A	Method Blank	T	Solid	3550B	
720-22752-55	C1	T	Solid	3550B	
720-22752-56	C2	T	Solid	3550B	
720-22752-57	C3	T	Solid	3550B	
720-22752-58	C4	T	Solid	3550B	
720-22752-59	C5	T	Solid	3550B	
720-22752-60	C6	T	Solid	3550B	
720-22752-60MS	Matrix Spike	T	Solid	3550B	
720-22752-60MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-22752-61	C7	T	Solid	3550B	

Client: Berlogar Geotechnical Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-58351					
LCS 720-58351/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-58351/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-58351/1-A	Method Blank	T	Solid	3550B	
720-22752-55	C1	T	Solid	3550B	
720-22752-57	C3	T	Solid	3550B	
720-22752-58	C4	T	Solid	3550B	
720-22752-59	C5	T	Solid	3550B	
720-22752-60	C6	T	Solid	3550B	
720-22752-60MS	Matrix Spike	T	Solid	3550B	
720-22752-60MSD	Matrix Spike Duplicate	T	Solid	3550B	
Analysis Batch:720-58431					
720-22752-57	C3	T	Solid	8015B	720-58345
720-22752-60	C6	T	Solid	8015B	720-58345
720-22752-61	C7	T	Solid	8015B	720-58345
Analysis Batch:720-58483					
LCS 720-58351/2-A	Lab Control Sample	T	Solid	8081A	720-58351
LCSD 720-58351/3-A	Lab Control Sample Duplicate	T	Solid	8081A	720-58351
MB 720-58351/1-A	Method Blank	T	Solid	8081A	720-58351
720-22752-55	C1	T	Solid	8081A	720-58351
720-22752-57	C3	T	Solid	8081A	720-58351
720-22752-58	C4	T	Solid	8081A	720-58351
720-22752-59	C5	T	Solid	8081A	720-58351
720-22752-60	C6	T	Solid	8081A	720-58351
720-22752-60MS	Matrix Spike	T	Solid	8081A	720-58351
720-22752-60MSD	Matrix Spike Duplicate	T	Solid	8081A	720-58351
Analysis Batch:720-58490					
LCS 720-58349/2-A	Lab Control Sample	T	Solid	8082	720-58349
LCSD 720-58349/3-A	Lab Control Sample Duplicate	T	Solid	8082	720-58349
MB 720-58349/1-A	Method Blank	T	Solid	8082	720-58349
720-22752-55	C1	T	Solid	8082	720-58349
720-22752-56	C2	T	Solid	8082	720-58349
720-22752-57	C3	T	Solid	8082	720-58349
720-22752-58	C4	T	Solid	8082	720-58349
720-22752-59	C5	T	Solid	8082	720-58349
720-22752-60	C6	T	Solid	8082	720-58349
720-22752-60MS	Matrix Spike	T	Solid	8082	720-58349
720-22752-60MSD	Matrix Spike Duplicate	T	Solid	8082	720-58349
720-22752-61	C7	T	Solid	8082	720-58349

Report Basis
T = Total

Client: Berlogar Geotechnical

Job Number: 720-22752-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 720-58503					
LCS 720-58503/2-A	Lab Control Sample	T	Solid	9071B	
LCSD 720-58503/3-A	Lab Control Sample Duplicate	T	Solid	9071B	
MB 720-58503/1-A	Method Blank	T	Solid	9071B	
720-22752-20	2D2	T	Solid	9071B	
720-22752-20MS	Matrix Spike	T	Solid	9071B	
720-22752-20MSD	Matrix Spike Duplicate	T	Solid	9071B	
720-22752-55	C1	T	Solid	9071B	
720-22752-56	C2	T	Solid	9071B	
Analysis Batch:720-58515					
LCS 720-58503/2-A	Lab Control Sample	T	Solid	9071B	720-58503
LCSD 720-58503/3-A	Lab Control Sample Duplicate	T	Solid	9071B	720-58503
MB 720-58503/1-A	Method Blank	T	Solid	9071B	720-58503
720-22752-20	2D2	T	Solid	9071B	720-58503
720-22752-20MS	Matrix Spike	T	Solid	9071B	720-58503
720-22752-20MSD	Matrix Spike Duplicate	T	Solid	9071B	720-58503
720-22752-55	C1	T	Solid	9071B	720-58503
720-22752-56	C2	T	Solid	9071B	720-58503

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58486

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58486/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 1538
Date Prepared: 09/25/2009 1148

Analysis Batch: 720-58358
Prep Batch: 720-58486
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 09250908.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		5.0
Ethylbenzene	ND		5.0
Toluene	ND		5.0
Xylenes, Total	ND		10
MTBE	ND		5.0
Gasoline Range Organics (GRO)-C5-C12	ND		250

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	103	52 - 130
1,2-Dichloroethane-d4 (Surr)	104	67 - 132
Toluene-d8 (Surr)	105	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58486

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58486/2-A	Analysis Batch:	720-58358	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58486	Lab File ID:	09250904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/25/2009 1328			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

LCSD Lab Sample ID:	LCSD 720-58486/3-A	Analysis Batch:	720-58358	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58486	Lab File ID:	09250905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/25/2009 1400			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	104	108	72 - 120	3	20		
Ethylbenzene	98	102	65 - 130	3	20		
Toluene	94	98	72 - 120	4	20		
MTBE	112	111	69 - 125	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	106	107	52 - 130
1,2-Dichloroethane-d4 (Surr)	102	101	67 - 132
Toluene-d8 (Surr)	107	107	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58486

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58486/4-A	Analysis Batch:	720-58358	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58486	Lab File ID:	09250906.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/25/2009 1433			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

LCSD Lab Sample ID:	LCSD 720-58486/5-A	Analysis Batch:	720-58358	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58486	Lab File ID:	09250907.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/25/2009 1506			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 1148				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	79	87	70 - 130	10	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	108	110	52 - 130
1,2-Dichloroethane-d4 (Surr)	107	104	67 - 132
Toluene-d8 (Surr)	107	106	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58522

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-58522/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/26/2009 1304
Date Prepared: 09/26/2009 0800

Analysis Batch: 720-58423
Prep Batch: 720-58522
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 09260910.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		5.0
Ethylbenzene	ND		5.0
Toluene	ND		5.0
Xylenes, Total	ND		10
MTBE	ND		5.0
Gasoline Range Organics (GRO)-C5-C12	ND		250

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	111	52 - 130
1,2-Dichloroethane-d4 (Surr)	109	67 - 132
Toluene-d8 (Surr)	108	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58522

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58522/2-A	Analysis Batch:	720-58423	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58522	Lab File ID:	09260905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/26/2009 1021			Final Weight/Volume:	10 mL
Date Prepared:	09/26/2009 0800				

LCSD Lab Sample ID:	LCSD 720-58522/3-A	Analysis Batch:	720-58423	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58522	Lab File ID:	09260906.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/26/2009 1054			Final Weight/Volume:	10 mL
Date Prepared:	09/26/2009 0800				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	113	96	72 - 120	17	20		
Ethylbenzene	101	98	65 - 130	4	20		
Toluene	98	94	72 - 120	4	20		
MTBE	121	102	69 - 125	17	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	112	106	52 - 130
1,2-Dichloroethane-d4 (Surr)	100	102	67 - 132
Toluene-d8 (Surr)	108	103	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58522

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-58522/4-A	Analysis Batch:	720-58423	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58522	Lab File ID:	09260907.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/26/2009 1127			Final Weight/Volume:	10 mL
Date Prepared:	09/26/2009 0800				

LCSD Lab Sample ID:	LCSD 720-58522/5-A	Analysis Batch:	720-58423	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-58522	Lab File ID:	09260908.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	09/26/2009 1159			Final Weight/Volume:	10 mL
Date Prepared:	09/26/2009 0800				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	83	96	70 - 130	14	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	109	103	52 - 130
1,2-Dichloroethane-d4 (Surr)	122	104	67 - 132
Toluene-d8 (Surr)	107	102	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58296

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-58296/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 1132
Date Prepared: 09/24/2009 1453

Analysis Batch: 720-58403
Prep Batch: 720-58296
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Phenol	ND		0.067
Bis(2-chloroethyl)ether	ND		0.067
2-Chlorophenol	ND		0.067
1,3-Dichlorobenzene	ND		0.067
1,4-Dichlorobenzene	ND		0.067
Benzyl alcohol	ND		0.17
1,2-Dichlorobenzene	ND		0.067
2-Methylphenol	ND		0.067
4-Methylphenol	ND		0.067
N-Nitrosodi-n-propylamine	ND		0.067
Hexachloroethane	ND		0.067
Nitrobenzene	ND		0.067
Isophorone	ND		0.067
2-Nitrophenol	ND		0.067
2,4-Dimethylphenol	ND		0.067
Bis(2-chloroethoxy)methane	ND		0.17
2,4-Dichlorophenol	ND		0.33
1,2,4-Trichlorobenzene	ND		0.067
Naphthalene	ND		0.067
4-Chloroaniline	ND		0.067
Hexachlorobutadiene	ND		0.067
4-Chloro-3-methylphenol	ND		0.17
2-Methylnaphthalene	ND		0.067
Hexachlorocyclopentadiene	ND		0.17
2,4,6-Trichlorophenol	ND		0.067
2,4,5-Trichlorophenol	ND		0.067
2-Chloronaphthalene	ND		0.067
2-Nitroaniline	ND		0.33
Dimethyl phthalate	ND		0.17
Acenaphthylene	ND		0.067
3-Nitroaniline	ND		0.17
Acenaphthene	ND		0.067
2,4-Dinitrophenol	ND		0.33
4-Nitrophenol	ND		0.33
Dibenzofuran	ND		0.067
2,4-Dinitrotoluene	ND		0.067
2,6-Dinitrotoluene	ND		0.067
Diethyl phthalate	ND		0.17
4-Chlorophenyl phenyl ether	ND		0.17
Fluorene	ND		0.067
4-Nitroaniline	ND		0.33

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58296

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-58296/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 1132
Date Prepared: 09/24/2009 1453

Analysis Batch: 720-58403
Prep Batch: 720-58296
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.01 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
2-Methyl-4,6-dinitrophenol	ND		0.33
N-Nitrosodiphenylamine	ND		0.067
4-Bromophenyl phenyl ether	ND		0.17
Hexachlorobenzene	ND		0.067
Pentachlorophenol	ND		0.33
Phenanthrene	ND		0.067
Anthracene	ND		0.067
Di-n-butyl phthalate	ND		0.17
Fluoranthene	ND		0.067
Pyrene	ND		0.067
Butyl benzyl phthalate	ND		0.17
3,3'-Dichlorobenzidine	ND		0.17
Benzo[a]anthracene	ND		0.33
Bis(2-ethylhexyl) phthalate	ND		0.33
Chrysene	ND		0.067
Di-n-octyl phthalate	ND		1.0
Benzo[b]fluoranthene	ND		0.067
Benzo[a]pyrene	ND		0.067
Benzo[k]fluoranthene	ND		0.067
Indeno[1,2,3-cd]pyrene	ND		0.067
Benzo[g,h,i]perylene	ND		0.067
Benzoic acid	ND		0.33
Azobenzene	ND		0.067
Dibenz(a,h)anthracene	ND		0.067

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	70	21 - 98
2-Fluorobiphenyl	72	38 - 96
Terphenyl-d14	86	32 - 117
2-Fluorophenol	89	28 - 98
Phenol-d5	80	23 - 101
2,4,6-Tribromophenol	80	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58296/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.03 g
Date Analyzed:	09/25/2009 1027			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58296/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.04 g
Date Analyzed:	09/25/2009 1059			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	70	71	48 - 90	2	35		
Bis(2-chloroethyl)ether	84	87	45 - 92	3	35		
2-Chlorophenol	78	78	48 - 93	1	35		
1,3-Dichlorobenzene	70	71	41 - 91	1	35		
1,4-Dichlorobenzene	71	73	40 - 89	2	35		
Benzyl alcohol	80	86	54 - 102	8	35		
1,2-Dichlorobenzene	74	77	44 - 92	4	35		
2-Methylphenol	88	85	54 - 97	3	35		
4-Methylphenol	81	81	50 - 95	0	35		
N-Nitrosodi-n-propylamine	91	88	46 - 98	3	35		
Hexachloroethane	75	75	44 - 94	0	35		
Nitrobenzene	82	82	48 - 99	1	35		
Isophorone	95	93	54 - 100	3	35		
2-Nitrophenol	72	72	48 - 99	0	35		
2,4-Dimethylphenol	79	79	52 - 106	1	35		
Bis(2-chloroethoxy)methane	86	80	46 - 97	7	35		
2,4-Dichlorophenol	85	83	49 - 100	2	35		
1,2,4-Trichlorobenzene	73	75	47 - 95	2	35		
Naphthalene	77	79	44 - 92	2	35		
4-Chloroaniline	55	57	30 - 71	4	35		
Hexachlorobutadiene	73	76	44 - 95	4	35		
4-Chloro-3-methylphenol	90	92	58 - 104	2	35		
2-Methylnaphthalene	84	84	49 - 100	0	35		
Hexachlorocyclopentadiene	71	70	42 - 132	1	35		
2,4,6-Trichlorophenol	87	85	45 - 102	3	35		
2,4,5-Trichlorophenol	80	61	48 - 105	27	35		
2-Chloronaphthalene	81	82	52 - 102	0	35		
2-Nitroaniline	88	88	54 - 105	0	35		
Dimethyl phthalate	98	95	64 - 119	2	35		
Acenaphthylene	92	88	61 - 129	5	35		
3-Nitroaniline	90	91	50 - 103	1	35		
Acenaphthene	81	80	50 - 98	2	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58296/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.03 g
Date Analyzed:	09/25/2009 1027			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58296/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.04 g
Date Analyzed:	09/25/2009 1059			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,4-Dinitrophenol	59	56	21 - 96	5	35		
4-Nitrophenol	81	85	54 - 125	5	35		
Dibenzofuran	84	87	55 - 100	4	35		
2,4-Dinitrotoluene	95	94	57 - 110	2	35		
2,6-Dinitrotoluene	103	99	54 - 119	3	35		
Diethyl phthalate	90	98	49 - 117	8	35		
4-Chlorophenyl phenyl ether	86	88	57 - 103	2	35		
Fluorene	85	83	54 - 104	3	35		
4-Nitroaniline	91	94	59 - 114	3	35		
2-Methyl-4,6-dinitrophenol	73	73	48 - 111	1	35		
N-Nitrosodiphenylamine	89	93	56 - 105	4	35		
4-Bromophenyl phenyl ether	81	82	53 - 101	1	35		
Hexachlorobenzene	77	81	55 - 105	5	35		
Pentachlorophenol	66	69	35 - 90	4	35		
Phenanthrene	83	86	54 - 100	4	35		
Anthracene	81	94	55 - 101	14	35		
Di-n-butyl phthalate	82	88	55 - 102	8	35		
Fluoranthene	84	91	54 - 102	8	35		
Pyrene	85	88	48 - 91	4	35		
Butyl benzyl phthalate	86	93	53 - 98	8	35		
3,3'-Dichlorobenzidine	69	71	42 - 87	2	35		
Benzo[a]anthracene	81	92	55 - 110	13	35		
Bis(2-ethylhexyl) phthalate	91	94	53 - 98	4	35		
Chrysene	87	90	58 - 115	4	35		
Di-n-octyl phthalate	85	90	53 - 91	5	35		
Benzo[b]fluoranthene	82	96	56 - 105	16	35		
Benzo[a]pyrene	92	94	55 - 102	2	35		
Benzo[k]fluoranthene	98	82	57 - 108	18	35		
Indeno[1,2,3-cd]pyrene	94	96	56 - 110	2	35		
Benzo[g,h,i]perylene	94	95	56 - 106	1	35		
Benzoic acid	17	20	8 - 35	14	35		
Azobenzene	89	88	52 - 100	1	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58296/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.03 g
Date Analyzed:	09/25/2009 1027			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58296/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.04 g
Date Analyzed:	09/25/2009 1059			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1453			Injection Volume:	1.0 uL

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dibenz(a,h)anthracene	98	97	58 - 108	1	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	82	82	21 - 98
2-Fluorobiphenyl	84	78	38 - 96
Terphenyl-d14	91	98	32 - 117
2-Fluorophenol	78	77	28 - 98
Phenol-d5	84	81	23 - 101
2,4,6-Tribromophenol	90	89	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-C MS
Dilution:	1.0			Initial Weight/Volume:	30.03 g
Date Analyzed:	09/26/2009 0317			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-D MD
Dilution:	1.0			Initial Weight/Volume:	30.00 g
Date Analyzed:	09/26/2009 0351			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Phenol	66	63	23 - 95	4	35		
Bis(2-chloroethyl)ether	58	56	27 - 90	3	35		
2-Chlorophenol	64	62	16 - 102	4	35		
1,3-Dichlorobenzene	59	58	22 - 86	2	35		
1,4-Dichlorobenzene	60	57	21 - 83	5	35		
Benzyl alcohol	82	78	28 - 104	5	35		
1,2-Dichlorobenzene	64	62	25 - 90	3	35		
2-Methylphenol	81	74	32 - 100	8	35		
4-Methylphenol	78	75	28 - 100	4	35		
N-Nitrosodi-n-propylamine	79	74	27 - 92	6	35		
Hexachloroethane	66	62	19 - 93	6	35		
Nitrobenzene	85	82	30 - 99	4	35		
Isophorone	89	85	36 - 101	4	35		
2-Nitrophenol	62	60	11 - 116	4	35		
2,4-Dimethylphenol	85	79	36 - 108	7	35		
Bis(2-chloroethoxy)methane	65	65	28 - 96	0	35		
2,4-Dichlorophenol	71	72	17 - 117	1	35		
1,2,4-Trichlorobenzene	78	79	29 - 92	1	35		
Naphthalene	78	75	22 - 97	4	35		
4-Chloroaniline	49	53	7 - 63	8	35		
Hexachlorobutadiene	79	78	26 - 92	2	35		
4-Chloro-3-methylphenol	91	88	42 - 106	3	35		
2-Methylnaphthalene	99	88	28 - 101	11	35		
Hexachlorocyclopentadiene	65	60	15 - 109	8	35		
2,4,6-Trichlorophenol	11	9	25 - 112	23	35	F	F
2,4,5-Trichlorophenol	30	22	38 - 111	30	35	F	F
2-Chloronaphthalene	78	71	38 - 97	10	35		
2-Nitroaniline	77	73	43 - 103	5	35		
Dimethyl phthalate	87	78	55 - 116	11	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-C MS
Dilution:	1.0			Initial Weight/Volume:	30.03 g
Date Analyzed:	09/26/2009 0317			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-D MD
Dilution:	1.0			Initial Weight/Volume:	30.00 g
Date Analyzed:	09/26/2009 0351			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthylene	99	87	49 - 120	13	35		
3-Nitroaniline	81	76	39 - 103	7	35		
Acenaphthene	83	76	42 - 90	9	35		
2,4-Dinitrophenol	0	0	13 - 122	NC	35	F	F
4-Nitrophenol	6	0	25 - 147	NC	35	F	F
Dibenzofuran	80	76	43 - 96	5	35		
2,4-Dinitrotoluene	84	82	47 - 107	3	35		
2,6-Dinitrotoluene	82	80	55 - 111	3	35		
Diethyl phthalate	98	85	48 - 105	14	35		
4-Chlorophenyl phenyl ether	79	76	44 - 105	4	35		
Fluorene	83	75	41 - 102	10	35		
4-Nitroaniline	87	82	47 - 120	6	35		
2-Methyl-4,6-dinitrophenol	0	0	19 - 132	NC	35	F	F
N-Nitrosodiphenylamine	83	101	43 - 107	20	35		
4-Bromophenyl phenyl ether	74	79	45 - 96	7	35		
Hexachlorobenzene	74	88	48 - 99	18	35		
Pentachlorophenol	0	0	7 - 132	NC	35	F	F
Phenanthrene	77	87	38 - 107	13	35		
Anthracene	83	90	47 - 98	8	35		
Di-n-butyl phthalate	90	107	46 - 112	18	35		
Fluoranthene	84	101	40 - 113	18	35		
Pyrene	79	78	35 - 101	1	35		
Butyl benzyl phthalate	84	77	40 - 106	9	35		
3,3'-Dichlorobenzidine	61	63	17 - 96	3	35		
Benzo[a]anthracene	75	72	42 - 102	3	35		
Bis(2-ethylhexyl) phthalate	89	88	42 - 102	1	35		
Chrysene	87	87	37 - 97	1	35		
Di-n-octyl phthalate	86	79	46 - 94	8	35		
Benzo[b]fluoranthene	94	93	43 - 100	1	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58296

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-C MS
Dilution:	1.0			Initial Weight/Volume:	30.03 g
Date Analyzed:	09/26/2009 0317			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

MSD Lab Sample ID:	720-22752-11	Analysis Batch:	720-58413	Instrument ID:	Ion Trap
Client Matrix:	Solid	Prep Batch:	720-58296	Lab File ID:	720-22752-A-11-D MD
Dilution:	1.0			Initial Weight/Volume:	30.00 g
Date Analyzed:	09/26/2009 0351			Final Weight/Volume:	1 mL
Date Prepared:	09/24/2009 1917			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]pyrene	110	107	48 - 95	3	35	F	F
Benzo[k]fluoranthene	99	85	39 - 88	15	35	F	
Indeno[1,2,3-cd]pyrene	96	99	50 - 105	4	35		
Benzo[g,h,i]perylene	110	107	43 - 113	3	35		
Benzoic acid	14	14	0 - 85	3	35		
Azobenzene	82	62	48 - 95	27	35		
Dibenz(a,h)anthracene	102	97	49 - 103	5	35		

Surrogate	MS % Rec		MSD % Rec		Acceptance Limits
Nitrobenzene-d5	82		78		21 - 98
2-Fluorobiphenyl	79		67		38 - 96
Terphenyl-d14	79		76		32 - 117
2-Fluorophenol	52		50		28 - 98
Phenol-d5	68		63		23 - 101
2,4,6-Tribromophenol	15	X	14	X	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58348

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-58348/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 1552
Date Prepared: 09/25/2009 0933

Analysis Batch: 720-58403
Prep Batch: 720-58348
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
Phenol	ND		0.067
Bis(2-chloroethyl)ether	ND		0.067
2-Chlorophenol	ND		0.067
1,3-Dichlorobenzene	ND		0.067
1,4-Dichlorobenzene	ND		0.067
Benzyl alcohol	ND		0.17
1,2-Dichlorobenzene	ND		0.067
2-Methylphenol	ND		0.067
4-Methylphenol	ND		0.067
N-Nitrosodi-n-propylamine	ND		0.067
Hexachloroethane	ND		0.067
Nitrobenzene	ND		0.067
Isophorone	ND		0.067
2-Nitrophenol	ND		0.067
2,4-Dimethylphenol	ND		0.067
Bis(2-chloroethoxy)methane	ND		0.17
2,4-Dichlorophenol	ND		0.33
1,2,4-Trichlorobenzene	ND		0.067
Naphthalene	ND		0.067
4-Chloroaniline	ND		0.067
Hexachlorobutadiene	ND		0.067
4-Chloro-3-methylphenol	ND		0.17
2-Methylnaphthalene	ND		0.067
Hexachlorocyclopentadiene	ND		0.17
2,4,6-Trichlorophenol	ND		0.067
2,4,5-Trichlorophenol	ND		0.067
2-Chloronaphthalene	ND		0.067
2-Nitroaniline	ND		0.33
Dimethyl phthalate	ND		0.17
Acenaphthylene	ND		0.067
3-Nitroaniline	ND		0.17
Acenaphthene	ND		0.067
2,4-Dinitrophenol	ND		0.33
4-Nitrophenol	ND		0.33
Dibenzofuran	ND		0.067
2,4-Dinitrotoluene	ND		0.067
2,6-Dinitrotoluene	ND		0.067
Diethyl phthalate	ND		0.17
4-Chlorophenyl phenyl ether	ND		0.17
Fluorene	ND		0.067
4-Nitroaniline	ND		0.33

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58348

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-58348/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 1552
Date Prepared: 09/25/2009 0933

Analysis Batch: 720-58403
Prep Batch: 720-58348
Units: mg/Kg

Instrument ID: Sat 2K2
Lab File ID: c:\saturnws\epdata\data\2009(
Initial Weight/Volume: 30.06 g
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	RL
2-Methyl-4,6-dinitrophenol	ND		0.33
N-Nitrosodiphenylamine	ND		0.067
4-Bromophenyl phenyl ether	ND		0.17
Hexachlorobenzene	ND		0.067
Pentachlorophenol	ND		0.33
Phenanthrene	ND		0.067
Anthracene	ND		0.067
Di-n-butyl phthalate	ND		0.17
Fluoranthene	ND		0.067
Pyrene	ND		0.067
Butyl benzyl phthalate	ND		0.17
3,3'-Dichlorobenzidine	ND		0.17
Benzo[a]anthracene	ND		0.33
Bis(2-ethylhexyl) phthalate	ND		0.33
Chrysene	ND		0.067
Di-n-octyl phthalate	ND		1.0
Benzo[b]fluoranthene	ND		0.067
Benzo[a]pyrene	ND		0.067
Benzo[k]fluoranthene	ND		0.067
Indeno[1,2,3-cd]pyrene	ND		0.067
Benzo[g,h,i]perylene	ND		0.067
Benzoic acid	ND		0.33
Azobenzene	ND		0.067
Dibenz(a,h)anthracene	ND		0.067

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	72	21 - 98
2-Fluorobiphenyl	73	38 - 96
Terphenyl-d14	85	32 - 117
2-Fluorophenol	89	28 - 98
Phenol-d5	72	23 - 101
2,4,6-Tribromophenol	75	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58348

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58348/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.40 g
Date Analyzed:	09/25/2009 1447			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58348/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.02 g
Date Analyzed:	09/25/2009 1520			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	65	75	48 - 90	15	35		
Bis(2-chloroethyl)ether	80	90	45 - 92	12	35		
2-Chlorophenol	74	78	48 - 93	7	35		
1,3-Dichlorobenzene	68	71	41 - 91	6	35		
1,4-Dichlorobenzene	68	71	40 - 89	5	35		
Benzyl alcohol	74	82	54 - 102	11	35		
1,2-Dichlorobenzene	70	76	44 - 92	10	35		
2-Methylphenol	79	85	54 - 97	9	35		
4-Methylphenol	74	81	50 - 95	11	35		
N-Nitrosodi-n-propylamine	84	82	46 - 98	0	35		
Hexachloroethane	73	71	44 - 94	2	35		
Nitrobenzene	76	81	48 - 99	9	35		
Isophorone	85	95	54 - 100	13	35		
2-Nitrophenol	71	78	48 - 99	11	35		
2,4-Dimethylphenol	85	89	52 - 106	6	35		
Bis(2-chloroethoxy)methane	76	83	46 - 97	10	35		
2,4-Dichlorophenol	73	84	49 - 100	15	35		
1,2,4-Trichlorobenzene	69	76	47 - 95	11	35		
Naphthalene	69	79	44 - 92	14	35		
4-Chloroaniline	46	56	30 - 71	21	35		
Hexachlorobutadiene	69	74	44 - 95	9	35		
4-Chloro-3-methylphenol	87	95	58 - 104	10	35		
2-Methylnaphthalene	77	85	49 - 100	11	35		
Hexachlorocyclopentadiene	60	62	42 - 132	5	35		
2,4,6-Trichlorophenol	79	88	45 - 102	12	35		
2,4,5-Trichlorophenol	80	86	48 - 105	8	35		
2-Chloronaphthalene	72	80	52 - 102	11	35		
2-Nitroaniline	77	86	54 - 105	12	35		
Dimethyl phthalate	92	95	64 - 119	4	35		
Acenaphthylene	83	89	61 - 129	8	35		
3-Nitroaniline	91	93	50 - 103	3	35		
Acenaphthene	73	76	50 - 98	5	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58348

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58348/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.40 g
Date Analyzed:	09/25/2009 1447			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58348/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.02 g
Date Analyzed:	09/25/2009 1520			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,4-Dinitrophenol	48	47	21 - 96	1	35		
4-Nitrophenol	84	85	54 - 125	3	35		
Dibenzofuran	78	80	55 - 100	4	35		
2,4-Dinitrotoluene	84	94	57 - 110	13	35		
2,6-Dinitrotoluene	94	95	54 - 119	2	35		
Diethyl phthalate	88	93	49 - 117	7	35		
4-Chlorophenyl phenyl ether	81	86	57 - 103	8	35		
Fluorene	80	80	54 - 104	2	35		
4-Nitroaniline	92	97	59 - 114	7	35		
2-Methyl-4,6-dinitrophenol	64	58	48 - 111	9	35		
N-Nitrosodiphenylamine	87	88	56 - 105	2	35		
4-Bromophenyl phenyl ether	76	79	53 - 101	5	35		
Hexachlorobenzene	79	82	55 - 105	4	35		
Pentachlorophenol	71	72	35 - 90	4	35		
Phenanthrene	81	83	54 - 100	3	35		
Anthracene	81	90	55 - 101	11	35		
Di-n-butyl phthalate	84	81	55 - 102	4	35		
Fluoranthene	82	81	54 - 102	0	35		
Pyrene	91	91	48 - 91	2	35		
Butyl benzyl phthalate	89	88	53 - 98	1	35		
3,3'-Dichlorobenzidine	80	76	42 - 87	4	35		
Benzo[a]anthracene	91	84	55 - 110	6	35		
Bis(2-ethylhexyl) phthalate	99	86	53 - 98	13	35	*	
Chrysene	86	86	58 - 115	1	35		
Di-n-octyl phthalate	93	87	53 - 91	5	35	*	
Benzo[b]fluoranthene	94	85	56 - 105	9	35		
Benzo[a]pyrene	96	96	55 - 102	1	35		
Benzo[k]fluoranthene	94	95	57 - 108	3	35		
Indeno[1,2,3-cd]pyrene	99	96	56 - 110	1	35		
Benzo[g,h,i]perylene	99	103	56 - 106	5	35		
Benzoic acid	17	19	8 - 35	15	35		
Azobenzene	79	89	52 - 100	13	35		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58348

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58348/2-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\2009(
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.40 g
Date Analyzed:	09/25/2009 1447			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

LCSD Lab Sample ID:	LCSD 720-58348/3-A	Analysis Batch:	720-58403	Instrument ID:	Sat 2K2
Client Matrix:	Solid	Prep Batch:	720-58348	Lab File ID:	c:\saturnws\epdata\data\200909
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	30.02 g
Date Analyzed:	09/25/2009 1520			Final Weight/Volume:	1 mL
Date Prepared:	09/25/2009 0933			Injection Volume:	1.0 uL

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Dibenz(a,h)anthracene	101	95	58 - 108	4	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	76	78	21 - 98
2-Fluorobiphenyl	76	76	38 - 96
Terphenyl-d14	96	91	32 - 117
2-Fluorophenol	76	80	28 - 98
Phenol-d5	77	82	23 - 101
2,4,6-Tribromophenol	91	94	37 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58345

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-58345/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 2017
Date Prepared: 09/25/2009 0857

Analysis Batch: 720-58324
Prep Batch: 720-58345
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a0925025.d
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		1.0
Motor Oil Range Organics [C24-C36]	ND		50

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	82	31 - 114

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58345

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-58345/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 2044
Date Prepared: 09/25/2009 0857

Analysis Batch: 720-58324
Prep Batch: 720-58345
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a0925026.d
Initial Weight/Volume: 30.39 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-58345/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/25/2009 2110
Date Prepared: 09/25/2009 0857

Analysis Batch: 720-58324
Prep Batch: 720-58345
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a0925027.d
Initial Weight/Volume: 30.16 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

		% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	87	88	49 - 115	2	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	85	84	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58345

Method: 8015B
Preparation: 3550B

MS Lab Sample ID:	720-22752-20	Analysis Batch: 720-58325	Instrument ID: HP DRO5
Client Matrix:	Solid	Prep Batch: 720-58345	Lab File ID: 5b0925027.d
Dilution:	1.0		Initial Weight/Volume: 30.02 g
Date Analyzed:	09/25/2009 2110		Final Weight/Volume: 5 mL
Date Prepared:	09/25/2009 0857		Injection Volume: 1 uL
			Column ID: PRIMARY

MSD Lab Sample ID:	720-22752-20	Analysis Batch: 720-58325	Instrument ID: HP DRO5
Client Matrix:	Solid	Prep Batch: 720-58345	Lab File ID: 5b0925028.d
Dilution:	1.0		Initial Weight/Volume: 30.12 g
Date Analyzed:	09/25/2009 2137		Final Weight/Volume: 5 mL
Date Prepared:	09/25/2009 0857		Injection Volume: 1 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Diesel Range Organics [C10-C28]	89	90	50 - 130	0	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
p-Terphenyl	90	90	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58351

Method: 8081A
Preparation: 3550B

Lab Sample ID: MB 720-58351/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2009 1307
Date Prepared: 09/25/2009 0946

Analysis Batch: 720-58483
Prep Batch: 720-58351
Units: ug/Kg

Instrument ID: Agilent 6890 GC
Lab File ID: SIG10008.D
Initial Weight/Volume: 30.13 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aldrin	ND		2.0
Dieldrin	ND		2.0
Endrin aldehyde	ND		2.0
Endrin	ND		2.0
Endrin ketone	ND		2.0
Heptachlor	ND		2.0
Heptachlor epoxide	ND		2.0
4,4'-DDT	ND		2.0
4,4'-DDE	ND		2.0
4,4'-DDD	ND		2.0
Endosulfan I	ND		2.0
Endosulfan II	ND		2.0
alpha-BHC	ND		2.0
beta-BHC	ND		2.0
gamma-BHC (Lindane)	ND		2.0
delta-BHC	ND		2.0
Endosulfan sulfate	ND		2.0
Methoxychlor	ND		2.0
Toxaphene	ND		40
Chlordane (technical)	ND		40
alpha-Chlordane	ND		2.0
gamma-Chlordane	ND		2.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	68	54 - 109
DCB Decachlorobiphenyl	121	27 - 136

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58351

Method: 8081A
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58351/2-A	Analysis Batch:	720-58483	Instrument ID:	Agilent 6890 GC
Client Matrix:	Solid	Prep Batch:	720-58351	Lab File ID:	SIG10009.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.08 g
Date Analyzed:	09/28/2009 1322			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 0946			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

LCSD Lab Sample ID:	LCSD 720-58351/3-A	Analysis Batch:	720-58483	Instrument ID:	Agilent 6890 GC
Client Matrix:	Solid	Prep Batch:	720-58351	Lab File ID:	SIG10010.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.06 g
Date Analyzed:	09/28/2009 1337			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 0946			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aldrin	80	75	54 - 120	6	20		
Dieldrin	90	87	59 - 120	3	20		
Endrin	91	88	53 - 120	3	20		
Heptachlor	82	79	54 - 120	4	20		
4,4'-DDT	90	86	51 - 120	4	20		
gamma-BHC (Lindane)	83	81	58 - 120	3	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	84	83	54 - 109
DCB Decachlorobiphenyl	130	124	27 - 136

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58351

Method: 8081A
Preparation: 3550B

MS Lab Sample ID:	720-22752-60	Analysis Batch: 720-58483	Instrument ID: Agilent 6890 GC
Client Matrix:	Solid	Prep Batch: 720-58351	Lab File ID: SIG10016.D
Dilution:	1.0		Initial Weight/Volume: 30.12 g
Date Analyzed:	09/28/2009 1510		Final Weight/Volume: 10 mL
Date Prepared:	09/25/2009 0946		Injection Volume: 1.0 uL
			Column ID: PRIMARY

MSD Lab Sample ID:	720-22752-60	Analysis Batch: 720-58483	Instrument ID: Agilent 6890 GC
Client Matrix:	Solid	Prep Batch: 720-58351	Lab File ID: SIG10017.D
Dilution:	1.0		Initial Weight/Volume: 30.20 g
Date Analyzed:	09/28/2009 1526		Final Weight/Volume: 10 mL
Date Prepared:	09/25/2009 0946		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aldrin	57	61	53 - 120	8	20		
Dieldrin	89	83	46 - 130	7	20		
Endrin	89	86	32 - 143	4	20		
Heptachlor	86	84	52 - 120	3	20		
4,4'-DDT	94	80	17 - 144	17	20		
gamma-BHC (Lindane)	85	84	58 - 120	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	82	82	54 - 109
DCB Decachlorobiphenyl	119	112	27 - 136

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58349

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 720-58349/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2009 1805
Date Prepared: 09/25/2009 0941

Analysis Batch: 720-58490
Prep Batch: 720-58349
Units: ug/Kg

Instrument ID: Agilent PCB 2
Lab File ID: m0928015.d
Initial Weight/Volume: 30.12 g
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		50
PCB-1221	ND		50
PCB-1232	ND		50
PCB-1242	ND		50
PCB-1248	ND		50
PCB-1254	ND		50
PCB-1260	ND		50

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	82	52 - 114
DCB Decachlorobiphenyl	79	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58349

Method: 8082
Preparation: 3550B

LCS Lab Sample ID:	LCS 720-58349/2-A	Analysis Batch:	720-58490	Instrument ID:	Agilent PCB 2
Client Matrix:	Solid	Prep Batch:	720-58349	Lab File ID:	m0928016.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.07 g
Date Analyzed:	09/28/2009 1827			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 0941			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

LCSD Lab Sample ID:	LCSD 720-58349/3-A	Analysis Batch:	720-58490	Instrument ID:	Agilent PCB 2
Client Matrix:	Solid	Prep Batch:	720-58349	Lab File ID:	m0928017.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.06 g
Date Analyzed:	09/28/2009 1849			Final Weight/Volume:	10 mL
Date Prepared:	09/25/2009 0941			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	99	94	69 - 120	5	20		
PCB-1260	93	92	73 - 114	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	87	81	52 - 114
DCB Decachlorobiphenyl	89	92	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58349

Method: 8082
Preparation: 3550B

MS Lab Sample ID:	720-22752-60	Analysis Batch: 720-58490	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-58349	Lab File ID: m0928040.d
Dilution:	1.0		Initial Weight/Volume: 30.27 g
Date Analyzed:	09/29/2009 0311		Final Weight/Volume: 10 mL
Date Prepared:	09/25/2009 0941		Injection Volume: 1.0 uL
			Column ID: PRIMARY

MSD Lab Sample ID:	720-22752-60	Analysis Batch: 720-58490	Instrument ID: Agilent PCB 2
Client Matrix:	Solid	Prep Batch: 720-58349	Lab File ID: m0928041.d
Dilution:	1.0		Initial Weight/Volume: 30.16 g
Date Analyzed:	09/29/2009 0333		Final Weight/Volume: 10 mL
Date Prepared:	09/25/2009 0941		Injection Volume: 1.0 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	89	99	69 - 120	11	20		
PCB-1260	86	88	73 - 114	3	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	80	84	52 - 114
DCB Decachlorobiphenyl	71	73	29 - 117

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Method Blank - Batch: 720-58503

Method: 9071B
Preparation: 9071B

Lab Sample ID: MB 720-58503/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2009 1514
Date Prepared: 09/28/2009 1347

Analysis Batch: 720-58515
Prep Batch: 720-58503
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.02 g
Final Weight/Volume: 10.02 mL

Analyte	Result	Qual	RL
HEM	ND		100

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-58503

Method: 9071B
Preparation: 9071B

LCS Lab Sample ID: LCS 720-58503/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2009 1514
Date Prepared: 09/28/2009 1347

Analysis Batch: 720-58515
Prep Batch: 720-58503
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.00 g
Final Weight/Volume: 10.00 mL

LCSD Lab Sample ID: LCSD 720-58503/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 09/28/2009 1514
Date Prepared: 09/28/2009 1347

Analysis Batch: 720-58515
Prep Batch: 720-58503
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.00 g
Final Weight/Volume: 10.00 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
HEM	84	89	79 - 120	6	18		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-58503

Method: 9071B
Preparation: 9071B

MS Lab Sample ID:	720-22752-20	Analysis Batch:	720-58515	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	720-58503	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	10.01 g
Date Analyzed:	09/28/2009 1514			Final Weight/Volume:	10.01 mL
Date Prepared:	09/28/2009 1347				

MSD Lab Sample ID:	720-22752-20	Analysis Batch:	720-58515	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	720-58503	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	10.01 g
Date Analyzed:	09/28/2009 1514			Final Weight/Volume:	10.01 mL
Date Prepared:	09/28/2009 1347				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
HEM	65	66	79 - 120	2	20	F	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
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TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone (925) 484-1919 Fax (925) 600-3002

Reference #: 119198

720-22752

Date _____ Page 1 of 6

Report To

Attn: Bill Stevens
Company: Berlogar Geosci.
Address: 5857 Sonol, Pton
Phone: 484-0220 Email: bstev@berlogar.com

Bill To: BGC
Attn: Bill

Sampled By: Rory
Phone: 484-0220

Analysis Request

	Sample ID	Date	Time	Matrix	Preservative
1	1A1	9/22/09	11:10	-	-
2 C7	1A2	9/22/09	11:10	-	-
3	1B1	9/22/09	10:50	-	-
4 C7	1B2	9/22/09	10:53	-	-
5	1C1	9/22/09	10:40	-	-
6 C7	1C2	9/22/09	10:46	-	-
7	1D1	9/22/09	11:16	-	-
8 C7	1D2	9/22/09	11:20	-	-
9	1E1	9/22/09	11:35	-	-
10 C7	1E2	9/22/09	11:37	-	-

Analysis columns: TPH EPA - ☐ 8015M/DRO ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE; Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B; TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___; Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐ Ethanol; Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B; Volatile Organics GC/MS (VOC's) ☐ EPA 8260B ☐ 624; Semivolatiles GC/MS ☐ EPA 8270 ☐ 625; Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total; Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608; PNAs by ☐ 8270 ☐ 8310; CAM17 Metals (EPA 6010/7470/7471); Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other ___; Low Level Metals by EPA 200.8/6020 (ICP-MS); W.E.T (STLC) ☐ TCLP; Hexavalent Chromium 3H (24h hold time for H_2O); Spec Gravity ☐ Alkalinity ☐ TDS ☐ TSS; Anions ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4; Pb (7.1, 1.4, 1.5, 2.1, 4.8, 2.5); Number of Containers

Project Info.

Project Name: Tramonade Dublin
Project #:
PO#:
Credit Card#:

TAT: 5 Day | 72h | 48h | 24h

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments: ☐ Global ID _____

See Terms and Conditions on reverse.
*Extended TEPH 8015M (with Silica Gel) is industry accepted. Default for 8015B is Diesel.

Sample Receipt

of Containers:
Head Space:
Temp: 5.8° / 3.4°
Conforms to record

Other

1) Relinquished by

Signature _____ Time 3:37
Printed Name Raymond Vasquez Date 9/22/09
Company BERLOGAR GEOSCI.

2) Relinquished by

Signature _____ Time _____
Printed Name _____ Date _____
Company _____

3) Relinquished by

Signature _____ Time _____
Printed Name _____ Date _____
Company _____

1) Received by

Signature _____ Time 1535
Printed Name Mullen Date 9-22-09
Company TestAmerica

2) Received by

Signature _____ Time _____
Printed Name _____ Date _____
Company _____

3) Received by

Signature _____ Time _____
Printed Name _____ Date _____
Company _____

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C7 = Composite Groups (C1 → C7)

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TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 Fax: (925) 600-3002

Reference #: 119198

720-72752

Date: _____ Page 2 of 6

Report To

Attn: BILL STEVENS
Company: BENCHMARK GEOLOGICAL
Address: 5587 SUNOL, PLSN
Phone: 484-0220 Email: BSTEVENS@BENCHMARKGEOLOGICAL.COM
Bill To: BGC
Sampled By: RON
Attn: BILL
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preservation	TPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tank EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐ Filtered	Fumigants (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 608 ☐ 608 PCBs ☐ EPA 8082	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other	Low Level Metals by EPA 200.8/6020 (RCP-MS):	WET (STLC) ☐ TCLP	Hexavalent Chromium ☐ ☐ 6H (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TDS ☐ TSS	Anions ☐ ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	PH, SPEC COND, ALK, TDS, SO4, NO3, F, BR, NO2, PO4			Number of Containers
1F1	9/22/09	12:40	-	-				1	1																
1F2	9/22/09	11:00	-	-																					
2A1	9/22/09	9:30	-	-				1	1																
2A2	9/22/09	9:30	-	-	1	1					1		1									1			
2B1	9/22/09	9:40	-	-				1	1																
2B2	9/22/09	9:40	-	-																					
2C1	9/22/09	9:50	-	-				1	1																
2C2	9/22/09	9:50	-	-	1	1					1		1									1			
2D1	9/22/09	10:55	-	-				1	1																
2D2	9/22/09	10:55	-	-	1	1				1			1												

Project Info.

Project Name:
Project #:
PO#:
Credit Card#:

TAT: 5 Day | 72h | 48h | 24h

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Pure EDF
Special Instructions / Comments: ☐ Global ID: _____

Sampling and Conditions on reverse
"Testamerica's" remedy limited to amount paid for analysis. Default for 30 days is Net 60

Sample Receipt

of Containers:
Head Space:
Temp: 5.5°C / 3.4°C
Conforms to record
Other

1) Relinquished by

Signature: _____ Time: 7:05
Printed Name: RAMON VARMARELLI Date: 9/23/09
Company: BENCHMARK GEOLOGICAL

2) Relinquished by

Signature: _____ Time:
Printed Name: _____ Date:
Company:

3) Relinquished by

Signature: _____ Time:
Printed Name: _____ Date:
Company:

1) Received by

Signature: _____ Time: 1538
Printed Name: JOHN MULLEY Date: 9-23-09
Company: TA

2) Received by

Signature: _____ Time:
Printed Name: _____ Date:
Company:

3) Received by

Signature: _____ Time:
Printed Name: _____ Date:
Company:

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TESTAMERICA San Francisco Chain of Custody

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Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 119198

726-27752

Date _____ Page 3 of 6

Report To

Attn: Bill Stevens
Company: Benicia Crematory
Address: 555 Sunol, Benicia
Phone: 484-0220 Email: billstevens@msn.com
Bill To: BCC
Sampled By: RCV
Attn: Bill
Phone: 484-0220

Analysis Request

	Sample ID	Date	Time	Matrix	Cont.	TPH EPA 8015M ☐ Gasoline ☐ Diesel ☐ Motor Oil ☐ Other	BTEX EPA 8021 ☐ 8260B	TPH EPA 8015M ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tags EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐	Polynuclear Hydrocarbons (PNA's) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs: ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T. (STLC) ☐ TCLP	Hexavalent Chromium pH (24hr hold) ☐ ☐	Spec Cond. ☐ Alkalinity ☐ TDS ☐ TSS ☐ ☐	Anions ☐ ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4				Number of Containers
21	2E1	9/22/09	10:30	-	-						1	1															
22	2E2	9/22/09	10:30	-	-																						
23	2F1	9/22/09	10:15	-	-						1	1															
24	2F2	9/22/09	10:15	-	-																						
25	3A1	9/22/09	10:00	-	-						1	1															
26	3A2	9/22/09	10:00	-	-																						
27	3B1	9/22/09	9:40	-	-						1	1															
28	3B2	9/22/09	9:40	-	-																						
29	3C1	9/22/09	9:00	-	-						1	1															
30	3C2	9/22/09	9:00	-	-																						

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Project Info.

Project Name:
Project#:
PO#:
Credit Card#:

TAT: 5 Day | 72h | 48h | 24h

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Task
Fund EDF
Special Instructions / Comments: ☐ Global ID

See Terms and Conditions on reverse.
Test methods 8015M from C_6-C_{36} hydrocarbon ranges. Default for 8015B is C_{10}-C_{28}

Sample Receipt

of Containers:
Head Space:
Temp: 5.8°C / 3.4°C
Conforms to record:
Other:

1) Relinquished by: _____ Time: 1:35
Printed Name: Raimo Valimaki Date: 9/22/09
Company: Benicia Crematory

2) Relinquished by: Signature / Time / Printed Name / Date / Company

3) Relinquished by: Signature / Time / Printed Name / Date / Company

1) Received by: _____ Time: 1535
Printed Name: _____ Date: 9-22-09
Company: _____

2) Received by: Signature / Time / Printed Name / Date / Company

3) Received by: Signature / Time / Printed Name / Date / Company

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Phone (925) 484-1919 • Fax (925) 600-3002

Reference #: 119198

720-22752

Date _____ Page 4 of 6

Report To

Attn: Bill Stevens
Company: Berlogar Geospecs.
Address: 5858 Horton St. #320
City/State/Zip: Emeryville CA 94608 Phone: 484-2220 Email: bstevens@berlogar.com
Bill To: BGC
Sampled By: ROV
P.O. #:
Attn: Bill
Phone: 484-2220

Analysis Request

	Sample ID	Date	Time	Matrix	Preservative	TPH (EPA: ☐ 8015M ☐ 8260B ☐ GC/MS) ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel (☐ Motor Oil ☐ Other:)	Fuel Tags EPA 8260B: ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 or 8260B	Volatile Organics (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles (SVOAs) ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T.(STLC) ☐ TCLP	Hexavalent Chromium (in (24h hold time for H2O)	Spec Cond. ☐ Alkalinity ☐ TDS ☐ TSS	Anions ☐ Cl ☐ SO4 ☐ NO3 ☐ F ☐ Br ☐ NO2 ☐ PO4	Dissolved Metals: Ni, Cr			Number of Containers
31	4A1	9/2/09	9:40	W	-						1	1														2
32 C3	4A2	9/2/09	9:40	W	-																					
33	4B1	9/2/09	8:45	W	-						1	1														2
34 C3	4B2	9/2/09	8:45	W	-			1						1		1								1		2
35	4C1	9/2/09	8:50	W	-						1	1														2
36 C3	4C2	9/2/09	8:50	W	-																					
37	4D1	9/2/09	9:40	W	-						1	1														2
38 C3	4D2	9/2/09	9:40	W	-																					
39	4E1	9/2/09	9:30	W	-						1	1														2
40 C3	4E2	9/2/09	9:30	W	-																					

Project Info.

Project Name:
Project #:
PO#:
Credit Card#:

Sample Receipt

of Containers:
Head Space:
Temp: 5.8C / 3.4C
Conforms to record

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Field Blk:
Special Instructions / Comments: ☐ Global ID: _____

See Terms and Conditions on reverse.
*Fuel Hydrocarbons EPA 8015M Report: C6-C36 (Diesel only) Default for 8015B is C6-C36

	1) Relinquished by:	2) Relinquished by:	3) Relinquished by
Signature	[signature]		
Time	3:05		
Printed Name	Raina Valmonte		
Date	9/2/09		
Company	Berlogar Geospecs.		

	1) Received by:	2) Received by:	3) Received by:
Signature	[signature]		
Time	1535		
Printed Name	Mullen		
Date	9-2-09		
Company	Test America		

Rev. 2/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 119198

720-22752

Date _____ Page 5 of 6

Report To

Attn: BILL STEVENS
Company: BERLOGAR GEOTECH.
Address: 5868 SUNOL, PLSN
Tel: 484-0220 Email: BERGEO@ EARTHLINK.NET

Bill To: BGC
Sampled By: RGM
Attn: BILL
Tel: 484-0220

Analysis Request

	Sample ID	Date	Time	Mat. Matrix	Cont. # containers	TPH EPA - ☐ 8015(M) ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 602 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260: ☐ Gas ☐ MTBE ☐ Fuel Oxygenates ☐ EDA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics (SOMS/VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles (SOMS) ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Gravimetric (EPA 1664) ☐ 1664	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS)	W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ pH (24hr hold time for H2O)	Spec Cond. ☐ Alkalinity ☐ TDS ☐ TSS	Anions ☐ Cl ☐ SO4 ☐ NO3 ☐ F ☐ NO2 ☐ PO4	Pb-dissolved (EPA 6010B)			Number of Containers
41	4F1	9/22/09	7:20	-	-																					
42C3	4F2	9/22/09	9:40	-	-																					
43	5A1	9/22/09	8:10	-	-																					
44C3	5A2	9/22/09	8:10	-	-			1					1	1			1									
45	5B1	9/22/09	8:40	-	-																				1	
46C1	5B2	9/22/09	8:40	-	-																					
47	5C1	9/22/09	8:20	-	-																					
48C2	5C2	9/22/09	8:20	-	-			1					1	1			1									
49	5D1	9/22/09	8:30	-	-																					
50C2	5D2	9/22/09	8:30	-	-																					

Project Info

Project Name:
Project#:
PO#:
Credit Card#:

TAT: 5 Day | 72h | 48h | 24h | Other

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID

See terms and Conditions on reverse
Terms for EF (results 80/CRL Form C-OC industry norm). Default for 80/CRL is Cust Cpy

Sample Receipt

of Containers:
Head Space:
Temp: 5.8°C / 3.4°C
Conforms to record

1) Relinquished by:

Signature: [signature] Time: 3:35
Printed Name: RAIMO VAINIOLA Date: 9/22/09
Company: BERLOGAR GEOTECH.

2) Relinquished by

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Relinquished by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

1) Received by:

Signature: [signature] Time: 1535
Printed Name: Mullen Date: 9-22-09
Company: Test America

2) Received by

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Received by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

Rev.02/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference # 119198

720-22752

Date _____ Page 6 of 6

Report To

Attn: BILL STEVENS
Company: BERLOGAR GEOTECH.
Address: 5555 SUNOL, PTSN
Tel: 484-8220 Email: BILLSW@EBTOBAL.NET
Bill To: BGC
Sampled By: RPV
Attn: BILL
Phone: 484-8220

Analysis Request

	Sample ID	Date	Time	Matrix	# Containers	TPH EPA 8015M/8260B/8260B; BTEX; MTBE	Purgeable Aromatics (BTEX EPA 8021B/8260B)	TEPH EPA 8015M* Silica Gel; Diesel; Motor Oil; Other	Fuel Tests EPA 8260B; Gas; BTEX; Fuel Oxygenates; DRA; EDB	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs); EPA 8260B; 624	Semivolatiles GC/MS; EPA 8270; 625	Oil and Grease; Petroleum; Total	Pesticides; PCBs; EPA 8081; 608; EPA 8082; 608	PNAs by; 8270; 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: Lead; LUFT; RCRA; Other:	Low Level Metals by 200.8/6020 (ICP-MS)	WET (STLC); TCLP	(Hexavalent Chromium; pH (24h hold time for H2O))	Specific Cond.; Alkalinity; TDS; TSS	Anions; Cl; SO4; NO3; PO4; F; Br; NO2				Number of Containers
51	SE1	9/23/09	8:45	-	-						1	1														
52	SE2	9/23/09	8:45	-	-																					
53	SF1	9/23/09	8:35	-	-						1	1														
54	SF2	9/23/09	8:35	-	-																					
				-	-																					
				-	-																					
				-	-																					
				-	-																					
				-	-																					
				-	-																					

Page 128 of 129

Project Info.

Project Name:
Project#:
PO#:
Credit Card#:

Sample Receipt

of Containers:
Head Space:
Temp: 5.6°C/3.4°C
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID _____

See Terms and Conditions on reverse
*EPA Reference 5th Ed. Update IV, CA LUFT Manual, Oxy-Industry norm. Default for 8015 is C6-C36

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 3:05	Signature: Time:	Signature: Time:
Printed Name: RAIMO VAINIKKA Date: 9/24/09	Printed Name: Date:	Printed Name: Date:
Company: BERLOGAR GEOTECH.	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] Time: 1535	Signature: Time:	Signature: Time:
Printed Name: Mullen Date: 9-22-09	Printed Name: Date:	Printed Name: Date:
Company: Test America	Company:	Company:

Rev07/09

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-22752-1

Login Number: 22752

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

APPENDIX E

TestAmerica Analytical Report, Promenade, 1A - 5F, Part 2, 9/22/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-22752-2

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/7/2009 2:24 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/07/2009

CA ELAP Certification # 2496
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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project: 720-22752

Sampled: 09/22/09
Received: 09/25/09
Issued: 10/06/09 16:00

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 4 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
ISI2221-01	2D2	Solid
ISI2221-02	C1	Solid
ISI2221-03	C2	Solid
ISI2221-04	C3	Solid
ISI2221-05	C4	Solid
ISI2221-06	C5	Solid
ISI2221-07	C6	Solid
ISI2221-08	C7	Solid
ISI2221-09	1A1	Solid
ISI2221-10	1B1	Solid
ISI2221-11	1C1	Solid
ISI2221-12	1D1	Solid
ISI2221-13	1E1	Solid
ISI2221-14	1F1	Solid
ISI2221-15	2A1	Solid
ISI2221-16	2B1	Solid
ISI2221-17	2C1	Solid
ISI2221-18	2D1	Solid
ISI2221-19	2E1	Solid
ISI2221-20	2F1	Solid
ISI2221-21	3A1	Solid
ISI2221-22	3B1	Solid
ISI2221-23	3C1	Solid

TestAmerica Irvine

D.J. Watson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

LABORATORY ID	CLIENT ID	MATRIX
ISI2221-24	4A1	Solid
ISI2221-25	4B1	Solid
ISI2221-26	4C1	Solid
ISI2221-27	4D1	Solid
ISI2221-28	4E1	Solid
ISI2221-29	4F1	Solid
ISI2221-30	5A1	Solid
ISI2221-31	5B1	Solid
ISI2221-32	5C1	Solid
ISI2221-33	5D1	Solid
ISI2221-34	5E1	Solid
ISI2221-35	5F1	Solid

Reviewed By:



TestAmerica Irvine

D.J. Watson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-09 (1A1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	10	ND	1.02	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	10	ND	1.02	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	

TestAmerica Irvine

D.J. Watson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-09 (1A1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	10	ND	1.02	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	20	ND	1.02	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	10	ND	1.02	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	10	ND	1.02	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	M2
Vinyl chloride	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.0	ND	1.02	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.1	ND	1.02	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.1	ND	1.02	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-125%)				*91 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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D.J. Watson
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-10 (1B1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	9.9	ND	0.99	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	9.9	ND	0.99	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-10 (1B1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	9.9	ND	0.99	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	20	ND	0.99	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	9.9	ND	0.99	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	9.9	ND	0.99	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.0	ND	0.99	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.0	ND	0.99	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.0	ND	0.99	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-125%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
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Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-11 (1C1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	11	ND	1.05	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	11	ND	1.05	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-11 (1C1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	11	ND	1.05	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	21	ND	1.05	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	11	ND	1.05	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	11	ND	1.05	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.1	ND	1.05	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.2	ND	1.05	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.3	ND	1.05	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-125%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-12 (1D1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-12 (1D1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	21	ND	1.04	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.2	ND	1.04	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-125%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-13 (1E1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
Hexane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-13 (1E1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	1	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
Styrene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	I
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	I
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	I
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	1	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*82 %*				
Surrogate: Dibromofluoromethane (80-125%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*89 %*				

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-14 (1F1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	**13**	0.998	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-14 (1F1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.998	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.998	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-125%)				*58 %*				*Z*
Surrogate: Toluene-d8 (80-120%)				*98 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-15 (2A1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	8.7	ND	0.873	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	8.7	ND	0.873	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-15 (2A1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	8.7	ND	0.873	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	17	ND	0.873	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	8.7	ND	0.873	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	8.7	ND	0.873	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	1.7	ND	0.873	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	3.5	ND	0.873	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	4.4	ND	0.873	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-125%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-16 (2B1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	9.7	ND	0.971	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	9.7	ND	0.971	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-16 (2B1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	9.7	ND	0.971	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	19	ND	0.971	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	9.7	ND	0.971	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	9.7	ND	0.971	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	1.9	ND	0.971	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	3.9	ND	0.971	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	4.9	ND	0.971	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-125%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-17 (2C1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	9.1	ND	0.914	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	9.1	ND	0.914	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-17 (2C1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	9.1	ND	0.914	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	18	ND	0.914	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	9.1	ND	0.914	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	9.1	ND	0.914	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	1.8	ND	0.914	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	3.7	ND	0.914	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	4.6	ND	0.914	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*89 %*				
Surrogate: Dibromofluoromethane (80-125%)				*110 %*				
Surrogate: Toluene-d8 (80-120%)				*95 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-18 (2D1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	9.0	ND	0.899	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	9.0	ND	0.899	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-18 (2D1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	9.0	ND	0.899	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	18	ND	0.899	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	9.0	ND	0.899	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	9.0	ND	0.899	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	1.8	ND	0.899	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	3.6	ND	0.899	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	4.5	ND	0.899	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-125%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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D.J. Watson
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-19 (2E1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	11	ND	1.09	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	11	ND	1.09	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-19 (2E1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	11	ND	1.09	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	22	ND	1.09	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	11	ND	1.09	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	11	ND	1.09	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.2	ND	1.09	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.4	ND	1.09	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.4	ND	1.09	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-125%)				*90 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-20 (2F1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-20 (2F1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	21	ND	1.07	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.3	ND	1.07	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-125%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-21 (3A1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	9.2	ND	0.917	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	9.2	ND	0.917	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-21 (3A1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	9.2	ND	0.917	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	18	ND	0.917	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	9.2	ND	0.917	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	9.2	ND	0.917	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	1.8	ND	0.917	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	3.7	ND	0.917	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	4.6	ND	0.917	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-22 (3B1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-22 (3B1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	21	ND	1.04	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	10	ND	1.04	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.1	ND	1.04	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.2	ND	1.04	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.2	ND	1.04	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-125%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-23 (3C1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Benzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Bromobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromochloromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromodichloromethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Bromoform	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Bromomethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
2-Butanone (MEK)	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
n-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
sec-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
tert-Butylbenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Carbon Disulfide	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Carbon tetrachloride	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Chlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Chloroethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Chloroform	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Chloromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
2-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
4-Chlorotoluene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Dibromochloromethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Dibromomethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Dichlorodifluoromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloroethene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
2,2-Dichloropropane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Ethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Hexachlorobutadiene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Hexane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-23 (3C1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Isopropylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
p-Isopropyltoluene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Methylene chloride	EPA 8260B	9J03002	21	ND	1.07	10/3/2009	10/3/2009	
Naphthalene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
n-Propylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Styrene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Tetrachloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Toluene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Trichloroethene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Trichlorofluoromethane	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J03002	11	ND	1.07	10/3/2009	10/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Vinyl acetate	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Vinyl chloride	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
m,p-Xylenes	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
o-Xylene	EPA 8260B	9J03002	2.1	ND	1.07	10/3/2009	10/3/2009	
Xylenes, Total	EPA 8260B	9J03002	4.3	ND	1.07	10/3/2009	10/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J03002	5.4	ND	1.07	10/3/2009	10/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-125%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-24 (4A1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-24 (4A1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	1	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	1	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*96 %*				
Surrogate: Dibromofluoromethane (80-125%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-25 (4B1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-25 (4B1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.992	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.992	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-125%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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D.J. Watson
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-26 (4C1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-26 (4C1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	1	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	1	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-27 (4D1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-27 (4D1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.998	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	0.998	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.998	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.998	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.998	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-125%)				*89 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-28 (4E1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	9.9	ND	0.986	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	9.9	ND	0.986	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-28 (4E1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	9.9	ND	0.986	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.986	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	9.9	ND	0.986	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	9.9	ND	0.986	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.986	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	3.9	ND	0.986	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	4.9	ND	0.986	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-125%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-29 (4F1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-29 (4F1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.992	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	9.9	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.992	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.992	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.992	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*89 %*				
Surrogate: Dibromofluoromethane (80-125%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-30 (5A1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J06012	10	ND	0.996	10/6/2009	10/6/2009	
Benzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Bromobenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Bromochloromethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Bromodichloromethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Bromoform	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Bromomethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
2-Butanone (MEK)	EPA 8260B	9J06012	10	ND	0.996	10/6/2009	10/6/2009	
n-Butylbenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
sec-Butylbenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
tert-Butylbenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Carbon Disulfide	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Carbon tetrachloride	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Chlorobenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Chloroethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Chloroform	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Chloromethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
2-Chlorotoluene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
4-Chlorotoluene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Dibromochloromethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Dibromomethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,2-Dichlorobenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,3-Dichlorobenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,4-Dichlorobenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Dichlorodifluoromethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,1-Dichloroethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,2-Dichloroethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,1-Dichloroethene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,2-Dichloropropane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,3-Dichloropropane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
2,2-Dichloropropane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,1-Dichloropropene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	L
trans-1,3-Dichloropropene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Ethylbenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Hexachlorobutadiene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Hexane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-30 (5A1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J06012	10	ND	0.996	10/6/2009	10/6/2009	
Isopropylbenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
p-Isopropyltoluene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Methylene chloride	EPA 8260B	9J06012	20	ND	0.996	10/6/2009	10/6/2009	
Naphthalene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
n-Propylbenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Styrene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Tetrachloroethene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Toluene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,1,1-Trichloroethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,1,2-Trichloroethane	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Trichloroethene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Trichlorofluoromethane	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
1,2,3-Trichloropropane	EPA 8260B	9J06012	10	ND	0.996	10/6/2009	10/6/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J06012	10	ND	0.996	10/6/2009	10/6/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Vinyl acetate	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Vinyl chloride	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
m,p-Xylenes	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
o-Xylene	EPA 8260B	9J06012	2.0	ND	0.996	10/6/2009	10/6/2009	
Xylenes, Total	EPA 8260B	9J06012	4.0	ND	0.996	10/6/2009	10/6/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J06012	5.0	ND	0.996	10/6/2009	10/6/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*84 %*				
Surrogate: Dibromofluoromethane (80-125%)				*88 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica
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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-31 (5B1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-31 (5B1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.99	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.99	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-32 (5C1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	

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D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-32 (5C1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	0.99	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	9.9	ND	0.99	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	0.99	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	0.99	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	0.99	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-125%)				*98 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-33 (5D1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,3-Dichloropropene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-33 (5D1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05018	20	ND	1	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05018	10	ND	1	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05018	2.0	ND	1	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05018	4.0	ND	1	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05018	5.0	ND	1	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-125%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-34 (5E1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05021	10	**16**	1	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05021	10	ND	1	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	L
trans-1,3-Dichloropropene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	

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Project Manager

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-34 (5E1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05021	10	ND	1	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05021	20	ND	1	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05021	10	ND	1	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05021	10	ND	1	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05021	2.0	ND	1	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05021	4.0	ND	1	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05021	5.0	ND	1	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*111 %*				
Surrogate: Dibromofluoromethane (80-125%)				*116 %*				
Surrogate: Toluene-d8 (80-120%)				*116 %*				

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-35 (5F1 - Solid)								
Reporting Units: ug/kg								
Acetone	EPA 8260B	9J05021	9.9	ND	0.992	10/5/2009	10/5/2009	
Benzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromobenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromochloromethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromodichloromethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Bromoform	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Bromomethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Butanone (MEK)	EPA 8260B	9J05021	9.9	ND	0.992	10/5/2009	10/5/2009	
n-Butylbenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
sec-Butylbenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
tert-Butylbenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon Disulfide	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Carbon tetrachloride	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Chlorobenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloroethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Chloroform	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Chloromethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
2-Chlorotoluene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
4-Chlorotoluene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Dibromochloromethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Dibromomethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,4-Dichlorobenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Dichlorodifluoromethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloroethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloroethene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,2-Dichloroethene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
trans-1,2-Dichloroethene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2-Dichloropropane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3-Dichloropropane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
2,2-Dichloropropane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1-Dichloropropene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
cis-1,3-Dichloropropene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	L
trans-1,3-Dichloropropene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Ethylbenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Hexachlorobutadiene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Hexane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-35 (5F1 - Solid) - cont.								
Reporting Units: ug/kg								
2-Hexanone	EPA 8260B	9J05021	9.9	ND	0.992	10/5/2009	10/5/2009	
Isopropylbenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
p-Isopropyltoluene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Methylene chloride	EPA 8260B	9J05021	20	ND	0.992	10/5/2009	10/5/2009	
Naphthalene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
n-Propylbenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Styrene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Tetrachloroethene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Toluene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,1,1-Trichloroethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,1,2-Trichloroethane	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichloroethene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Trichlorofluoromethane	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
1,2,3-Trichloropropane	EPA 8260B	9J05021	9.9	ND	0.992	10/5/2009	10/5/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9J05021	9.9	ND	0.992	10/5/2009	10/5/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl acetate	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Vinyl chloride	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
m,p-Xylenes	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
o-Xylene	EPA 8260B	9J05021	2.0	ND	0.992	10/5/2009	10/5/2009	
Xylenes, Total	EPA 8260B	9J05021	4.0	ND	0.992	10/5/2009	10/5/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9J05021	5.0	ND	0.992	10/5/2009	10/5/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*111 %*				
Surrogate: Dibromofluoromethane (80-125%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*118 %*				

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-01 (2D2 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	**0.043**	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**12**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**210**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**33**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**8.3**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**21**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**6.1**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**41**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**36**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**38**	0.985	9/29/2009	10/1/2009	
Sample ID: ISI2221-02 (C1 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	ND	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**4.5**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**230**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.57**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**40**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**10**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**22**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**7.7**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**44**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**44**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**44**	0.985	9/29/2009	10/1/2009	

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-03 (C2 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	ND	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**4.4**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**230**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.54**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**36**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**9.1**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**22**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**6.9**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**41**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**43**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**42**	0.985	9/29/2009	10/1/2009	
Sample ID: ISI2221-04 (C3 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	ND	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**3.7**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**230**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.59**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**38**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**9.5**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**20**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**7.2**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**40**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**42**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**41**	0.985	9/29/2009	10/1/2009	

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-05 (C4 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	ND	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**3.5**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**240**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.53**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**35**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**9.8**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**20**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**6.8**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**41**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**45**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**39**	0.985	9/29/2009	10/1/2009	
Sample ID: ISI2221-06 (C5 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	**0.025**	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**4.4**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**290**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.67**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**44**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**10**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**22**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**8.0**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**43**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**53**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**44**	0.985	9/29/2009	10/1/2009	

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISI2221-07 (C6 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	ND	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**5.2**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**250**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.57**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**34**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**9.2**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**19**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**7.2**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**35**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**49**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**43**	0.985	9/29/2009	10/1/2009	
Sample ID: ISI2221-08 (C7 - Solid)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	9J01122	0.020	**0.021**	1	10/1/2009	10/1/2009	
Antimony	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Arsenic	EPA 6010B	9I29055	2.0	**4.2**	0.985	9/29/2009	10/1/2009	
Barium	EPA 6010B	9I29055	0.99	**190**	0.985	9/29/2009	10/1/2009	
Beryllium	EPA 6010B	9I29055	0.49	**0.50**	0.985	9/29/2009	10/1/2009	
Cadmium	EPA 6010B	9I29055	0.49	ND	0.985	9/29/2009	10/1/2009	
Chromium	EPA 6010B	9I29055	0.99	**41**	0.985	9/29/2009	10/1/2009	
Cobalt	EPA 6010B	9I29055	0.99	**9.0**	0.985	9/29/2009	10/1/2009	
Copper	EPA 6010B	9I29055	2.0	**23**	0.985	9/29/2009	10/1/2009	
Lead	EPA 6010B	9I29055	2.0	**7.1**	0.985	9/29/2009	10/1/2009	
Molybdenum	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Nickel	EPA 6010B	9I29055	2.0	**48**	0.985	9/29/2009	10/1/2009	
Selenium	EPA 6010B	9I29055	2.0	ND	0.985	9/29/2009	10/1/2009	
Silver	EPA 6010B	9I29055	0.99	ND	0.985	9/29/2009	10/1/2009	
Thallium	EPA 6010B	9I29055	9.9	ND	0.985	9/29/2009	10/1/2009	
Vanadium	EPA 6010B	9I29055	0.99	**43**	0.985	9/29/2009	10/1/2009	
Zinc	EPA 6010B	9I29055	4.9	**46**	0.985	9/29/2009	10/1/2009	

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Blank Analyzed: 10/03/2009 (9J03002-BLK1)										
Acetone	ND	10	ug/kg							
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
2-Butanone (MEK)	ND	10	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon Disulfide	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Blank Analyzed: 10/03/2009 (9J03002-BLK1)										
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
2-Hexanone	ND	10	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
Trichlorotrifluoroethane (Freon 113)	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl acetate	ND	5.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/kg*	*50.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*42.2*		*ug/kg*	*50.0*		*84*	*80-125*			
Surrogate: Toluene-d8	*49.9*		*ug/kg*	*50.0*		*100*	*80-120*			

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Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
LCS Analyzed: 10/03/2009 (9J03002-BS1)										
Acetone	28.8	10	ug/kg	50.0		58	25-145			
Benzene	36.6	2.0	ug/kg	50.0		73	65-120			
Bromobenzene	49.9	5.0	ug/kg	50.0		100	75-120			
Bromochloromethane	44.2	5.0	ug/kg	50.0		88	70-135			
Bromodichloromethane	47.7	2.0	ug/kg	50.0		95	70-135			
Bromoform	45.0	5.0	ug/kg	50.0		90	55-135			
Bromomethane	36.9	5.0	ug/kg	50.0		74	60-145			
2-Butanone (MEK)	33.4	10	ug/kg	50.0		67	40-145			
n-Butylbenzene	46.7	5.0	ug/kg	50.0		93	70-130			
sec-Butylbenzene	48.1	5.0	ug/kg	50.0		96	70-125			
tert-Butylbenzene	51.3	5.0	ug/kg	50.0		103	70-125			
Carbon Disulfide	34.5	5.0	ug/kg	50.0		69	50-130			
Carbon tetrachloride	54.2	5.0	ug/kg	50.0		108	65-140			
Chlorobenzene	50.0	2.0	ug/kg	50.0		100	75-120			
Chloroethane	33.9	5.0	ug/kg	50.0		68	60-140			
Chloroform	38.5	2.0	ug/kg	50.0		77	70-130			
Chloromethane	36.6	5.0	ug/kg	50.0		73	45-145			
2-Chlorotoluene	46.1	5.0	ug/kg	50.0		92	70-125			
4-Chlorotoluene	46.6	5.0	ug/kg	50.0		93	75-125			
1,2-Dibromo-3-chloropropane	49.0	5.0	ug/kg	50.0		98	50-135			
Dibromochloromethane	52.1	2.0	ug/kg	50.0		104	65-140			
1,2-Dibromoethane (EDB)	48.2	2.0	ug/kg	50.0		96	70-130			
Dibromomethane	45.2	2.0	ug/kg	50.0		90	70-130			
1,2-Dichlorobenzene	52.8	2.0	ug/kg	50.0		106	75-120			
1,3-Dichlorobenzene	51.2	2.0	ug/kg	50.0		102	75-125			
1,4-Dichlorobenzene	49.5	2.0	ug/kg	50.0		99	75-120			
Dichlorodifluoromethane	36.1	5.0	ug/kg	50.0		72	35-160			
1,1-Dichloroethane	37.6	2.0	ug/kg	50.0		75	70-130			
1,2-Dichloroethane	49.1	2.0	ug/kg	50.0		98	60-140			
1,1-Dichloroethene	40.0	5.0	ug/kg	50.0		80	70-125			
cis-1,2-Dichloroethene	40.3	2.0	ug/kg	50.0		81	70-125			
trans-1,2-Dichloroethene	39.3	2.0	ug/kg	50.0		79	70-125			
1,2-Dichloropropane	38.0	2.0	ug/kg	50.0		76	70-130			
1,3-Dichloropropane	40.8	2.0	ug/kg	50.0		82	70-125			
2,2-Dichloropropane	50.0	2.0	ug/kg	50.0		100	60-145			
1,1-Dichloropropene	46.3	2.0	ug/kg	50.0		93	70-130			

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
LCS Analyzed: 10/03/2009 (9J03002-BS1)										
cis-1,3-Dichloropropene	52.6	2.0	ug/kg	50.0		105	75-125			
trans-1,3-Dichloropropene	43.9	2.0	ug/kg	50.0		88	70-135			
Ethylbenzene	46.6	2.0	ug/kg	50.0		93	70-125			
Hexachlorobutadiene	52.5	5.0	ug/kg	50.0		105	60-135			
2-Hexanone	46.3	10	ug/kg	50.0		93	40-150			
Isopropylbenzene	48.7	2.0	ug/kg	50.0		97	75-130			
p-Isopropyltoluene	54.2	2.0	ug/kg	50.0		108	75-125			
4-Methyl-2-pentanone (MIBK)	48.1	5.0	ug/kg	50.0		96	40-145			
Methylene chloride	30.6	20	ug/kg	50.0		61	55-135			
Naphthalene	52.3	5.0	ug/kg	50.0		105	55-135			
n-Propylbenzene	45.1	2.0	ug/kg	50.0		90	70-130			
Styrene	50.5	2.0	ug/kg	50.0		101	75-130			
1,1,1,2-Tetrachloroethane	51.1	5.0	ug/kg	50.0		102	70-130			
1,1,2,2-Tetrachloroethane	39.7	2.0	ug/kg	50.0		79	55-140			
Tetrachloroethene	54.5	2.0	ug/kg	50.0		109	70-125			
Toluene	44.2	2.0	ug/kg	50.0		88	70-125			
1,2,3-Trichlorobenzene	50.5	5.0	ug/kg	50.0		101	60-130			
1,2,4-Trichlorobenzene	52.8	5.0	ug/kg	50.0		106	70-135			
1,1,1-Trichloroethane	46.8	2.0	ug/kg	50.0		94	65-135			
1,1,2-Trichloroethane	41.8	2.0	ug/kg	50.0		84	65-135			
Trichloroethene	50.4	2.0	ug/kg	50.0		101	70-125			
Trichlorofluoromethane	43.6	5.0	ug/kg	50.0		87	60-145			
1,2,3-Trichloropropane	41.0	10	ug/kg	50.0		82	60-135			
1,2,4-Trimethylbenzene	50.6	2.0	ug/kg	50.0		101	70-125			
1,3,5-Trimethylbenzene	50.2	2.0	ug/kg	50.0		100	70-125			
Vinyl acetate	37.4	5.0	ug/kg	50.0		75	45-145			
Vinyl chloride	37.7	5.0	ug/kg	50.0		75	55-135			
m,p-Xylenes	98.0	2.0	ug/kg	100		98	70-125			
o-Xylene	49.2	2.0	ug/kg	50.0		98	70-125			
Methyl-tert-butyl Ether (MTBE)	39.0	5.0	ug/kg	50.0		78	60-140			
Surrogate: 4-Bromofluorobenzene	*49.1*		*ug/kg*	*50.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*43.5*		*ug/kg*	*50.0*		*87*	*80-125*			
Surrogate: Toluene-d8	*49.9*		*ug/kg*	*50.0*		*100*	*80-120*			

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Sampled: 09/22/09
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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Matrix Spike Analyzed: 10/03/2009 (9J03002-MS1)					**Source: ISI2221-09**					
Acetone	37.6	10	ug/kg	51.5	ND	73	20-145			
Benzene	40.9	2.1	ug/kg	51.5	ND	79	65-130			
Bromobenzene	60.3	5.2	ug/kg	51.5	ND	117	65-140			
Bromochloromethane	56.9	5.2	ug/kg	51.5	ND	110	65-145			
Bromodichloromethane	56.4	2.1	ug/kg	51.5	ND	109	65-145			
Bromoform	55.5	5.2	ug/kg	51.5	ND	108	50-145			
Bromomethane	42.9	5.2	ug/kg	51.5	ND	83	60-155			
2-Butanone (MEK)	44.5	10	ug/kg	51.5	ND	86	25-170			
n-Butylbenzene	43.9	5.2	ug/kg	51.5	ND	85	55-145			
sec-Butylbenzene	46.1	5.2	ug/kg	51.5	ND	89	60-135			
tert-Butylbenzene	52.4	5.2	ug/kg	51.5	ND	102	60-140			
Carbon Disulfide	37.3	5.2	ug/kg	51.5	ND	72	40-140			
Carbon tetrachloride	57.3	5.2	ug/kg	51.5	ND	111	60-145			
Chlorobenzene	55.0	2.1	ug/kg	51.5	ND	107	70-130			
Chloroethane	39.9	5.2	ug/kg	51.5	ND	77	60-150			
Chloroform	46.8	2.1	ug/kg	51.5	ND	91	65-135			
Chloromethane	40.8	5.2	ug/kg	51.5	ND	79	40-145			
2-Chlorotoluene	51.3	5.2	ug/kg	51.5	ND	100	60-135			
4-Chlorotoluene	53.2	5.2	ug/kg	51.5	ND	103	65-135			
1,2-Dibromo-3-chloropropane	63.2	5.2	ug/kg	51.5	ND	123	40-150			
Dibromochloromethane	63.6	2.1	ug/kg	51.5	ND	123	60-145			
1,2-Dibromoethane (EDB)	58.7	2.1	ug/kg	51.5	ND	114	65-140			
Dibromomethane	56.2	2.1	ug/kg	51.5	ND	109	65-140			
1,2-Dichlorobenzene	60.9	2.1	ug/kg	51.5	ND	118	70-130			
1,3-Dichlorobenzene	57.1	2.1	ug/kg	51.5	ND	111	70-130			
1,4-Dichlorobenzene	57.6	2.1	ug/kg	51.5	ND	112	70-130			
Dichlorodifluoromethane	37.2	5.2	ug/kg	51.5	ND	72	30-160			
1,1-Dichloroethane	45.2	2.1	ug/kg	51.5	ND	88	65-135			
1,2-Dichloroethane	59.7	2.1	ug/kg	51.5	ND	116	60-150			
1,1-Dichloroethene	45.3	5.2	ug/kg	51.5	ND	88	65-135			
cis-1,2-Dichloroethene	48.5	2.1	ug/kg	51.5	ND	94	65-135			
trans-1,2-Dichloroethene	46.7	2.1	ug/kg	51.5	ND	91	70-135			
1,2-Dichloropropane	44.4	2.1	ug/kg	51.5	ND	86	65-130			
1,3-Dichloropropane	51.2	2.1	ug/kg	51.5	ND	99	65-140			
2,2-Dichloropropane	58.6	2.1	ug/kg	51.5	ND	114	65-150			
1,1-Dichloropropene	48.2	2.1	ug/kg	51.5	ND	93	65-135			

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Matrix Spike Analyzed: 10/03/2009 (9J03002-MS1)					**Source: ISI2221-09**					
cis-1,3-Dichloropropene	61.9	2.1	ug/kg	51.5	ND	120	70-135			
trans-1,3-Dichloropropene	53.4	2.1	ug/kg	51.5	ND	104	60-145			
Ethylbenzene	49.2	2.1	ug/kg	51.5	ND	96	70-135			
Hexachlorobutadiene	39.4	5.2	ug/kg	51.5	ND	76	50-145			
2-Hexanone	53.9	10	ug/kg	51.5	ND	105	35-160			
Isopropylbenzene	53.1	2.1	ug/kg	51.5	ND	103	70-145			
p-Isopropyltoluene	52.8	2.1	ug/kg	51.5	ND	102	60-140			
4-Methyl-2-pentanone (MIBK)	58.0	5.2	ug/kg	51.5	ND	113	40-155			
Methylene chloride	38.8	21	ug/kg	51.5	ND	75	55-145			
Naphthalene	62.4	5.2	ug/kg	51.5	ND	121	40-150			
n-Propylbenzene	47.4	2.1	ug/kg	51.5	ND	92	65-140			
Styrene	56.1	2.1	ug/kg	51.5	ND	109	70-140			
1,1,1,2-Tetrachloroethane	58.3	5.2	ug/kg	51.5	ND	113	65-145			
1,1,2,2-Tetrachloroethane	49.2	2.1	ug/kg	51.5	ND	95	40-160			
Tetrachloroethene	55.0	2.1	ug/kg	51.5	ND	107	65-135			
Toluene	49.0	2.1	ug/kg	51.5	ND	95	70-130			
1,2,3-Trichlorobenzene	53.2	5.2	ug/kg	51.5	ND	103	45-145			
1,2,4-Trichlorobenzene	55.9	5.2	ug/kg	51.5	ND	108	50-140			
1,1,1-Trichloroethane	53.6	2.1	ug/kg	51.5	ND	104	65-145			
1,1,2-Trichloroethane	50.9	2.1	ug/kg	51.5	ND	99	65-140			
Trichloroethene	56.8	2.1	ug/kg	51.5	ND	110	65-140			
Trichlorofluoromethane	49.0	5.2	ug/kg	51.5	ND	95	55-155			
1,2,3-Trichloropropane	54.6	10	ug/kg	51.5	ND	106	50-150			
1,2,4-Trimethylbenzene	55.7	2.1	ug/kg	51.5	ND	108	65-140			
1,3,5-Trimethylbenzene	53.8	2.1	ug/kg	51.5	ND	104	65-135			
Vinyl acetate	ND	5.2	ug/kg	51.5	ND		40-150			*M2*
Vinyl chloride	41.5	5.2	ug/kg	51.5	ND	81	55-140			
m,p-Xylenes	105	2.1	ug/kg	103	ND	102	70-130			
o-Xylene	53.2	2.1	ug/kg	51.5	ND	103	65-130			
Methyl-tert-butyl Ether (MTBE)	51.3	5.2	ug/kg	51.5	ND	100	55-155			
Surrogate: 4-Bromofluorobenzene	*49.0*		*ug/kg*	*51.5*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*51.0*		*ug/kg*	*51.5*		*99*	*80-125*			
Surrogate: Toluene-d8	*52.0*		*ug/kg*	*51.5*		*101*	*80-120*			

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D.J. Watson
Project Manager

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TestAmerica San Francisco
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Matrix Spike Dup Analyzed: 10/03/2009 (9J03002-MSD1)					**Source: ISI2221-09**					
Acetone	31.0	10	ug/kg	50.4	ND	62	20-145	19	40	
Benzene	35.9	2.0	ug/kg	50.4	ND	71	65-130	13	20	
Bromobenzene	50.0	5.0	ug/kg	50.4	ND	99	65-140	19	25	
Bromochloromethane	49.7	5.0	ug/kg	50.4	ND	99	65-145	14	25	
Bromodichloromethane	50.1	2.0	ug/kg	50.4	ND	99	65-145	12	20	
Bromoform	47.9	5.0	ug/kg	50.4	ND	95	50-145	15	30	
Bromomethane	36.4	5.0	ug/kg	50.4	ND	72	60-155	16	25	
2-Butanone (MEK)	37.9	10	ug/kg	50.4	ND	75	25-170	16	40	
n-Butylbenzene	36.4	5.0	ug/kg	50.4	ND	72	55-145	19	30	
sec-Butylbenzene	39.1	5.0	ug/kg	50.4	ND	78	60-135	16	25	
tert-Butylbenzene	43.8	5.0	ug/kg	50.4	ND	87	60-140	18	25	
Carbon Disulfide	32.4	5.0	ug/kg	50.4	ND	64	40-140	14	20	
Carbon tetrachloride	50.5	5.0	ug/kg	50.4	ND	100	60-145	13	25	
Chlorobenzene	47.6	2.0	ug/kg	50.4	ND	94	70-130	14	25	
Chloroethane	34.3	5.0	ug/kg	50.4	ND	68	60-150	15	25	
Chloroform	41.4	2.0	ug/kg	50.4	ND	82	65-135	12	20	
Chloromethane	35.3	5.0	ug/kg	50.4	ND	70	40-145	14	25	
2-Chlorotoluene	43.0	5.0	ug/kg	50.4	ND	85	60-135	18	25	
4-Chlorotoluene	43.8	5.0	ug/kg	50.4	ND	87	65-135	19	25	
1,2-Dibromo-3-chloropropane	49.1	5.0	ug/kg	50.4	ND	97	40-150	25	30	
Dibromochloromethane	55.9	2.0	ug/kg	50.4	ND	111	60-145	13	25	
1,2-Dibromoethane (EDB)	50.1	2.0	ug/kg	50.4	ND	99	65-140	16	25	
Dibromomethane	48.4	2.0	ug/kg	50.4	ND	96	65-140	15	25	
1,2-Dichlorobenzene	50.5	2.0	ug/kg	50.4	ND	100	70-130	19	25	
1,3-Dichlorobenzene	46.7	2.0	ug/kg	50.4	ND	93	70-130	20	25	
1,4-Dichlorobenzene	46.5	2.0	ug/kg	50.4	ND	92	70-130	21	25	
Dichlorodifluoromethane	32.2	5.0	ug/kg	50.4	ND	64	30-160	14	35	
1,1-Dichloroethane	39.7	2.0	ug/kg	50.4	ND	79	65-135	13	25	
1,2-Dichloroethane	52.7	2.0	ug/kg	50.4	ND	105	60-150	12	25	
1,1-Dichloroethene	39.0	5.0	ug/kg	50.4	ND	77	65-135	15	25	
cis-1,2-Dichloroethene	42.9	2.0	ug/kg	50.4	ND	85	65-135	12	25	
trans-1,2-Dichloroethene	39.7	2.0	ug/kg	50.4	ND	79	70-135	16	25	
1,2-Dichloropropane	38.4	2.0	ug/kg	50.4	ND	76	65-130	14	20	
1,3-Dichloropropane	43.7	2.0	ug/kg	50.4	ND	87	65-140	16	25	
2,2-Dichloropropane	50.3	2.0	ug/kg	50.4	ND	100	65-150	15	25	
1,1-Dichloropropene	43.2	2.0	ug/kg	50.4	ND	86	65-135	11	20	

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J03002 Extracted: 10/03/09										
Matrix Spike Dup Analyzed: 10/03/2009 (9J03002-MSD1)					**Source: ISI2221-09**					
cis-1,3-Dichloropropene	55.2	2.0	ug/kg	50.4	ND	110	70-135	11	25	
trans-1,3-Dichloropropene	47.1	2.0	ug/kg	50.4	ND	93	60-145	13	25	
Ethylbenzene	43.3	2.0	ug/kg	50.4	ND	86	70-135	13	25	
Hexachlorobutadiene	35.0	5.0	ug/kg	50.4	ND	69	50-145	12	35	
2-Hexanone	44.6	10	ug/kg	50.4	ND	88	35-160	19	40	
Isopropylbenzene	44.5	2.0	ug/kg	50.4	ND	88	70-145	18	25	
p-Isopropyltoluene	44.2	2.0	ug/kg	50.4	ND	88	60-140	18	25	
4-Methyl-2-pentanone (MIBK)	50.7	5.0	ug/kg	50.4	ND	101	40-155	14	40	
Methylene chloride	33.9	20	ug/kg	50.4	ND	67	55-145	14	25	
Naphthalene	49.3	5.0	ug/kg	50.4	ND	98	40-150	23	40	
n-Propylbenzene	39.9	2.0	ug/kg	50.4	ND	79	65-140	17	25	
Styrene	48.4	2.0	ug/kg	50.4	ND	96	70-140	15	25	
1,1,1,2-Tetrachloroethane	51.1	5.0	ug/kg	50.4	ND	101	65-145	13	20	
1,1,2,2-Tetrachloroethane	39.6	2.0	ug/kg	50.4	ND	79	40-160	21	30	
Tetrachloroethene	48.4	2.0	ug/kg	50.4	ND	96	65-135	13	25	
Toluene	43.1	2.0	ug/kg	50.4	ND	85	70-130	13	20	
1,2,3-Trichlorobenzene	42.5	5.0	ug/kg	50.4	ND	84	45-145	22	30	
1,2,4-Trichlorobenzene	45.2	5.0	ug/kg	50.4	ND	90	50-140	21	30	
1,1,1-Trichloroethane	46.8	2.0	ug/kg	50.4	ND	93	65-145	13	20	
1,1,2-Trichloroethane	44.8	2.0	ug/kg	50.4	ND	89	65-140	13	30	
Trichloroethene	50.4	2.0	ug/kg	50.4	ND	100	65-140	12	25	
Trichlorofluoromethane	42.1	5.0	ug/kg	50.4	ND	84	55-155	15	25	
1,2,3-Trichloropropane	44.3	10	ug/kg	50.4	ND	88	50-150	21	30	
1,2,4-Trimethylbenzene	46.4	2.0	ug/kg	50.4	ND	92	65-140	18	25	
1,3,5-Trimethylbenzene	45.1	2.0	ug/kg	50.4	ND	89	65-135	18	25	
Vinyl acetate	ND	5.0	ug/kg	50.4	ND		40-150		30	*M2*
Vinyl chloride	35.5	5.0	ug/kg	50.4	ND	70	55-140	16	30	
m,p-Xylenes	90.8	2.0	ug/kg	101	ND	90	70-130	14	25	
o-Xylene	46.6	2.0	ug/kg	50.4	ND	92	65-130	13	25	
Methyl-tert-butyl Ether (MTBE)	44.4	5.0	ug/kg	50.4	ND	88	55-155	15	35	
Surrogate: 4-Bromofluorobenzene	*49.3*		*ug/kg*	*50.4*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*48.9*		*ug/kg*	*50.4*		*97*	*80-125*			
Surrogate: Toluene-d8	*50.3*		*ug/kg*	*50.4*		*100*	*80-120*			

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Project Manager

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Blank Analyzed: 10/05/2009 (9J05018-BLK1)										
Acetone	ND	10	ug/kg							
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
2-Butanone (MEK)	ND	10	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon Disulfide	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							

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Project Manager

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Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Blank Analyzed: 10/05/2009 (9J05018-BLK1)										
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
Hexane	ND	2.0	ug/kg							
2-Hexanone	ND	10	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
Trichlorotrifluoroethane (Freon 113)	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl acetate	ND	5.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*48.4*		*ug/kg*	*50.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*45.1*		*ug/kg*	*50.0*		*90*	*80-125*			
Surrogate: Toluene-d8	*50.3*		*ug/kg*	*50.0*		*101*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
LCS Analyzed: 10/05/2009 (9J05018-BS1)										
Acetone	27.5	10	ug/kg	50.0		55	25-145			
Benzene	34.1	2.0	ug/kg	50.0		68	65-120			
Bromobenzene	45.3	5.0	ug/kg	50.0		91	75-120			
Bromochloromethane	42.8	5.0	ug/kg	50.0		86	70-135			
Bromodichloromethane	47.5	2.0	ug/kg	50.0		95	70-135			
Bromoform	44.3	5.0	ug/kg	50.0		89	55-135			
Bromomethane	34.9	5.0	ug/kg	50.0		70	60-145			
2-Butanone (MEK)	30.8	10	ug/kg	50.0		62	40-145			
n-Butylbenzene	42.4	5.0	ug/kg	50.0		85	70-130			
sec-Butylbenzene	41.8	5.0	ug/kg	50.0		84	70-125			
tert-Butylbenzene	44.9	5.0	ug/kg	50.0		90	70-125			
Carbon Disulfide	31.8	5.0	ug/kg	50.0		64	50-130			
Carbon tetrachloride	53.8	5.0	ug/kg	50.0		108	65-140			
Chlorobenzene	46.0	2.0	ug/kg	50.0		92	75-120			
Chloroethane	31.4	5.0	ug/kg	50.0		63	60-140			
Chloroform	37.5	2.0	ug/kg	50.0		75	70-130			
Chloromethane	34.2	5.0	ug/kg	50.0		68	45-145			
2-Chlorotoluene	41.5	5.0	ug/kg	50.0		83	70-125			
4-Chlorotoluene	42.8	5.0	ug/kg	50.0		86	75-125			
1,2-Dibromo-3-chloropropane	42.3	5.0	ug/kg	50.0		85	50-135			
Dibromochloromethane	51.7	2.0	ug/kg	50.0		103	65-140			
1,2-Dibromoethane (EDB)	45.0	2.0	ug/kg	50.0		90	70-130			
Dibromomethane	44.6	2.0	ug/kg	50.0		89	70-130			
1,2-Dichlorobenzene	48.9	2.0	ug/kg	50.0		98	75-120			
1,3-Dichlorobenzene	47.1	2.0	ug/kg	50.0		94	75-125			
1,4-Dichlorobenzene	46.4	2.0	ug/kg	50.0		93	75-120			
Dichlorodifluoromethane	34.1	5.0	ug/kg	50.0		68	35-160			
1,1-Dichloroethane	35.9	2.0	ug/kg	50.0		72	70-130			
1,2-Dichloroethane	49.0	2.0	ug/kg	50.0		98	60-140			
1,1-Dichloroethene	36.8	5.0	ug/kg	50.0		74	70-125			
cis-1,2-Dichloroethene	38.2	2.0	ug/kg	50.0		76	70-125			
trans-1,2-Dichloroethene	36.7	2.0	ug/kg	50.0		73	70-125			
1,2-Dichloropropane	35.6	2.0	ug/kg	50.0		71	70-130			
1,3-Dichloropropane	38.6	2.0	ug/kg	50.0		77	70-125			
2,2-Dichloropropane	50.2	2.0	ug/kg	50.0		100	60-145			
1,1-Dichloropropene	42.6	2.0	ug/kg	50.0		85	70-130			

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
LCS Analyzed: 10/05/2009 (9J05018-BS1)										
cis-1,3-Dichloropropene	51.7	2.0	ug/kg	50.0		103	75-125			
trans-1,3-Dichloropropene	44.0	2.0	ug/kg	50.0		88	70-135			
Ethylbenzene	42.8	2.0	ug/kg	50.0		86	70-125			
Hexachlorobutadiene	48.6	5.0	ug/kg	50.0		97	60-135			
2-Hexanone	41.0	10	ug/kg	50.0		82	40-150			
Isopropylbenzene	42.8	2.0	ug/kg	50.0		86	75-130			
p-Isopropyltoluene	47.6	2.0	ug/kg	50.0		95	75-125			
4-Methyl-2-pentanone (MIBK)	45.5	5.0	ug/kg	50.0		91	40-145			
Methylene chloride	29.4	20	ug/kg	50.0		59	55-135			
Naphthalene	47.2	5.0	ug/kg	50.0		94	55-135			
n-Propylbenzene	39.4	2.0	ug/kg	50.0		79	70-130			
Styrene	47.5	2.0	ug/kg	50.0		95	75-130			
1,1,1,2-Tetrachloroethane	49.5	5.0	ug/kg	50.0		99	70-130			
1,1,2,2-Tetrachloroethane	34.9	2.0	ug/kg	50.0		70	55-140			
Tetrachloroethene	48.7	2.0	ug/kg	50.0		97	70-125			
Toluene	41.1	2.0	ug/kg	50.0		82	70-125			
1,2,3-Trichlorobenzene	48.1	5.0	ug/kg	50.0		96	60-130			
1,2,4-Trichlorobenzene	52.2	5.0	ug/kg	50.0		104	70-135			
1,1,1-Trichloroethane	45.2	2.0	ug/kg	50.0		90	65-135			
1,1,2-Trichloroethane	39.9	2.0	ug/kg	50.0		80	65-135			
Trichloroethene	46.7	2.0	ug/kg	50.0		93	70-125			
Trichlorofluoromethane	41.5	5.0	ug/kg	50.0		83	60-145			
1,2,3-Trichloropropane	35.2	10	ug/kg	50.0		70	60-135			
1,2,4-Trimethylbenzene	45.7	2.0	ug/kg	50.0		91	70-125			
1,3,5-Trimethylbenzene	44.7	2.0	ug/kg	50.0		89	70-125			
Vinyl acetate	36.5	5.0	ug/kg	50.0		73	45-145			
Vinyl chloride	34.0	5.0	ug/kg	50.0		68	55-135			
m,p-Xylenes	90.2	2.0	ug/kg	100		90	70-125			
o-Xylene	45.8	2.0	ug/kg	50.0		92	70-125			
Methyl-tert-butyl Ether (MTBE)	39.7	5.0	ug/kg	50.0		79	60-140			
Surrogate: 4-Bromofluorobenzene	*50.0*		*ug/kg*	*50.0*		*100*	*80-120*			
Surrogate: Dibromofluoromethane	*45.7*		*ug/kg*	*50.0*		*91*	*80-125*			
Surrogate: Toluene-d8	*49.7*		*ug/kg*	*50.0*		*99*	*80-120*			

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D.J. Watson
Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Matrix Spike Analyzed: 10/05/2009 (9J05018-MS1)					**Source: ISI2104-02**					
Acetone	24.4	10	ug/kg	49.8	ND	49	20-145			
Benzene	33.2	2.0	ug/kg	49.8	ND	67	65-130			
Bromobenzene	43.5	5.0	ug/kg	49.8	ND	87	65-140			
Bromochloromethane	42.2	5.0	ug/kg	49.8	ND	85	65-145			
Bromodichloromethane	45.6	2.0	ug/kg	49.8	ND	91	65-145			
Bromoform	40.5	5.0	ug/kg	49.8	ND	81	50-145			
Bromomethane	34.7	5.0	ug/kg	49.8	ND	70	60-155			
2-Butanone (MEK)	26.8	10	ug/kg	49.8	ND	54	25-170			
n-Butylbenzene	34.1	5.0	ug/kg	49.8	ND	69	55-145			
sec-Butylbenzene	36.3	5.0	ug/kg	49.8	ND	73	60-135			
tert-Butylbenzene	40.8	5.0	ug/kg	49.8	ND	82	60-140			
Carbon Disulfide	25.4	5.0	ug/kg	49.8	ND	51	40-140			
Carbon tetrachloride	51.8	5.0	ug/kg	49.8	ND	104	60-145			
Chlorobenzene	43.6	2.0	ug/kg	49.8	ND	88	70-130			
Chloroethane	31.1	5.0	ug/kg	49.8	ND	63	60-150			
Chloroform	36.9	2.0	ug/kg	49.8	ND	74	65-135			
Chloromethane	34.8	5.0	ug/kg	49.8	ND	70	40-145			
2-Chlorotoluene	38.6	5.0	ug/kg	49.8	ND	78	60-135			
4-Chlorotoluene	39.7	5.0	ug/kg	49.8	ND	80	65-135			
1,2-Dibromo-3-chloropropane	37.9	5.0	ug/kg	49.8	ND	76	40-150			
Dibromochloromethane	49.2	2.0	ug/kg	49.8	ND	99	60-145			
1,2-Dibromoethane (EDB)	42.8	2.0	ug/kg	49.8	ND	86	65-140			
Dibromomethane	41.9	2.0	ug/kg	49.8	ND	84	65-140			
1,2-Dichlorobenzene	44.4	2.0	ug/kg	49.8	ND	89	70-130			
1,3-Dichlorobenzene	42.0	2.0	ug/kg	49.8	ND	84	70-130			
1,4-Dichlorobenzene	41.8	2.0	ug/kg	49.8	ND	84	70-130			
Dichlorodifluoromethane	34.7	5.0	ug/kg	49.8	ND	70	30-160			
1,1-Dichloroethane	35.8	2.0	ug/kg	49.8	ND	72	65-135			
1,2-Dichloroethane	46.9	2.0	ug/kg	49.8	ND	94	60-150			
1,1-Dichloroethene	36.4	5.0	ug/kg	49.8	ND	73	65-135			
cis-1,2-Dichloroethene	37.3	2.0	ug/kg	49.8	ND	75	65-135			
trans-1,2-Dichloroethene	36.7	2.0	ug/kg	49.8	ND	74	70-135			
1,2-Dichloropropane	34.8	2.0	ug/kg	49.8	ND	70	65-130			
1,3-Dichloropropane	37.2	2.0	ug/kg	49.8	ND	75	65-140			
2,2-Dichloropropane	50.4	2.0	ug/kg	49.8	ND	101	65-150			
1,1-Dichloropropene	41.2	2.0	ug/kg	49.8	ND	83	65-135			

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Matrix Spike Analyzed: 10/05/2009 (9J05018-MS1)					**Source: ISI2104-02**					
cis-1,3-Dichloropropene	49.1	2.0	ug/kg	49.8	ND	99	70-135			
trans-1,3-Dichloropropene	41.4	2.0	ug/kg	49.8	ND	83	60-145			
Ethylbenzene	41.3	2.0	ug/kg	49.8	ND	83	70-135			
Hexachlorobutadiene	28.8	5.0	ug/kg	49.8	ND	58	50-145			
2-Hexanone	34.7	10	ug/kg	49.8	ND	70	35-160			
Isopropylbenzene	40.8	2.0	ug/kg	49.8	ND	82	70-145			
p-Isopropyltoluene	41.9	2.0	ug/kg	49.8	ND	84	60-140			
4-Methyl-2-pentanone (MIBK)	39.5	5.0	ug/kg	49.8	ND	79	40-155			
Methylene chloride	29.2	20	ug/kg	49.8	ND	59	55-145			
Naphthalene	37.7	5.0	ug/kg	49.8	ND	76	40-150			
n-Propylbenzene	36.9	2.0	ug/kg	49.8	ND	74	65-140			
Styrene	44.0	2.0	ug/kg	49.8	ND	88	70-140			
1,1,1,2-Tetrachloroethane	48.6	5.0	ug/kg	49.8	ND	98	65-145			
1,1,2,2-Tetrachloroethane	31.4	2.0	ug/kg	49.8	ND	63	40-160			
Tetrachloroethene	47.4	2.0	ug/kg	49.8	ND	95	65-135			
Toluene	39.9	2.0	ug/kg	49.8	ND	80	70-130			
1,2,3-Trichlorobenzene	35.7	5.0	ug/kg	49.8	ND	72	45-145			
1,2,4-Trichlorobenzene	38.4	5.0	ug/kg	49.8	ND	77	50-140			
1,1,1-Trichloroethane	44.7	2.0	ug/kg	49.8	ND	90	65-145			
1,1,2-Trichloroethane	37.9	2.0	ug/kg	49.8	ND	76	65-140			
Trichloroethene	46.3	2.0	ug/kg	49.8	ND	93	65-140			
Trichlorofluoromethane	41.4	5.0	ug/kg	49.8	ND	83	55-155			
1,2,3-Trichloropropane	33.1	10	ug/kg	49.8	ND	67	50-150			
1,2,4-Trimethylbenzene	42.5	2.0	ug/kg	49.8	ND	85	65-140			
1,3,5-Trimethylbenzene	41.0	2.0	ug/kg	49.8	ND	82	65-135			
Vinyl acetate	8.67	5.0	ug/kg	49.8	ND	17	40-150			*M2*
Vinyl chloride	34.2	5.0	ug/kg	49.8	ND	69	55-140			
m,p-Xylenes	85.7	2.0	ug/kg	99.6	ND	86	70-130			
o-Xylene	43.3	2.0	ug/kg	49.8	ND	87	65-130			
Methyl-tert-butyl Ether (MTBE)	36.6	5.0	ug/kg	49.8	ND	74	55-155			
Surrogate: 4-Bromofluorobenzene	*48.7*		*ug/kg*	*49.8*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*45.5*		*ug/kg*	*49.8*		*91*	*80-125*			
Surrogate: Toluene-d8	*49.2*		*ug/kg*	*49.8*		*99*	*80-120*			

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Matrix Spike Dup Analyzed: 10/05/2009 (9J05018-MSD1)					**Source: ISI2104-02**					
Acetone	25.5	10	ug/kg	50.0	ND	51	20-145	5	40	
Benzene	33.5	2.0	ug/kg	50.0	ND	67	65-130	1	20	
Bromobenzene	45.8	5.0	ug/kg	50.0	ND	92	65-140	5	25	
Bromochloromethane	43.3	5.0	ug/kg	50.0	ND	87	65-145	3	25	
Bromodichloromethane	46.1	2.0	ug/kg	50.0	ND	92	65-145	1	20	
Bromoform	42.2	5.0	ug/kg	50.0	ND	84	50-145	4	30	
Bromomethane	35.4	5.0	ug/kg	50.0	ND	71	60-155	2	25	
2-Butanone (MEK)	28.7	10	ug/kg	50.0	ND	57	25-170	7	40	
n-Butylbenzene	34.5	5.0	ug/kg	50.0	ND	69	55-145	1	30	
sec-Butylbenzene	37.6	5.0	ug/kg	50.0	ND	75	60-135	3	25	
tert-Butylbenzene	42.7	5.0	ug/kg	50.0	ND	85	60-140	5	25	
Carbon Disulfide	24.1	5.0	ug/kg	50.0	ND	48	40-140	5	20	
Carbon tetrachloride	51.4	5.0	ug/kg	50.0	ND	103	60-145	1	25	
Chlorobenzene	44.7	2.0	ug/kg	50.0	ND	89	70-130	2	25	
Chloroethane	32.0	5.0	ug/kg	50.0	ND	64	60-150	3	25	
Chloroform	37.6	2.0	ug/kg	50.0	ND	75	65-135	2	20	
Chloromethane	35.6	5.0	ug/kg	50.0	ND	71	40-145	2	25	
2-Chlorotoluene	40.3	5.0	ug/kg	50.0	ND	81	60-135	4	25	
4-Chlorotoluene	41.4	5.0	ug/kg	50.0	ND	83	65-135	4	25	
1,2-Dibromo-3-chloropropane	40.4	5.0	ug/kg	50.0	ND	81	40-150	6	30	
Dibromochloromethane	50.4	2.0	ug/kg	50.0	ND	101	60-145	2	25	
1,2-Dibromoethane (EDB)	44.4	2.0	ug/kg	50.0	ND	89	65-140	4	25	
Dibromomethane	43.3	2.0	ug/kg	50.0	ND	87	65-140	3	25	
1,2-Dichlorobenzene	46.0	2.0	ug/kg	50.0	ND	92	70-130	4	25	
1,3-Dichlorobenzene	43.9	2.0	ug/kg	50.0	ND	88	70-130	4	25	
1,4-Dichlorobenzene	43.5	2.0	ug/kg	50.0	ND	87	70-130	4	25	
Dichlorodifluoromethane	35.0	5.0	ug/kg	50.0	ND	70	30-160	1	35	
1,1-Dichloroethane	36.5	2.0	ug/kg	50.0	ND	73	65-135	2	25	
1,2-Dichloroethane	47.6	2.0	ug/kg	50.0	ND	95	60-150	2	25	
1,1-Dichloroethene	37.2	5.0	ug/kg	50.0	ND	74	65-135	2	25	
cis-1,2-Dichloroethene	38.5	2.0	ug/kg	50.0	ND	77	65-135	3	25	
trans-1,2-Dichloroethene	36.8	2.0	ug/kg	50.0	ND	74	70-135	0	25	
1,2-Dichloropropane	35.6	2.0	ug/kg	50.0	ND	71	65-130	2	20	
1,3-Dichloropropane	38.9	2.0	ug/kg	50.0	ND	78	65-140	5	25	
2,2-Dichloropropane	52.2	2.0	ug/kg	50.0	ND	104	65-150	4	25	
1,1-Dichloropropene	41.3	2.0	ug/kg	50.0	ND	83	65-135	0	20	

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Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05018 Extracted: 10/05/09										
Matrix Spike Dup Analyzed: 10/05/2009 (9J05018-MSD1)					**Source: ISI2104-02**					
cis-1,3-Dichloropropene	50.3	2.0	ug/kg	50.0	ND	101	70-135	2	25	
trans-1,3-Dichloropropene	41.8	2.0	ug/kg	50.0	ND	84	60-145	1	25	
Ethylbenzene	41.2	2.0	ug/kg	50.0	ND	82	70-135	0	25	
Hexachlorobutadiene	27.0	5.0	ug/kg	50.0	ND	54	50-145	6	35	
2-Hexanone	36.2	10	ug/kg	50.0	ND	72	35-160	4	40	
Isopropylbenzene	43.0	2.0	ug/kg	50.0	ND	86	70-145	5	25	
p-Isopropyltoluene	42.8	2.0	ug/kg	50.0	ND	86	60-140	2	25	
4-Methyl-2-pentanone (MIBK)	41.5	5.0	ug/kg	50.0	ND	83	40-155	5	40	
Methylene chloride	29.8	20	ug/kg	50.0	ND	60	55-145	2	25	
Naphthalene	39.7	5.0	ug/kg	50.0	ND	79	40-150	5	40	
n-Propylbenzene	37.9	2.0	ug/kg	50.0	ND	76	65-140	3	25	
Styrene	44.1	2.0	ug/kg	50.0	ND	88	70-140	0	25	
1,1,1,2-Tetrachloroethane	48.9	5.0	ug/kg	50.0	ND	98	65-145	1	20	
1,1,2,2-Tetrachloroethane	32.9	2.0	ug/kg	50.0	ND	66	40-160	5	30	
Tetrachloroethene	47.2	2.0	ug/kg	50.0	ND	94	65-135	1	25	
Toluene	40.2	2.0	ug/kg	50.0	ND	80	70-130	1	20	
1,2,3-Trichlorobenzene	35.6	5.0	ug/kg	50.0	ND	71	45-145	0	30	
1,2,4-Trichlorobenzene	39.5	5.0	ug/kg	50.0	ND	79	50-140	3	30	
1,1,1-Trichloroethane	45.4	2.0	ug/kg	50.0	ND	91	65-145	1	20	
1,1,2-Trichloroethane	39.0	2.0	ug/kg	50.0	ND	78	65-140	3	30	
Trichloroethene	47.4	2.0	ug/kg	50.0	ND	95	65-140	2	25	
Trichlorofluoromethane	42.1	5.0	ug/kg	50.0	ND	84	55-155	2	25	
1,2,3-Trichloropropane	37.5	10	ug/kg	50.0	ND	75	50-150	12	30	
1,2,4-Trimethylbenzene	43.9	2.0	ug/kg	50.0	ND	88	65-140	3	25	
1,3,5-Trimethylbenzene	42.9	2.0	ug/kg	50.0	ND	86	65-135	4	25	
Vinyl acetate	4.26	5.0	ug/kg	50.0	ND	9	40-150	68	30	*M2, R-3*
Vinyl chloride	36.3	5.0	ug/kg	50.0	ND	73	55-140	6	30	
m,p-Xylenes	84.6	2.0	ug/kg	100	ND	85	70-130	1	25	
o-Xylene	43.6	2.0	ug/kg	50.0	ND	87	65-130	1	25	
Methyl-tert-butyl Ether (MTBE)	39.4	5.0	ug/kg	50.0	ND	79	55-155	7	35	
Surrogate: 4-Bromofluorobenzene	*47.6*		*ug/kg*	*50.0*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*46.4*		*ug/kg*	*50.0*		*93*	*80-125*			
Surrogate: Toluene-d8	*49.2*		*ug/kg*	*50.0*		*98*	*80-120*			

TestAmerica Irvine

D.J. Watson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Blank Analyzed: 10/05/2009 (9J05021-BLK1)										
Acetone	ND	10	ug/kg							
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
2-Butanone (MEK)	ND	10	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon Disulfide	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							

TestAmerica Irvine

D.J. Watson
Project Manager

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1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Blank Analyzed: 10/05/2009 (9J05021-BLK1)										
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
2-Hexanone	ND	10	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
Trichlorotrifluoroethane (Freon 113)	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl acetate	ND	5.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*57.9*		*ug/kg*	*50.0*		*116*	*80-120*			
Surrogate: Dibromofluoromethane	*53.5*		*ug/kg*	*50.0*		*107*	*80-125*			
Surrogate: Toluene-d8	*59.1*		*ug/kg*	*50.0*		*118*	*80-120*			

TestAmerica Irvine

D.J. Watson
Project Manager

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
LCS Analyzed: 10/05/2009 (9J05021-BS1)										
Acetone	63.8	10	ug/kg	50.0		128	25-145			
Benzene	46.0	2.0	ug/kg	50.0		92	65-120			
Bromobenzene	49.0	5.0	ug/kg	50.0		98	75-120			
Bromochloromethane	51.4	5.0	ug/kg	50.0		103	70-135			
Bromodichloromethane	55.2	2.0	ug/kg	50.0		110	70-135			
Bromoform	39.5	5.0	ug/kg	50.0		79	55-135			
Bromomethane	46.0	5.0	ug/kg	50.0		92	60-145			
2-Butanone (MEK)	56.9	10	ug/kg	50.0		114	40-145			
n-Butylbenzene	51.4	5.0	ug/kg	50.0		103	70-130			
sec-Butylbenzene	49.2	5.0	ug/kg	50.0		98	70-125			
tert-Butylbenzene	46.2	5.0	ug/kg	50.0		92	70-125			
Carbon Disulfide	52.7	5.0	ug/kg	50.0		105	50-130			
Carbon tetrachloride	52.7	5.0	ug/kg	50.0		105	65-140			
Chlorobenzene	51.5	2.0	ug/kg	50.0		103	75-120			
Chloroethane	48.9	5.0	ug/kg	50.0		98	60-140			
Chloroform	46.6	2.0	ug/kg	50.0		93	70-130			
Chloromethane	54.6	5.0	ug/kg	50.0		109	45-145			
2-Chlorotoluene	48.6	5.0	ug/kg	50.0		97	70-125			
4-Chlorotoluene	50.2	5.0	ug/kg	50.0		100	75-125			
1,2-Dibromo-3-chloropropane	61.6	5.0	ug/kg	50.0		123	50-135			
Dibromochloromethane	47.8	2.0	ug/kg	50.0		96	65-140			
1,2-Dibromoethane (EDB)	53.1	2.0	ug/kg	50.0		106	70-130			
Dibromomethane	55.5	2.0	ug/kg	50.0		111	70-130			
1,2-Dichlorobenzene	51.1	2.0	ug/kg	50.0		102	75-120			
1,3-Dichlorobenzene	51.0	2.0	ug/kg	50.0		102	75-125			
1,4-Dichlorobenzene	49.0	2.0	ug/kg	50.0		98	75-120			
Dichlorodifluoromethane	47.3	5.0	ug/kg	50.0		95	35-160			
1,1-Dichloroethane	51.4	2.0	ug/kg	50.0		103	70-130			
1,2-Dichloroethane	52.8	2.0	ug/kg	50.0		106	60-140			
1,1-Dichloroethene	47.4	5.0	ug/kg	50.0		95	70-125			
cis-1,2-Dichloroethene	50.7	2.0	ug/kg	50.0		101	70-125			
trans-1,2-Dichloroethene	47.4	2.0	ug/kg	50.0		95	70-125			
1,2-Dichloropropane	51.1	2.0	ug/kg	50.0		102	70-130			
1,3-Dichloropropane	53.7	2.0	ug/kg	50.0		107	70-125			
2,2-Dichloropropane	64.4	2.0	ug/kg	50.0		129	60-145			
1,1-Dichloropropene	53.6	2.0	ug/kg	50.0		107	70-130			

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1220 Quarry Lane
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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
LCS Analyzed: 10/05/2009 (9J05021-BS1)										
cis-1,3-Dichloropropene	66.1	2.0	ug/kg	50.0		132	75-125			*L*
trans-1,3-Dichloropropene	53.1	2.0	ug/kg	50.0		106	70-135			
Ethylbenzene	48.8	2.0	ug/kg	50.0		98	70-125			
Hexachlorobutadiene	46.1	5.0	ug/kg	50.0		92	60-135			
2-Hexanone	71.3	10	ug/kg	50.0		143	40-150			
Isopropylbenzene	47.6	2.0	ug/kg	50.0		95	75-130			
p-Isopropyltoluene	50.0	2.0	ug/kg	50.0		100	75-125			
4-Methyl-2-pentanone (MIBK)	70.5	5.0	ug/kg	50.0		141	40-145			
Methylene chloride	48.1	20	ug/kg	50.0		96	55-135			
Naphthalene	50.7	5.0	ug/kg	50.0		101	55-135			
n-Propylbenzene	50.2	2.0	ug/kg	50.0		100	70-130			
Styrene	51.1	2.0	ug/kg	50.0		102	75-130			
1,1,1,2-Tetrachloroethane	51.3	5.0	ug/kg	50.0		103	70-130			
1,1,2,2-Tetrachloroethane	57.3	2.0	ug/kg	50.0		115	55-140			
Tetrachloroethene	49.8	2.0	ug/kg	50.0		100	70-125			
Toluene	47.7	2.0	ug/kg	50.0		95	70-125			
1,2,3-Trichlorobenzene	50.2	5.0	ug/kg	50.0		100	60-130			
1,2,4-Trichlorobenzene	53.4	5.0	ug/kg	50.0		107	70-135			
1,1,1-Trichloroethane	50.5	2.0	ug/kg	50.0		101	65-135			
1,1,2-Trichloroethane	53.4	2.0	ug/kg	50.0		107	65-135			
Trichloroethene	47.4	2.0	ug/kg	50.0		95	70-125			
Trichlorofluoromethane	49.7	5.0	ug/kg	50.0		99	60-145			
1,2,3-Trichloropropane	59.5	10	ug/kg	50.0		119	60-135			
1,2,4-Trimethylbenzene	49.7	2.0	ug/kg	50.0		99	70-125			
1,3,5-Trimethylbenzene	49.0	2.0	ug/kg	50.0		98	70-125			
Vinyl acetate	54.1	5.0	ug/kg	50.0		108	45-145			
Vinyl chloride	46.6	5.0	ug/kg	50.0		93	55-135			
m,p-Xylenes	97.4	2.0	ug/kg	100		97	70-125			
o-Xylene	49.2	2.0	ug/kg	50.0		98	70-125			
Methyl-tert-butyl Ether (MTBE)	52.9	5.0	ug/kg	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*58.6*		*ug/kg*	*50.0*		*117*	*80-120*			
Surrogate: Dibromofluoromethane	*55.5*		*ug/kg*	*50.0*		*111*	*80-125*			
Surrogate: Toluene-d8	*59.2*		*ug/kg*	*50.0*		*118*	*80-120*			

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Project Manager

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Matrix Spike Analyzed: 10/05/2009 (9J05021-MS1)					**Source: ISI2290-01**					
Acetone	90.5	9.9	ug/kg	49.5	ND	183	20-145			*M1*
Benzene	43.8	2.0	ug/kg	49.5	ND	88	65-130			
Bromobenzene	51.1	5.0	ug/kg	49.5	ND	103	65-140			
Bromochloromethane	51.5	5.0	ug/kg	49.5	ND	104	65-145			
Bromodichloromethane	52.5	2.0	ug/kg	49.5	ND	106	65-145			
Bromoform	37.0	5.0	ug/kg	49.5	ND	75	50-145			
Bromomethane	45.0	5.0	ug/kg	49.5	ND	91	60-155			
2-Butanone (MEK)	51.5	9.9	ug/kg	49.5	ND	104	25-170			
n-Butylbenzene	38.5	5.0	ug/kg	49.5	ND	78	55-145			
sec-Butylbenzene	42.4	5.0	ug/kg	49.5	ND	86	60-135			
tert-Butylbenzene	43.2	5.0	ug/kg	49.5	ND	87	60-140			
Carbon Disulfide	48.3	5.0	ug/kg	49.5	ND	98	40-140			
Carbon tetrachloride	48.9	5.0	ug/kg	49.5	ND	99	60-145			
Chlorobenzene	47.5	2.0	ug/kg	49.5	ND	96	70-130			
Chloroethane	48.2	5.0	ug/kg	49.5	ND	97	60-150			
Chloroform	47.2	2.0	ug/kg	49.5	ND	95	65-135			
Chloromethane	44.2	5.0	ug/kg	49.5	ND	89	40-145			
2-Chlorotoluene	48.1	5.0	ug/kg	49.5	ND	97	60-135			
4-Chlorotoluene	49.1	5.0	ug/kg	49.5	ND	99	65-135			
1,2-Dibromo-3-chloropropane	59.9	5.0	ug/kg	49.5	ND	121	40-150			
Dibromochloromethane	46.6	2.0	ug/kg	49.5	ND	94	60-145			
1,2-Dibromoethane (EDB)	51.7	2.0	ug/kg	49.5	ND	104	65-140			
Dibromomethane	51.5	2.0	ug/kg	49.5	ND	104	65-140			
1,2-Dichlorobenzene	48.2	2.0	ug/kg	49.5	ND	97	70-130			
1,3-Dichlorobenzene	47.9	2.0	ug/kg	49.5	ND	97	70-130			
1,4-Dichlorobenzene	46.4	2.0	ug/kg	49.5	ND	94	70-130			
Dichlorodifluoromethane	30.0	5.0	ug/kg	49.5	ND	61	30-160			
1,1-Dichloroethane	52.0	2.0	ug/kg	49.5	ND	105	65-135			
1,2-Dichloroethane	50.4	2.0	ug/kg	49.5	ND	102	60-150			
1,1-Dichloroethene	44.2	5.0	ug/kg	49.5	ND	89	65-135			
cis-1,2-Dichloroethene	50.7	2.0	ug/kg	49.5	ND	102	65-135			
trans-1,2-Dichloroethene	46.7	2.0	ug/kg	49.5	ND	94	70-135			
1,2-Dichloropropane	49.5	2.0	ug/kg	49.5	ND	100	65-130			
1,3-Dichloropropane	53.0	2.0	ug/kg	49.5	ND	107	65-140			
2,2-Dichloropropane	66.4	2.0	ug/kg	49.5	ND	134	65-150			
1,1-Dichloropropene	48.0	2.0	ug/kg	49.5	ND	97	65-135			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Matrix Spike Analyzed: 10/05/2009 (9J05021-MS1)					**Source: ISI2290-01**					
cis-1,3-Dichloropropene	62.5	2.0	ug/kg	49.5	ND	126	70-135			
trans-1,3-Dichloropropene	49.0	2.0	ug/kg	49.5	ND	99	60-145			
Ethylbenzene	44.7	2.0	ug/kg	49.5	ND	90	70-135			
Hexachlorobutadiene	21.0	5.0	ug/kg	49.5	ND	42	50-145			*M2*
2-Hexanone	58.1	9.9	ug/kg	49.5	ND	117	35-160			
Isopropylbenzene	47.6	2.0	ug/kg	49.5	ND	96	70-145			
p-Isopropyltoluene	42.9	2.0	ug/kg	49.5	ND	87	60-140			
4-Methyl-2-pentanone (MIBK)	61.7	5.0	ug/kg	49.5	ND	125	40-155			
Methylene chloride	48.2	20	ug/kg	49.5	ND	97	55-145			
Naphthalene	42.3	5.0	ug/kg	49.5	ND	86	40-150			
n-Propylbenzene	47.4	2.0	ug/kg	49.5	ND	96	65-140			
Styrene	46.7	2.0	ug/kg	49.5	ND	94	70-140			
1,1,1,2-Tetrachloroethane	49.5	5.0	ug/kg	49.5	ND	100	65-145			
1,1,2,2-Tetrachloroethane	58.7	2.0	ug/kg	49.5	ND	119	40-160			
Tetrachloroethene	44.7	2.0	ug/kg	49.5	ND	90	65-135			
Toluene	44.2	2.0	ug/kg	49.5	ND	89	70-130			
1,2,3-Trichlorobenzene	35.5	5.0	ug/kg	49.5	ND	72	45-145			
1,2,4-Trichlorobenzene	38.6	5.0	ug/kg	49.5	ND	78	50-140			
1,1,1-Trichloroethane	51.4	2.0	ug/kg	49.5	ND	104	65-145			
1,1,2-Trichloroethane	50.1	2.0	ug/kg	49.5	ND	101	65-140			
Trichloroethene	45.3	2.0	ug/kg	49.5	ND	92	65-140			
Trichlorofluoromethane	47.3	5.0	ug/kg	49.5	ND	96	55-155			
1,2,3-Trichloropropane	64.0	9.9	ug/kg	49.5	ND	129	50-150			
1,2,4-Trimethylbenzene	48.0	2.0	ug/kg	49.5	ND	97	65-140			
1,3,5-Trimethylbenzene	47.2	2.0	ug/kg	49.5	ND	95	65-135			
Vinyl acetate	2.51	5.0	ug/kg	49.5	ND	5	40-150			*M2*
Vinyl chloride	44.8	5.0	ug/kg	49.5	ND	90	55-140			
m,p-Xylenes	87.8	2.0	ug/kg	99.0	ND	89	70-130			
o-Xylene	45.6	2.0	ug/kg	49.5	ND	92	65-130			
Methyl-tert-butyl Ether (MTBE)	52.1	5.0	ug/kg	49.5	ND	105	55-155			
Surrogate: 4-Bromofluorobenzene	*54.8*		*ug/kg*	*49.5*		*111*	*80-120*			
Surrogate: Dibromofluoromethane	*57.9*		*ug/kg*	*49.5*		*117*	*80-125*			
Surrogate: Toluene-d8	*57.5*		*ug/kg*	*49.5*		*116*	*80-120*			

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Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Matrix Spike Dup Analyzed: 10/05/2009 (9J05021-MSD1)					**Source: ISI2290-01**					
Acetone	90.0	10	ug/kg	49.8	ND	181	20-145	1	40	*M1*
Benzene	43.9	2.0	ug/kg	49.8	ND	88	65-130	0	20	
Bromobenzene	48.5	5.0	ug/kg	49.8	ND	97	65-140	5	25	
Bromochloromethane	51.2	5.0	ug/kg	49.8	ND	103	65-145	1	25	
Bromodichloromethane	53.2	2.0	ug/kg	49.8	ND	107	65-145	1	20	
Bromoform	37.4	5.0	ug/kg	49.8	ND	75	50-145	1	30	
Bromomethane	39.4	5.0	ug/kg	49.8	ND	79	60-155	13	25	
2-Butanone (MEK)	54.0	10	ug/kg	49.8	ND	108	25-170	5	40	
n-Butylbenzene	40.1	5.0	ug/kg	49.8	ND	80	55-145	4	30	
sec-Butylbenzene	42.1	5.0	ug/kg	49.8	ND	85	60-135	1	25	
tert-Butylbenzene	42.1	5.0	ug/kg	49.8	ND	85	60-140	2	25	
Carbon Disulfide	47.5	5.0	ug/kg	49.8	ND	95	40-140	2	20	
Carbon tetrachloride	49.4	5.0	ug/kg	49.8	ND	99	60-145	1	25	
Chlorobenzene	47.2	2.0	ug/kg	49.8	ND	95	70-130	1	25	
Chloroethane	45.2	5.0	ug/kg	49.8	ND	91	60-150	7	25	
Chloroform	46.7	2.0	ug/kg	49.8	ND	94	65-135	1	20	
Chloromethane	46.1	5.0	ug/kg	49.8	ND	92	40-145	4	25	
2-Chlorotoluene	46.0	5.0	ug/kg	49.8	ND	92	60-135	4	25	
4-Chlorotoluene	47.3	5.0	ug/kg	49.8	ND	95	65-135	4	25	
1,2-Dibromo-3-chloropropane	58.7	5.0	ug/kg	49.8	ND	118	40-150	2	30	
Dibromochloromethane	47.3	2.0	ug/kg	49.8	ND	95	60-145	1	25	
1,2-Dibromoethane (EDB)	51.2	2.0	ug/kg	49.8	ND	103	65-140	1	25	
Dibromomethane	51.9	2.0	ug/kg	49.8	ND	104	65-140	1	25	
1,2-Dichlorobenzene	47.2	2.0	ug/kg	49.8	ND	95	70-130	2	25	
1,3-Dichlorobenzene	46.4	2.0	ug/kg	49.8	ND	93	70-130	3	25	
1,4-Dichlorobenzene	45.1	2.0	ug/kg	49.8	ND	90	70-130	3	25	
Dichlorodifluoromethane	29.6	5.0	ug/kg	49.8	ND	59	30-160	1	35	
1,1-Dichloroethane	51.4	2.0	ug/kg	49.8	ND	103	65-135	1	25	
1,2-Dichloroethane	50.7	2.0	ug/kg	49.8	ND	102	60-150	1	25	
1,1-Dichloroethene	44.9	5.0	ug/kg	49.8	ND	90	65-135	1	25	
cis-1,2-Dichloroethene	50.3	2.0	ug/kg	49.8	ND	101	65-135	1	25	
trans-1,2-Dichloroethene	45.9	2.0	ug/kg	49.8	ND	92	70-135	2	25	
1,2-Dichloropropane	49.9	2.0	ug/kg	49.8	ND	100	65-130	1	20	
1,3-Dichloropropane	52.6	2.0	ug/kg	49.8	ND	106	65-140	1	25	
2,2-Dichloropropane	63.7	2.0	ug/kg	49.8	ND	128	65-150	4	25	
1,1-Dichloropropene	48.8	2.0	ug/kg	49.8	ND	98	65-135	2	20	

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Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752

Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J05021 Extracted: 10/05/09										
Matrix Spike Dup Analyzed: 10/05/2009 (9J05021-MSD1)					**Source: ISI2290-01**					
cis-1,3-Dichloropropene	62.6	2.0	ug/kg	49.8	ND	126	70-135	0	25	
trans-1,3-Dichloropropene	50.0	2.0	ug/kg	49.8	ND	100	60-145	2	25	
Ethylbenzene	44.6	2.0	ug/kg	49.8	ND	90	70-135	0	25	
Hexachlorobutadiene	25.3	5.0	ug/kg	49.8	ND	51	50-145	19	35	
2-Hexanone	56.4	10	ug/kg	49.8	ND	113	35-160	3	40	
Isopropylbenzene	45.9	2.0	ug/kg	49.8	ND	92	70-145	4	25	
p-Isopropyltoluene	42.9	2.0	ug/kg	49.8	ND	86	60-140	0	25	
4-Methyl-2-pentanone (MIBK)	62.0	5.0	ug/kg	49.8	ND	124	40-155	0	40	
Methylene chloride	47.8	20	ug/kg	49.8	ND	96	55-145	1	25	
Naphthalene	43.0	5.0	ug/kg	49.8	ND	86	40-150	2	40	
n-Propylbenzene	46.0	2.0	ug/kg	49.8	ND	92	65-140	3	25	
Styrene	46.2	2.0	ug/kg	49.8	ND	93	70-140	1	25	
1,1,1,2-Tetrachloroethane	49.8	5.0	ug/kg	49.8	ND	100	65-145	1	20	
1,1,2,2-Tetrachloroethane	54.8	2.0	ug/kg	49.8	ND	110	40-160	7	30	
Tetrachloroethene	44.2	2.0	ug/kg	49.8	ND	89	65-135	1	25	
Toluene	44.3	2.0	ug/kg	49.8	ND	89	70-130	0	20	
1,2,3-Trichlorobenzene	37.8	5.0	ug/kg	49.8	ND	76	45-145	6	30	
1,2,4-Trichlorobenzene	40.7	5.0	ug/kg	49.8	ND	82	50-140	5	30	
1,1,1-Trichloroethane	50.8	2.0	ug/kg	49.8	ND	102	65-145	1	20	
1,1,2-Trichloroethane	50.2	2.0	ug/kg	49.8	ND	101	65-140	0	30	
Trichloroethene	45.8	2.0	ug/kg	49.8	ND	92	65-140	1	25	
Trichlorofluoromethane	46.2	5.0	ug/kg	49.8	ND	93	55-155	2	25	
1,2,3-Trichloropropane	60.0	10	ug/kg	49.8	ND	121	50-150	6	30	
1,2,4-Trimethylbenzene	46.7	2.0	ug/kg	49.8	ND	94	65-140	3	25	
1,3,5-Trimethylbenzene	45.9	2.0	ug/kg	49.8	ND	92	65-135	3	25	
Vinyl acetate	3.75	5.0	ug/kg	49.8	ND	8	40-150	39	30	*M2, R-3*
Vinyl chloride	42.4	5.0	ug/kg	49.8	ND	85	55-140	6	30	
m,p-Xylenes	87.2	2.0	ug/kg	99.6	ND	88	70-130	1	25	
o-Xylene	45.5	2.0	ug/kg	49.8	ND	91	65-130	0	25	
Methyl-tert-butyl Ether (MTBE)	52.0	5.0	ug/kg	49.8	ND	104	55-155	0	35	
Surrogate: 4-Bromofluorobenzene	*56.1*		*ug/kg*	*49.8*		*113*	*80-120*			
Surrogate: Dibromofluoromethane	*56.9*		*ug/kg*	*49.8*		*114*	*80-125*			
Surrogate: Toluene-d8	*58.4*		*ug/kg*	*49.8*		*117*	*80-120*			

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Blank Analyzed: 10/06/2009 (9J06012-BLK1)										
Acetone	ND	10	ug/kg							
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
2-Butanone (MEK)	ND	10	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon Disulfide	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Blank Analyzed: 10/06/2009 (9J06012-BLK1)										
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
2-Hexanone	ND	10	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
Trichlorotrifluoroethane (Freon 113)	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl acetate	ND	5.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	*47.5*		*ug/kg*	*50.0*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*46.1*		*ug/kg*	*50.0*		*92*	*80-125*			
Surrogate: Toluene-d8	*52.6*		*ug/kg*	*50.0*		*105*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
LCS Analyzed: 10/06/2009 (9J06012-BS1)										
Acetone	29.8	10	ug/kg	50.0		60	25-145			
Benzene	44.3	2.0	ug/kg	50.0		89	65-120			
Bromobenzene	53.3	5.0	ug/kg	50.0		107	75-120			
Bromochloromethane	52.1	5.0	ug/kg	50.0		104	70-135			
Bromodichloromethane	56.7	2.0	ug/kg	50.0		113	70-135			
Bromoform	45.7	5.0	ug/kg	50.0		91	55-135			
Bromomethane	44.4	5.0	ug/kg	50.0		89	60-145			
2-Butanone (MEK)	40.3	10	ug/kg	50.0		81	40-145			
n-Butylbenzene	47.2	5.0	ug/kg	50.0		94	70-130			
sec-Butylbenzene	49.7	5.0	ug/kg	50.0		99	70-125			
tert-Butylbenzene	54.8	5.0	ug/kg	50.0		110	70-125			
Carbon Disulfide	42.8	5.0	ug/kg	50.0		86	50-130			
Carbon tetrachloride	61.6	5.0	ug/kg	50.0		123	65-140			
Chlorobenzene	49.0	2.0	ug/kg	50.0		98	75-120			
Chloroethane	40.6	5.0	ug/kg	50.0		81	60-140			
Chloroform	47.9	2.0	ug/kg	50.0		96	70-130			
Chloromethane	42.1	5.0	ug/kg	50.0		84	45-145			
2-Chlorotoluene	49.9	5.0	ug/kg	50.0		100	70-125			
4-Chlorotoluene	50.6	5.0	ug/kg	50.0		101	75-125			
1,2-Dibromo-3-chloropropane	53.5	5.0	ug/kg	50.0		107	50-135			
Dibromochloromethane	54.6	2.0	ug/kg	50.0		109	65-140			
1,2-Dibromoethane (EDB)	51.6	2.0	ug/kg	50.0		103	70-130			
Dibromomethane	53.5	2.0	ug/kg	50.0		107	70-130			
1,2-Dichlorobenzene	56.2	2.0	ug/kg	50.0		112	75-120			
1,3-Dichlorobenzene	53.3	2.0	ug/kg	50.0		107	75-125			
1,4-Dichlorobenzene	52.2	2.0	ug/kg	50.0		104	75-120			
Dichlorodifluoromethane	43.7	5.0	ug/kg	50.0		87	35-160			
1,1-Dichloroethane	46.1	2.0	ug/kg	50.0		92	70-130			
1,2-Dichloroethane	58.4	2.0	ug/kg	50.0		117	60-140			
1,1-Dichloroethene	47.5	5.0	ug/kg	50.0		95	70-125			
cis-1,2-Dichloroethene	50.3	2.0	ug/kg	50.0		101	70-125			
trans-1,2-Dichloroethene	47.6	2.0	ug/kg	50.0		95	70-125			
1,2-Dichloropropane	44.6	2.0	ug/kg	50.0		89	70-130			
1,3-Dichloropropane	46.4	2.0	ug/kg	50.0		93	70-125			
2,2-Dichloropropane	61.4	2.0	ug/kg	50.0		123	60-145			
1,1-Dichloropropene	53.5	2.0	ug/kg	50.0		107	70-130			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
LCS Analyzed: 10/06/2009 (9J06012-BS1)										
cis-1,3-Dichloropropene	66.3	2.0	ug/kg	50.0		133	75-125			*L*
trans-1,3-Dichloropropene	53.9	2.0	ug/kg	50.0		108	70-135			
Ethylbenzene	47.3	2.0	ug/kg	50.0		95	70-125			
Hexachlorobutadiene	52.9	5.0	ug/kg	50.0		106	60-135			
2-Hexanone	42.2	10	ug/kg	50.0		84	40-150			
Isopropylbenzene	52.0	2.0	ug/kg	50.0		104	75-130			
p-Isopropyltoluene	55.5	2.0	ug/kg	50.0		111	75-125			
4-Methyl-2-pentanone (MIBK)	49.4	5.0	ug/kg	50.0		99	40-145			
Methylene chloride	38.9	20	ug/kg	50.0		78	55-135			
Naphthalene	55.1	5.0	ug/kg	50.0		110	55-135			
n-Propylbenzene	47.2	2.0	ug/kg	50.0		94	70-130			
Styrene	53.1	2.0	ug/kg	50.0		106	75-130			
1,1,1,2-Tetrachloroethane	52.8	5.0	ug/kg	50.0		106	70-130			
1,1,2,2-Tetrachloroethane	43.2	2.0	ug/kg	50.0		86	55-140			
Tetrachloroethene	51.0	2.0	ug/kg	50.0		102	70-125			
Toluene	50.2	2.0	ug/kg	50.0		100	70-125			
1,2,3-Trichlorobenzene	54.1	5.0	ug/kg	50.0		108	60-130			
1,2,4-Trichlorobenzene	56.0	5.0	ug/kg	50.0		112	70-135			
1,1,1-Trichloroethane	56.3	2.0	ug/kg	50.0		113	65-135			
1,1,2-Trichloroethane	48.6	2.0	ug/kg	50.0		97	65-135			
Trichloroethene	52.8	2.0	ug/kg	50.0		106	70-125			
Trichlorofluoromethane	50.4	5.0	ug/kg	50.0		101	60-145			
1,2,3-Trichloropropane	46.5	10	ug/kg	50.0		93	60-135			
1,2,4-Trimethylbenzene	54.9	2.0	ug/kg	50.0		110	70-125			
1,3,5-Trimethylbenzene	53.4	2.0	ug/kg	50.0		107	70-125			
Vinyl acetate	47.1	5.0	ug/kg	50.0		94	45-145			
Vinyl chloride	45.3	5.0	ug/kg	50.0		91	55-135			
m,p-Xylenes	100	2.0	ug/kg	100		100	70-125			
o-Xylene	51.8	2.0	ug/kg	50.0		104	70-125			
Methyl-tert-butyl Ether (MTBE)	52.1	5.0	ug/kg	50.0		104	60-140			
Surrogate: 4-Bromofluorobenzene	*48.4*		*ug/kg*	*50.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*49.4*		*ug/kg*	*50.0*		*99*	*80-125*			
Surrogate: Toluene-d8	*52.6*		*ug/kg*	*50.0*		*105*	*80-120*			

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Matrix Spike Analyzed: 10/06/2009 (9J06012-MS1)					**Source: ISJ0187-11**					
Acetone	32.8	8.9	ug/kg	44.3	ND	74	20-145			
Benzene	41.3	1.8	ug/kg	44.3	ND	93	65-130			
Bromobenzene	49.5	4.4	ug/kg	44.3	ND	112	65-140			
Bromochloromethane	47.9	4.4	ug/kg	44.3	ND	108	65-145			
Bromodichloromethane	52.9	1.8	ug/kg	44.3	ND	119	65-145			
Bromoform	44.2	4.4	ug/kg	44.3	ND	100	50-145			
Bromomethane	39.9	4.4	ug/kg	44.3	ND	90	60-155			
2-Butanone (MEK)	38.4	8.9	ug/kg	44.3	ND	87	25-170			
n-Butylbenzene	45.3	4.4	ug/kg	44.3	ND	102	55-145			
sec-Butylbenzene	47.1	4.4	ug/kg	44.3	ND	106	60-135			
tert-Butylbenzene	51.2	4.4	ug/kg	44.3	ND	115	60-140			
Carbon Disulfide	39.2	4.4	ug/kg	44.3	ND	88	40-140			
Carbon tetrachloride	58.4	4.4	ug/kg	44.3	ND	132	60-145			
Chlorobenzene	45.5	1.8	ug/kg	44.3	ND	103	70-130			
Chloroethane	37.3	4.4	ug/kg	44.3	ND	84	60-150			
Chloroform	43.1	1.8	ug/kg	44.3	ND	97	65-135			
Chloromethane	37.1	4.4	ug/kg	44.3	ND	84	40-145			
2-Chlorotoluene	46.8	4.4	ug/kg	44.3	ND	106	60-135			
4-Chlorotoluene	48.1	4.4	ug/kg	44.3	ND	108	65-135			
1,2-Dibromo-3-chloropropane	50.8	4.4	ug/kg	44.3	ND	115	40-150			
Dibromochloromethane	51.6	1.8	ug/kg	44.3	ND	116	60-145			
1,2-Dibromoethane (EDB)	48.6	1.8	ug/kg	44.3	ND	110	65-140			
Dibromomethane	49.9	1.8	ug/kg	44.3	ND	113	65-140			
1,2-Dichlorobenzene	52.1	1.8	ug/kg	44.3	ND	118	70-130			
1,3-Dichlorobenzene	49.6	1.8	ug/kg	44.3	ND	112	70-130			
1,4-Dichlorobenzene	48.7	1.8	ug/kg	44.3	ND	110	70-130			
Dichlorodifluoromethane	39.0	4.4	ug/kg	44.3	ND	88	30-160			
1,1-Dichloroethane	41.6	1.8	ug/kg	44.3	ND	94	65-135			
1,2-Dichloroethane	55.9	1.8	ug/kg	44.3	ND	126	60-150			
1,1-Dichloroethene	42.5	4.4	ug/kg	44.3	ND	96	65-135			
cis-1,2-Dichloroethene	44.6	1.8	ug/kg	44.3	ND	101	65-135			
trans-1,2-Dichloroethene	42.6	1.8	ug/kg	44.3	ND	96	70-135			
1,2-Dichloropropane	41.2	1.8	ug/kg	44.3	ND	93	65-130			
1,3-Dichloropropane	44.2	1.8	ug/kg	44.3	ND	100	65-140			
2,2-Dichloropropane	55.3	1.8	ug/kg	44.3	ND	125	65-150			
1,1-Dichloropropene	51.2	1.8	ug/kg	44.3	ND	115	65-135			

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D.J. Watson
Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Matrix Spike Analyzed: 10/06/2009 (9J06012-MS1)					**Source: ISJ0187-11**					
cis-1,3-Dichloropropene	61.3	1.8	ug/kg	44.3	ND	138	70-135			*M7*
trans-1,3-Dichloropropene	50.7	1.8	ug/kg	44.3	ND	114	60-145			
Ethylbenzene	44.2	1.8	ug/kg	44.3	ND	100	70-135			
Hexachlorobutadiene	44.5	4.4	ug/kg	44.3	ND	100	50-145			
2-Hexanone	41.2	8.9	ug/kg	44.3	ND	93	35-160			
Isopropylbenzene	49.6	1.8	ug/kg	44.3	ND	112	70-145			
p-Isopropyltoluene	53.0	1.8	ug/kg	44.3	ND	119	60-140			
4-Methyl-2-pentanone (MIBK)	48.8	4.4	ug/kg	44.3	ND	110	40-155			
Methylene chloride	34.8	18	ug/kg	44.3	ND	78	55-145			
Naphthalene	48.7	4.4	ug/kg	44.3	ND	110	40-150			
n-Propylbenzene	45.0	1.8	ug/kg	44.3	ND	102	65-140			
Styrene	49.1	1.8	ug/kg	44.3	ND	111	70-140			
1,1,1,2-Tetrachloroethane	49.0	4.4	ug/kg	44.3	ND	110	65-145			
1,1,2,2-Tetrachloroethane	42.6	1.8	ug/kg	44.3	ND	96	40-160			
Tetrachloroethene	49.0	1.8	ug/kg	44.3	ND	111	65-135			
Toluene	46.7	1.8	ug/kg	44.3	ND	105	70-130			
1,2,3-Trichlorobenzene	47.7	4.4	ug/kg	44.3	ND	108	45-145			
1,2,4-Trichlorobenzene	51.8	4.4	ug/kg	44.3	ND	117	50-140			
1,1,1-Trichloroethane	51.2	1.8	ug/kg	44.3	ND	115	65-145			
1,1,2-Trichloroethane	45.7	1.8	ug/kg	44.3	ND	103	65-140			
Trichloroethene	49.1	1.8	ug/kg	44.3	ND	111	65-140			
Trichlorofluoromethane	46.4	4.4	ug/kg	44.3	ND	105	55-155			
1,2,3-Trichloropropane	45.4	8.9	ug/kg	44.3	ND	102	50-150			
1,2,4-Trimethylbenzene	51.3	1.8	ug/kg	44.3	ND	116	65-140			
1,3,5-Trimethylbenzene	50.7	1.8	ug/kg	44.3	ND	114	65-135			
Vinyl acetate	39.7	4.4	ug/kg	44.3	ND	89	40-150			
Vinyl chloride	40.9	4.4	ug/kg	44.3	ND	92	55-140			
m,p-Xylenes	94.6	1.8	ug/kg	88.7	ND	107	70-130			
o-Xylene	47.8	1.8	ug/kg	44.3	ND	108	65-130			
Methyl-tert-butyl Ether (MTBE)	60.4	4.4	ug/kg	44.3	17.2	97	55-155			
Surrogate: 4-Bromofluorobenzene	*43.0*		*ug/kg*	*44.3*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*42.1*		*ug/kg*	*44.3*		*95*	*80-125*			
Surrogate: Toluene-d8	*46.6*		*ug/kg*	*44.3*		*105*	*80-120*			

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Matrix Spike Dup Analyzed: 10/06/2009 (9J06012-MSD1)					**Source: ISJ0187-11**					
Acetone	30.8	8.6	ug/kg	42.8	ND	72	20-145	6	40	
Benzene	36.1	1.7	ug/kg	42.8	ND	84	65-130	13	20	
Bromobenzene	44.6	4.3	ug/kg	42.8	ND	104	65-140	10	25	
Bromochloromethane	42.1	4.3	ug/kg	42.8	ND	98	65-145	13	25	
Bromodichloromethane	46.8	1.7	ug/kg	42.8	ND	109	65-145	12	20	
Bromoform	39.7	4.3	ug/kg	42.8	ND	93	50-145	11	30	
Bromomethane	35.1	4.3	ug/kg	42.8	ND	82	60-155	13	25	
2-Butanone (MEK)	37.0	8.6	ug/kg	42.8	ND	86	25-170	4	40	
n-Butylbenzene	38.9	4.3	ug/kg	42.8	ND	91	55-145	15	30	
sec-Butylbenzene	41.1	4.3	ug/kg	42.8	ND	96	60-135	14	25	
tert-Butylbenzene	44.8	4.3	ug/kg	42.8	ND	105	60-140	13	25	
Carbon Disulfide	34.2	4.3	ug/kg	42.8	ND	80	40-140	14	20	
Carbon tetrachloride	50.8	4.3	ug/kg	42.8	ND	119	60-145	14	25	
Chlorobenzene	40.7	1.7	ug/kg	42.8	ND	95	70-130	11	25	
Chloroethane	32.1	4.3	ug/kg	42.8	ND	75	60-150	15	25	
Chloroform	38.4	1.7	ug/kg	42.8	ND	90	65-135	12	20	
Chloromethane	33.2	4.3	ug/kg	42.8	ND	78	40-145	11	25	
2-Chlorotoluene	42.1	4.3	ug/kg	42.8	ND	98	60-135	11	25	
4-Chlorotoluene	42.7	4.3	ug/kg	42.8	ND	100	65-135	12	25	
1,2-Dibromo-3-chloropropane	46.6	4.3	ug/kg	42.8	ND	109	40-150	9	30	
Dibromochloromethane	46.3	1.7	ug/kg	42.8	ND	108	60-145	11	25	
1,2-Dibromoethane (EDB)	44.1	1.7	ug/kg	42.8	ND	103	65-140	10	25	
Dibromomethane	44.7	1.7	ug/kg	42.8	ND	104	65-140	11	25	
1,2-Dichlorobenzene	46.6	1.7	ug/kg	42.8	ND	109	70-130	11	25	
1,3-Dichlorobenzene	44.5	1.7	ug/kg	42.8	ND	104	70-130	11	25	
1,4-Dichlorobenzene	43.6	1.7	ug/kg	42.8	ND	102	70-130	11	25	
Dichlorodifluoromethane	33.7	4.3	ug/kg	42.8	ND	79	30-160	14	35	
1,1-Dichloroethane	36.8	1.7	ug/kg	42.8	ND	86	65-135	12	25	
1,2-Dichloroethane	48.6	1.7	ug/kg	42.8	ND	114	60-150	14	25	
1,1-Dichloroethene	37.5	4.3	ug/kg	42.8	ND	88	65-135	13	25	
cis-1,2-Dichloroethene	39.3	1.7	ug/kg	42.8	ND	92	65-135	13	25	
trans-1,2-Dichloroethene	37.7	1.7	ug/kg	42.8	ND	88	70-135	12	25	
1,2-Dichloropropane	35.6	1.7	ug/kg	42.8	ND	83	65-130	15	20	
1,3-Dichloropropane	39.6	1.7	ug/kg	42.8	ND	93	65-140	11	25	
2,2-Dichloropropane	49.4	1.7	ug/kg	42.8	ND	115	65-150	11	25	
1,1-Dichloropropene	43.8	1.7	ug/kg	42.8	ND	102	65-135	16	20	

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J06012 Extracted: 10/06/09										
Matrix Spike Dup Analyzed: 10/06/2009 (9J06012-MSD1)					**Source: ISJ0187-11**					
cis-1,3-Dichloropropene	53.5	1.7	ug/kg	42.8	ND	125	70-135	13	25	
trans-1,3-Dichloropropene	45.0	1.7	ug/kg	42.8	ND	105	60-145	12	25	
Ethylbenzene	39.0	1.7	ug/kg	42.8	ND	91	70-135	12	25	
Hexachlorobutadiene	36.7	4.3	ug/kg	42.8	ND	86	50-145	19	35	
2-Hexanone	40.6	8.6	ug/kg	42.8	ND	95	35-160	1	40	
Isopropylbenzene	44.0	1.7	ug/kg	42.8	ND	103	70-145	12	25	
p-Isopropyltoluene	45.6	1.7	ug/kg	42.8	ND	107	60-140	15	25	
4-Methyl-2-pentanone (MIBK)	44.6	4.3	ug/kg	42.8	ND	104	40-155	9	40	
Methylene chloride	31.1	17	ug/kg	42.8	ND	73	55-145	11	25	
Naphthalene	44.1	4.3	ug/kg	42.8	ND	103	40-150	10	40	
n-Propylbenzene	40.2	1.7	ug/kg	42.8	ND	94	65-140	11	25	
Styrene	43.6	1.7	ug/kg	42.8	ND	102	70-140	12	25	
1,1,1,2-Tetrachloroethane	43.8	4.3	ug/kg	42.8	ND	102	65-145	11	20	
1,1,2,2-Tetrachloroethane	39.8	1.7	ug/kg	42.8	ND	93	40-160	7	30	
Tetrachloroethene	42.0	1.7	ug/kg	42.8	ND	98	65-135	15	25	
Toluene	40.2	1.7	ug/kg	42.8	ND	94	70-130	15	20	
1,2,3-Trichlorobenzene	42.1	4.3	ug/kg	42.8	ND	98	45-145	13	30	
1,2,4-Trichlorobenzene	44.3	4.3	ug/kg	42.8	ND	103	50-140	16	30	
1,1,1-Trichloroethane	44.9	1.7	ug/kg	42.8	ND	105	65-145	13	20	
1,1,2-Trichloroethane	40.9	1.7	ug/kg	42.8	ND	96	65-140	11	30	
Trichloroethene	42.3	1.7	ug/kg	42.8	ND	99	65-140	15	25	
Trichlorofluoromethane	40.3	4.3	ug/kg	42.8	ND	94	55-155	14	25	
1,2,3-Trichloropropane	42.2	8.6	ug/kg	42.8	ND	99	50-150	7	30	
1,2,4-Trimethylbenzene	45.4	1.7	ug/kg	42.8	ND	106	65-140	12	25	
1,3,5-Trimethylbenzene	44.9	1.7	ug/kg	42.8	ND	105	65-135	12	25	
Vinyl acetate	35.7	4.3	ug/kg	42.8	ND	83	40-150	10	30	
Vinyl chloride	36.5	4.3	ug/kg	42.8	ND	85	55-140	11	30	
m,p-Xylenes	82.6	1.7	ug/kg	85.6	ND	97	70-130	14	25	
o-Xylene	42.2	1.7	ug/kg	42.8	ND	99	65-130	12	25	
Methyl-tert-butyl Ether (MTBE)	58.2	4.3	ug/kg	42.8	17.2	96	55-155	4	35	
Surrogate: 4-Bromofluorobenzene	*40.9*		*ug/kg*	*42.8*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*40.8*		*ug/kg*	*42.8*		*95*	*80-125*			
Surrogate: Toluene-d8	*44.8*		*ug/kg*	*42.8*		*105*	*80-120*			

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Project Manager

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Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I29055 Extracted: 09/29/09										
Blank Analyzed: 09/30/2009 (9I29055-BLK1)										
Antimony	ND	10	mg/kg							
Arsenic	ND	2.0	mg/kg							
Barium	ND	1.0	mg/kg							
Beryllium	ND	0.50	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Cobalt	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	2.0	mg/kg							
Molybdenum	ND	2.0	mg/kg							
Nickel	ND	2.0	mg/kg							
Selenium	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Thallium	ND	10	mg/kg							
Vanadium	ND	1.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 09/30/2009 (9I29055-BS1)										
Antimony	45.9	10	mg/kg	50.0		92	80-120			
Arsenic	46.3	2.0	mg/kg	50.0		93	80-120			
Barium	47.0	1.0	mg/kg	50.0		94	80-120			
Beryllium	47.5	0.50	mg/kg	50.0		95	80-120			
Cadmium	45.0	0.50	mg/kg	50.0		90	80-120			
Chromium	45.5	1.0	mg/kg	50.0		91	80-120			
Cobalt	44.4	1.0	mg/kg	50.0		89	80-120			
Copper	45.8	2.0	mg/kg	50.0		92	80-120			
Lead	46.7	2.0	mg/kg	50.0		93	80-120			
Molybdenum	44.4	2.0	mg/kg	50.0		89	80-120			
Nickel	46.7	2.0	mg/kg	50.0		93	80-120			
Selenium	44.4	2.0	mg/kg	50.0		89	80-120			
Silver	24.4	1.0	mg/kg	25.0		98	80-120			
Thallium	47.0	10	mg/kg	50.0		94	80-120			
Vanadium	46.2	1.0	mg/kg	50.0		92	80-120			
Zinc	45.0	5.0	mg/kg	50.0		90	80-120			

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Project Manager

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Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I29055 Extracted: 09/29/09										
Matrix Spike Analyzed: 09/30/2009 (9I29055-MS1)					**Source: ISI2116-01**					
Antimony	16.6	10	mg/kg	50.0	ND	33	75-125			*M2*
Arsenic	45.3	2.0	mg/kg	50.0	3.19	84	75-125			
Barium	118	1.0	mg/kg	50.0	73.2	89	75-125			
Beryllium	45.7	0.50	mg/kg	50.0	0.405	91	75-125			
Cadmium	41.7	0.50	mg/kg	50.0	ND	83	75-125			
Chromium	56.1	1.0	mg/kg	50.0	14.3	84	75-125			
Cobalt	45.7	1.0	mg/kg	50.0	5.26	81	75-125			
Copper	52.4	2.0	mg/kg	50.0	9.11	87	75-125			
Lead	48.8	2.0	mg/kg	50.0	4.71	88	75-125			
Molybdenum	39.0	2.0	mg/kg	50.0	ND	78	75-125			
Nickel	52.5	2.0	mg/kg	50.0	10.2	85	75-125			
Selenium	40.9	2.0	mg/kg	50.0	ND	82	75-125			
Silver	22.8	1.0	mg/kg	25.0	ND	91	75-125			
Thallium	41.6	10	mg/kg	50.0	ND	83	75-125			
Vanadium	71.9	1.0	mg/kg	50.0	29.7	84	75-125			
Zinc	68.9	5.0	mg/kg	50.0	30.8	76	75-125			
Matrix Spike Dup Analyzed: 09/30/2009 (9I29055-MSD1)					**Source: ISI2116-01**					
Antimony	13.5	10	mg/kg	50.0	ND	27	75-125	21	20	*M2, R-3*
Arsenic	43.3	2.0	mg/kg	50.0	3.19	80	75-125	4	20	
Barium	111	1.0	mg/kg	50.0	73.2	76	75-125	6	20	
Beryllium	44.2	0.50	mg/kg	50.0	0.405	88	75-125	3	20	
Cadmium	39.6	0.50	mg/kg	50.0	ND	79	75-125	5	20	
Chromium	53.6	1.0	mg/kg	50.0	14.3	79	75-125	4	20	
Cobalt	43.9	1.0	mg/kg	50.0	5.26	77	75-125	4	20	
Copper	49.6	2.0	mg/kg	50.0	9.11	81	75-125	6	20	
Lead	45.0	2.0	mg/kg	50.0	4.71	81	75-125	8	20	
Molybdenum	36.6	2.0	mg/kg	50.0	ND	73	75-125	6	20	*M2*
Nickel	50.4	2.0	mg/kg	50.0	10.2	80	75-125	4	20	
Selenium	39.3	2.0	mg/kg	50.0	ND	79	75-125	4	20	
Silver	21.8	1.0	mg/kg	25.0	ND	87	75-125	4	20	
Thallium	40.4	10	mg/kg	50.0	ND	81	75-125	3	20	
Vanadium	68.2	1.0	mg/kg	50.0	29.7	77	75-125	5	20	
Zinc	68.7	5.0	mg/kg	50.0	30.8	76	75-125	0	20	

TestAmerica Irvine

D.J. Watson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9J01122 Extracted: 10/01/09										
Blank Analyzed: 10/01/2009 (9J01122-BLK1)										
Mercury	ND	0.020	mg/kg							
LCS Analyzed: 10/01/2009 (9J01122-BS1)										
Mercury	0.764	0.020	mg/kg	0.800		95	80-120			
Matrix Spike Analyzed: 10/01/2009 (9J01122-MS1)					**Source: ISI2222-01**					
Mercury	0.832	0.020	mg/kg	0.800	0.0335	100	70-130			
Matrix Spike Dup Analyzed: 10/01/2009 (9J01122-MSD1)					**Source: ISI2222-01**					
Mercury	1.01	0.020	mg/kg	0.800	0.0335	122	70-130	19	20	

TestAmerica Irvine

D.J. Watson
Project Manager

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Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

DATA QUALIFIERS AND DEFINITIONS

I	Internal Standard recovery was outside of method limits. Matrix interference was confirmed.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
R-3	The RPD exceeded the acceptance limit due to sample matrix effects.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

TestAmerica Irvine

D.J. Watson
Project Manager

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TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Attention: Surinder Sidhu

Project ID: 720-22752
Report Number: ISI2221

Sampled: 09/22/09
Received: 09/25/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 6010B	Solid	X	X
EPA 7471A	Solid	X	X
EPA 8260B	Solid	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

D.J. Watson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

FSI2221

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-6639.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Analysis Requested		Job #: 720-22752-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/29/2009			Preservation Codes:
City: Irvine	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) Other:
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-261-1228(Fax)	PO #:			
Email:	WO #:			
Project Name: Dublin	Project #: 72005531			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ CAM 17 METALS INCLUDING MERC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
2D2 (720-22752-20)	9/22/09	10:50		Solid			X	1	
C1 (720-22752-55)	9/22/09			Solid			X	1	
C2 (720-22752-56)	9/22/09			Solid			X	1	
C3 (720-22752-57)	9/22/09			Solid			X	1	
C4 (720-22752-58)	9/22/09			Solid			X	1	MS 9/28/09 7:30
C5 (720-22752-59)	9/22/09			Solid			X	1	
C6 (720-22752-60)	9/22/09			Solid			X	1	
C7 (720-22752-61)	9/22/09			Solid			X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Joann Mullen	9-24-09 1630	SF	JqBarb	9/25/09 1250	TA/Ltr.
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 6.3 5.1 #035

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Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-6638.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc				Job #: 720-22752-1

Analysis Requested

Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/29/2009
City: Irvine	TAT Requested (days):
State, Zip: CA, 92614-5817	
Phone: 949-261-1022(Tel) 949-261-1228(Fax)	PO #:
Email:	WO #:
Project Name: Dublin	Project #: 72005531
Site:	SSOW#:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 8260 full list	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1A1 (720-22752-1)	9/22/09	11:10		Solid			X	1	
1B1 (720-22752-3)	9/22/09	10:50		Solid			X	1	
1C1 (720-22752-5)	9/22/09	10:40		Solid			X	1	
1D1 (720-22752-7)	9/22/09	11:20		Solid			X	1	
1E1 (720-22752-9)	9/22/09	11:35		Solid			X	1	
1F1 (720-22752-11)	9/22/09	12:00		Solid			X	1	
2A1 (720-22752-13)	9/22/09	9:30		Solid			X	1	
2B1 (720-22752-15)	9/22/09	9:40		Solid			X	1	
2C1 (720-22752-17)	9/22/09	9:50		Solid			X	1	
2D1 (720-22752-19)	9/22/09	10:50		Solid			X	1	
2E1 (720-22752-21)	9/22/09	10:30		Solid			X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9-24-09 1630	SE			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-6638.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc				Job #: 720-22752-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/29/2009			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-261-1228(Fax)	PO #:			
Email:	WO #:			
Project Name: Dublin	Project #: 72005531			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 8260 full list	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
2F1 (720-22752-23)	9/22/09	10:15		Solid			X	1	
3A1 (720-22752-25)	9/22/09	10:00		Solid			X	1	
3B1 (720-22752-27)	9/22/09	9:10		Solid			X	1	
3C1 (720-22752-29)	9/22/09	9:00		Solid			X	1	
4A1 (720-22752-31)	9/22/09	8:40		Solid			X	1	
4B1 (720-22752-33)	9/22/09	8:45		Solid			X	1	
4C1 (720-22752-35)	9/22/09	8:50		Solid			X	1	
4D1 (720-22752-37)	9/22/09	9:40		Solid			X	1	
4E1 (720-22752-39)	9/22/09	9:30		Solid			X	1	
4F1 (720-22752-41)	9/22/09	9:20		Solid			X	1	
5A1 (720-22752-43)	9/22/09	8:10		Solid			X	1	

Possible Hazard Identification
☐ Non-Hazerd ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Joan Mullen	Date/Time: 9-24-09 1630	Company SF	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica San Francisco
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Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-6638.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc				Job #: 720-22752-1

Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/29/2009
City: Irvine	TAT Requested (days):
State, Zip: CA, 92614-5817	
Phone: 949-261-1022(Tel) 949-261-1228(Fax)	PO #:
Email:	WO #:
Project Name: Dublin	Project #: 72005531
Site:	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 8260 full list	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5B1 (720-22752-45)	9/22/09	8:05		Solid			X	1	
5C1 (720-22752-47)	9/22/09	8:20		Solid			X	1	
5D1 (720-22752-49)	9/22/09	8:30		Solid			X	1	
5E1 (720-22752-51)	9/22/09	8:25		Solid			X	1	
5F1 (720-22752-53)	9/22/09	8:35		Solid			X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 720-22752-1

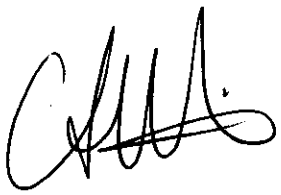
DUBLIN

Lot #: C9I250302

Surrinder Sidhu

TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

TESTAMERICA LABORATORIES, INC.



Christina M. Kovitch
Project Manager

October 6, 2009

NELAC REPORTING:

At the time of analysis the laboratory was in compliance with the current NELAC standards and held accreditation for all analyses performed unless noted by a qualifier. The labs accreditation numbers are listed below. The format and contents of the report meets all applicable NELAC standards except as noted in the narrative and shall not be reproduced except in full, without the written approval of the laboratory. The table below presents a summary of the certifications held by TestAmerica Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	TestAmerica
NFESC	NA	NAVY	X
US Dept of Agriculture	(#P330-07-00101)	Foreign Soil Import Permit	X
Arkansas	(#88-0690)	WW	X
		HW	X
California – NELAC	04224CA	WW	X
		HW	X
Connecticut	(#PH-0688)	WW	X
		HW	X
Florida – NELAC	(#E871008-04)	WW	X
		HW	X
Illinois – NELAC	(#002064)	WW	X
		HW	X
Kansas – NELAC	(#E-10350)	WW	X
		HW	X
Louisiana – NELAC	(#04041)	WW	X
		HW	X
New Hampshire – NELAC	(#203008)	WW	X
		--	--
New Jersey – NELAC	(PA-005)	WW	X
		HW	X
New York – NELAC	(#11182)	WW	X
		HW	X
North Carolina	(#434)	WW	X
		HW	X
Pennsylvania - NELAC	(#02-00416)	WW	X
		HW	X
South Carolina	(#89014002)	WW	X
		HW	X
Utah – NELAC	(STLP)	WW	X
		HW	X
West Virginia	(#142)	WW	X
		HW	X
Wisconsin	998027800	WW	X
		HW	X

The codes utilized for program types are described below:

HW Hazardous Waste certification
WW Non-potable Water and/or Wastewater certification
X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 2/5/2009 C:\Documents and Settings\derubeisn\My Documents\NELAC NARRATIVE Pttsburgh.doc

CASE NARRATIVE

TestAmerica San Francisco

Lot # C9I250302

Sample Receiving:
TestAmerica's Pittsburgh laboratory received samples on September 25, 2009. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

Organophosphorus Pesticides;
All compounds <20% RSD will use an average response factor curve if no visible improvement is accomplished using a curve. A curve will be used for a compound where it is determined to be the "best-fit" evaluation.

The laboratory control sample recovered slightly above control limits for parathion. This compound was not detected in the associated samples. In this case, the positive bias is not believed to have impacted data quality. All results were reported.

The matrix spike and matrix spike duplicate of sample C6 (720-22752-60) also recovered above control limits for parathion.

Herbicides:
TestAmerica's North Canton laboratory performed the herbicides.

C9I250302

TestAmerica San Francisco
122[illegible] Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brewer, Melissa	Carrier Tracking No(s):	COC No: 720-6637.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: melissa.brewer@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 720-22752-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 9/29/2009			Preservation Codes:
City: Pittsburgh	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Dublin	Project #: 72005531			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	SUBCONTRACT/ EPA METHOD 8151	SUBCONTRACT/ EPA Method 8141	Special Instructions/Note:
C1 (720-22752-55)	9/22/09			Solid		X	X	
C3 (720-22752-57)	9/22/09			Solid		X	X	
C4 (720-22752-58)	9/22/09			Solid		X	X	
C5 (720-22752-59)	9/22/09			Solid		X	X	
C6 (720-22752-60)	9/22/09			Solid		X	X	

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
John Mullen	9-24-09 1515	SF			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				9/25/09 1000	TA PIT

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

METHODS SUMMARY

C9I250302

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chlorinated Herbicides by GC	SW846 8151A	SW846 8151A
Organophosphorous Compounds by GC	SW846 8141A	SW846 3541

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C9I250302

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LLH8K	001	C1(720-22752-55)	09/22/09	
LLH8V	002	C3(720-22752-57)	09/22/09	
LLH80	003	C4(720-22752-58)	09/22/09	
LLH81	004	C5(720-22752-59)	09/22/09	
LLH83	005	C6(720-22752-60)	09/22/09	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica San Francisco

Client Sample ID: C1(720-22752-55)

GC Semivolatiles

Lot-Sample #...: C9I250302-001 **Work Order #...:** LLH8K1AA **Matrix.....:** SOLID
Date Sampled...: 09/22/09 **Date Received..:** 09/25/09 **MS Run #.....:** 9274024
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 09:50
Dilution Factor: 0.99
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	3.1
Bolstar	ND	33	ug/kg	3.1
Chlorpyrifos	ND	33	ug/kg	3.2
Coumaphos	ND	33	ug/kg	3.1
Demeton-O	ND	33	ug/kg	2.8
Demeton-S	ND	33	ug/kg	3.1
Demeton (total)	ND	33	ug/kg	5.9
Diazinon	ND	33	ug/kg	3.2
Dichlorvos	ND	33	ug/kg	2.9
Dimethoate	ND	33	ug/kg	3.1
Disulfoton	ND	33	ug/kg	3.5
EPN	ND	33	ug/kg	2.9
Ethoprop	ND	33	ug/kg	3.2
Famphur	ND	33	ug/kg	3.2
Fensulfothion	ND	33	ug/kg	2.5
Fenthion	ND	33	ug/kg	3.1
Malathion	ND	33	ug/kg	3.1
Methyl parathion	ND	33	ug/kg	2.9
Mevinphos	ND	33	ug/kg	3.1
Parathion	ND	33	ug/kg	2.6
Phorate	ND	33	ug/kg	3.3
Ronnel	ND	33	ug/kg	3.1
Stirophos	ND	33	ug/kg	3.3
Sulfotepp	ND	33	ug/kg	3.2
Thionazin	ND	33	ug/kg	3.2
Tokuthion	ND	33	ug/kg	3.2
Trichloronate	ND	33	ug/kg	3.9
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	114	(47 - 130)
Tributyl phosphate	122	(55 - 125)

TestAmerica San Francisco

Client Sample ID: C3(720-22752-57)

GC Semivolatiles

Lot-Sample #...: C9I250302-002	**Work Order #...:** LLH8V1AA	**Matrix.....:** SOLID
Date Sampled...: 09/22/09	**Date Received..:** 09/25/09	**MS Run #.....:** 9274024
Prep Date.....: 10/01/09	**Analysis Date..:** 10/05/09	
Prep Batch #...: 9274053	**Analysis Time..:** 10:17	
Dilution Factor: 0.99		
% Moisture.....:	**Method.....:** SW846 8141A	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	3.1
Bolstar	ND	33	ug/kg	3.1
Chlorpyrifos	ND	33	ug/kg	3.2
Coumaphos	ND	33	ug/kg	3.1
Demeton-O	ND	33	ug/kg	2.8
Demeton-S	ND	33	ug/kg	3.1
Demeton (total)	ND	33	ug/kg	5.9
Diazinon	ND	33	ug/kg	3.2
Dichlorvos	ND	33	ug/kg	2.9
Dimethoate	ND	33	ug/kg	3.1
Disulfoton	ND	33	ug/kg	3.5
EPN	ND	33	ug/kg	2.9
Ethoprop	ND	33	ug/kg	3.2
Famphur	ND	33	ug/kg	3.2
Fensulfothion	ND	33	ug/kg	2.5
Fenthion	ND	33	ug/kg	3.1
Malathion	ND	33	ug/kg	3.1
Methyl parathion	ND	33	ug/kg	2.9
Mevinphos	ND	33	ug/kg	3.1
Parathion	ND	33	ug/kg	2.6
Phorate	ND	33	ug/kg	3.3
Ronnel	ND	33	ug/kg	3.1
Stirophos	ND	33	ug/kg	3.3
Sulfotepp	ND	33	ug/kg	3.2
Thionazin	ND	33	ug/kg	3.2
Tokuthion	ND	33	ug/kg	3.2
Trichloronate	ND	33	ug/kg	3.9
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	121	(47 - 130)
Tributyl phosphate	130 *	(55 - 125)

NOTE(S):

* Surrogate recovery is outside stated control limits.

TestAmerica San Francisco

Client Sample ID: C4(720-22752-58)

GC Semivolatiles

Lot-Sample #...: C9I250302-003 **Work Order #...:** LLH801AA **Matrix.....:** SOLID
Date Sampled...: 09/22/09 **Date Received..:** 09/25/09 **MS Run #.....:** 9274024
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 10:44
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	3.1
Bolstar	ND	33	ug/kg	3.1
Chlorpyrifos	ND	33	ug/kg	3.2
Coumaphos	ND	33	ug/kg	3.2
Demeton-O	ND	33	ug/kg	2.8
Demeton-S	ND	33	ug/kg	3.2
Demeton (total)	ND	33	ug/kg	6.0
Diazinon	ND	33	ug/kg	3.2
Dichlorvos	ND	33	ug/kg	2.9
Dimethoate	ND	33	ug/kg	3.2
Disulfoton	ND	33	ug/kg	3.5
EPN	ND	33	ug/kg	2.9
Ethoprop	ND	33	ug/kg	3.2
Famphur	ND	33	ug/kg	3.2
Fensulfothion	ND	33	ug/kg	2.6
Fenthion	ND	33	ug/kg	3.1
Malathion	ND	33	ug/kg	3.1
Methyl parathion	ND	33	ug/kg	2.9
Mevinphos	ND	33	ug/kg	3.1
Parathion	ND	33	ug/kg	2.6
Phorate	ND	33	ug/kg	3.3
Ronnel	ND	33	ug/kg	3.1
Stirophos	ND	33	ug/kg	3.3
Sulfotepp	ND	33	ug/kg	3.2
Thionazin	ND	33	ug/kg	3.2
Tokuthion	ND	33	ug/kg	3.2
Trichloronate	ND	33	ug/kg	3.9
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	103	(47 - 130)
Tributyl phosphate	114	(55 - 125)

TestAmerica San Francisco

Client Sample ID: C5(720-22752-59)

GC Semivolatiles

Lot-Sample #...: C9I250302-004 **Work Order #...:** LLH811AA **Matrix.....:** SOLID
Date Sampled...: 09/22/09 **Date Received..:** 09/25/09 **MS Run #.....:** 9274024
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 11:10
Dilution Factor: 0.99
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	3.1
Bolstar	ND	33	ug/kg	3.1
Chlorpyrifos	ND	33	ug/kg	3.2
Coumaphos	ND	33	ug/kg	3.1
Demeton-O	ND	33	ug/kg	2.8
Demeton-S	ND	33	ug/kg	3.1
Demeton (total)	ND	33	ug/kg	5.9
Diazinon	ND	33	ug/kg	3.2
Dichlorvos	ND	33	ug/kg	2.9
Dimethoate	ND	33	ug/kg	3.1
Disulfoton	ND	33	ug/kg	3.5
EPN	ND	33	ug/kg	2.9
Ethoprop	ND	33	ug/kg	3.2
Famphur	ND	33	ug/kg	3.2
Fensulfothion	ND	33	ug/kg	2.5
Fenthion	ND	33	ug/kg	3.1
Malathion	ND	33	ug/kg	3.1
Methyl parathion	ND	33	ug/kg	2.9
Mevinphos	ND	33	ug/kg	3.1
Parathion	ND	33	ug/kg	2.6
Phorate	ND	33	ug/kg	3.3
Ronnel	ND	33	ug/kg	3.1
Stirophos	ND	33	ug/kg	3.3
Sulfotepp	ND	33	ug/kg	3.2
Thionazin	ND	33	ug/kg	3.2
Tokuthion	ND	33	ug/kg	3.2
Trichloronate	ND	33	ug/kg	3.9
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	110	(47 - 130)
Tributyl phosphate	119	(55 - 125)

TestAmerica San Francisco

Client Sample ID: C6(720-22752-60)

GC Semivolatiles

Lot-Sample #...: C9I250302-005 **Work Order #...:** LLH831AA **Matrix.....:** SOLID
Date Sampled...: 09/22/09 **Date Received..:** 09/25/09 **MS Run #.....:** 9274024
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 11:37
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8141A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Azinphos-methyl	ND	33	ug/kg	3.1
Bolstar	ND	33	ug/kg	3.1
Chlorpyrifos	ND	33	ug/kg	3.2
Coumaphos	ND	33	ug/kg	3.2
Demeton-O	ND	33	ug/kg	2.8
Demeton-S	ND	33	ug/kg	3.2
Demeton (total)	ND	33	ug/kg	6.0
Diazinon	ND	33	ug/kg	3.2
Dichlorvos	ND	33	ug/kg	2.9
Dimethoate	ND	33	ug/kg	3.2
Disulfoton	ND	33	ug/kg	3.5
EPN	ND	33	ug/kg	2.9
Ethoprop	ND	33	ug/kg	3.2
Famphur	ND	33	ug/kg	3.2
Fensulfothion	ND	33	ug/kg	2.6
Fenthion	ND	33	ug/kg	3.1
Malathion	ND	33	ug/kg	3.1
Methyl parathion	ND	33	ug/kg	2.9
Mevinphos	ND	33	ug/kg	3.1
Parathion	ND	33	ug/kg	2.6
Phorate	ND	33	ug/kg	3.3
Ronnel	ND	33	ug/kg	3.1
Stirophos	ND	33	ug/kg	3.3
Sulfotepp	ND	33	ug/kg	3.2
Thionazin	ND	33	ug/kg	3.2
Tokuthion	ND	33	ug/kg	3.2
Trichloronate	ND	33	ug/kg	3.9
O,O,O-Triethylphosphorothioate	ND	33	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	82	(47 - 130)
Tributyl phosphate	92	(55 - 125)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C9I250302 **Work Order #...:** LLRJ71AA **Matrix.....:** SOLID
MB Lot-Sample #: C9J010000-053

Prep Date.....: 10/01/09 **Analysis Time..:** 12:58
Analysis Date..: 10/05/09 **Prep Batch #...:** 9274053
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Azinphos-methyl	ND	33	ug/kg	SW846 8141A
Bolstar	ND	33	ug/kg	SW846 8141A
Chlorpyrifos	ND	33	ug/kg	SW846 8141A
Coumaphos	ND	33	ug/kg	SW846 8141A
Demeton-O	ND	33	ug/kg	SW846 8141A
Demeton-S	ND	33	ug/kg	SW846 8141A
Demeton (total)	ND	33	ug/kg	SW846 8141A
Diazinon	ND	33	ug/kg	SW846 8141A
Dichlorvos	ND	33	ug/kg	SW846 8141A
Thionazin	ND	33	ug/kg	SW846 8141A
Dimethoate	ND	33	ug/kg	SW846 8141A
Disulfoton	ND	33	ug/kg	SW846 8141A
EPN	ND	33	ug/kg	SW846 8141A
Ethoprop	ND	33	ug/kg	SW846 8141A
Famphur	ND	33	ug/kg	SW846 8141A
Fensulfothion	ND	33	ug/kg	SW846 8141A
Fenthion	ND	33	ug/kg	SW846 8141A
Malathion	ND	33	ug/kg	SW846 8141A
Methyl parathion	ND	33	ug/kg	SW846 8141A
Mevinphos	ND	33	ug/kg	SW846 8141A
Parathion	ND	33	ug/kg	SW846 8141A
Phorate	ND	33	ug/kg	SW846 8141A
Ronnel	ND	33	ug/kg	SW846 8141A
Stirophos	ND	33	ug/kg	SW846 8141A
Sulfotepp	ND	33	ug/kg	SW846 8141A
Tokuthion	ND	33	ug/kg	SW846 8141A
Trichloronate	ND	33	ug/kg	SW846 8141A
O,O,O-Triethylphosphoro-thioate	ND	33	ug/kg	SW846 8141A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	95	(47 - 130)
Tributyl phosphate	88	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9I250302 **Work Order #...:** LLRJ71AC **Matrix.....:** SOLID
LCS Lot-Sample#: C9J010000-053
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 13:51
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Thionazin	**122**	**(48 - 126)**	**SW846 8141A**
Tetraethyldithiopyro-phosphate	**120**	**(48 - 126)**	**SW846 8141A**
Phorate	**119**	**(41 - 143)**	**SW846 8141A**
Disulfoton	**120**	**(31 - 136)**	**SW846 8141A**
Methyl parathion	**131**	**(43 - 146)**	**SW846 8141A**
Parathion	**154 a**	**(52 - 133)**	**SW846 8141A**
Famphur	**123**	**(54 - 137)**	**SW846 8141A**
O,O,O-Triethylphosphoro-thioate	**117**	**(45 - 130)**	**SW846 8141A**
Dimethoate	**112**	**(40 - 143)**	**SW846 8141A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	117	(47 - 130)
Tributyl phosphate	120	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9I250302 **Work Order #...:** LLH831AD-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9I250302-005 LLH831AE-MSD
Date Sampled...: 09/22/09 **Date Received..:** 09/25/09 **MS Run #.....:** 9274024
Prep Date.....: 10/01/09 **Analysis Date..:** 10/05/09
Prep Batch #...: 9274053 **Analysis Time..:** 12:04
Dilution Factor: 1 **% Moisture.....:**

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Thionazin	**109**	**(48 - 126)**			**SW846 8141A**
	119	**(48 - 126)**	**9.3**	**(0-27)**	**SW846 8141A**
Tetraethyldithiopyro-phosphate	**101**	**(48 - 126)**			**SW846 8141A**
	112	**(48 - 126)**	**10**	**(0-28)**	**SW846 8141A**
Phorate	**101**	**(41 - 143)**			**SW846 8141A**
	110	**(41 - 143)**	**9.2**	**(0-30)**	**SW846 8141A**
Disulfoton	**100**	**(31 - 136)**			**SW846 8141A**
	111	**(31 - 136)**	**10**	**(0-30)**	**SW846 8141A**
Methyl parathion	**117**	**(43 - 146)**			**SW846 8141A**
	128	**(43 - 146)**	**9.2**	**(0-30)**	**SW846 8141A**
Parathion	**136 a**	**(52 - 133)**			**SW846 8141A**
	160 a	**(52 - 133)**	**16**	**(0-30)**	**SW846 8141A**
Famphur	**102**	**(54 - 137)**			**SW846 8141A**
	111	**(54 - 137)**	**8.4**	**(0-30)**	**SW846 8141A**
O,O,O-Triethylphosphoro-thioate	**92**	**(45 - 130)**			**SW846 8141A**
	100	**(45 - 130)**	**8.7**	**(0-30)**	**SW846 8141A**
Dimethoate	**107**	**(40 - 143)**			**SW846 8141A**
	122	**(40 - 143)**	**13**	**(0-30)**	**SW846 8141A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Triphenyl phosphate	115	(47 - 130)
	102	(47 - 130)
Tributyl phosphate	118	(55 - 125)
	113	(55 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

TestAmerica San Francisco

Client Sample ID: C1(720-22752-55)

GC Semivolatiles

Lot-Sample #...: C9I250302-001	**Work Order #...:** LLH8K1AC	**Matrix.....:** SOLID
Date Sampled...: 09/22/09	**Date Received..:** 09/25/09	**MS Run #.....:** 9273020
Prep Date.....: 09/30/09	**Analysis Date..:** 10/01/09	
Prep Batch #...: 9273032	**Analysis Time..:** 13:34	
Dilution Factor: 1		
% Moisture.....:	**Method.....:** SW846 8151A	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	36
Dalapon	ND	40	ug/kg	9.8
2,4-DB	ND	80	ug/kg	15
Dicamba	ND	40	ug/kg	11
Dichlorprop	ND	80	ug/kg	9.9
Dinoseb	ND	12	ug/kg	0.70
MCPA	ND	8000	ug/kg	590
MCPP	ND	8000	ug/kg	750
Pentachlorophenol	ND	10	ug/kg	0.50
2,4,5-TP (Silvex)	ND	20	ug/kg	2.2
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	76	(19 - 122)

TestAmerica San Francisco

Client Sample ID: C3(720-22752-57)

GC Semivolatiles

Lot-Sample #...: C9I250302-002	**Work Order #...:** LLH8V1AC	**Matrix.....:** SOLID
Date Sampled...: 09/22/09	**Date Received..:** 09/25/09	**MS Run #.....:** 9273020
Prep Date.....: 09/30/09	**Analysis Date..:** 10/01/09	
Prep Batch #...: 9273032	**Analysis Time..:** 13:56	
Dilution Factor: 1		
% Moisture.....:	**Method.....:** SW846 8151A	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	36
Dalapon	ND	40	ug/kg	9.8
2,4-DB	ND	80	ug/kg	15
Dicamba	ND	40	ug/kg	11
Dichlorprop	ND	80	ug/kg	9.9
Dinoseb	ND	12	ug/kg	0.70
MCPA	ND	8000	ug/kg	590
MCPP	ND	8000	ug/kg	750
Pentachlorophenol	ND	10	ug/kg	0.50
2,4,5-TP (Silvex)	ND	20	ug/kg	2.2
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	72	(19 - 122)

TestAmerica San Francisco

Client Sample ID: C4(720-22752-58)

GC Semivolatiles

Lot-Sample #...:	C9I250302-003	**Work Order #...:**	LLH801AC	**Matrix.....:**	SOLID
Date Sampled...:	09/22/09	**Date Received..:**	09/25/09	**MS Run #.....:**	9273020
Prep Date.....:	09/30/09	**Analysis Date..:**	10/01/09		
Prep Batch #...:	9273032	**Analysis Time..:**	14:18		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	36
Dalapon	ND	40	ug/kg	9.8
2,4-DB	ND	80	ug/kg	15
Dicamba	ND	40	ug/kg	11
Dichlorprop	ND	80	ug/kg	9.9
Dinoseb	ND	12	ug/kg	0.70
MCPA	ND	8000	ug/kg	590
MCPP	ND	8000	ug/kg	750
Pentachlorophenol	ND	10	ug/kg	0.50
2,4,5-TP (Silvex)	ND	20	ug/kg	2.2
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	80	(19 - 122)

TestAmerica San Francisco

Client Sample ID: C5(720-22752-59)

GC Semivolatiles

Lot-Sample #...:	C9I250302-004	**Work Order #...:**	LLH811AC	**Matrix.....:**	SOLID
Date Sampled...:	09/22/09	**Date Received..:**	09/25/09	**MS Run #.....:**	9273020
Prep Date.....:	09/30/09	**Analysis Date..:**	10/01/09		
Prep Batch #...:	9273032	**Analysis Time..:**	14:40		
Dilution Factor:	1				
% Moisture.....:		**Method.....:**	SW846 8151A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	36
Dalapon	ND	40	ug/kg	9.8
2,4-DB	ND	80	ug/kg	15
Dicamba	ND	40	ug/kg	11
Dichlorprop	ND	80	ug/kg	9.9
Dinoseb	ND	12	ug/kg	0.70
MCPA	ND	8000	ug/kg	590
MCPP	ND	8000	ug/kg	750
Pentachlorophenol	ND	10	ug/kg	0.50
2,4,5-TP (Silvex)	ND	20	ug/kg	2.2
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	67	(19 - 122)

TestAmerica San Francisco

Client Sample ID: C6(720-22752-60)

GC Semivolatiles

Lot-Sample #...: C9I250302-005	**Work Order #...:** LLH831AC	**Matrix.....:** SOLID
Date Sampled...: 09/22/09	**Date Received..:** 09/25/09	**MS Run #.....:** 9273020
Prep Date.....: 09/30/09	**Analysis Date..:** 10/01/09	
Prep Batch #...: 9273032	**Analysis Time..:** 15:01	
Dilution Factor: 1		
% Moisture.....:	**Method.....:** SW846 8151A	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-D	ND	80	ug/kg	36
Dalapon	ND	40	ug/kg	9.8
2,4-DB	ND	80	ug/kg	15
Dicamba	ND	40	ug/kg	11
Dichlorprop	ND	80	ug/kg	9.9
Dinoseb	ND	12	ug/kg	0.70
MCPA	ND	8000	ug/kg	590
MCPP	ND	8000	ug/kg	750
Pentachlorophenol	ND	10	ug/kg	0.50
2,4,5-TP (Silvex)	ND	20	ug/kg	2.2
2,4,5-T	ND	20	ug/kg	3.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	86	(19 - 122)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C9I250302 **Work Order #...:** LLPEX1AA **Matrix.....:** SOLID
MB Lot-Sample #: A9I300000-032

Prep Date.....: 09/30/09 **Analysis Time..:** 17:34
Analysis Date..: 10/01/09 **Prep Batch #...:** 9273032
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4-D	ND	80	ug/kg	SW846 8151A
Dalapon	ND	40	ug/kg	SW846 8151A
2,4-DB	ND	80	ug/kg	SW846 8151A
Dicamba	ND	40	ug/kg	SW846 8151A
Dichlorprop	ND	80	ug/kg	SW846 8151A
Dinoseb	ND	12	ug/kg	SW846 8151A
MCPA	ND	8000	ug/kg	SW846 8151A
MCPP	ND	8000	ug/kg	SW846 8151A
Pentachlorophenol	ND	10	ug/kg	SW846 8151A
2,4,5-TP (Silvex)	ND	20	ug/kg	SW846 8151A
2,4,5-T	ND	20	ug/kg	SW846 8151A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	78	(19 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9I250302 **Work Order #...:** LLPEX1AC **Matrix.....:** SOLID
LCS Lot-Sample#: A9I300000-032
Prep Date.....: 09/30/09 **Analysis Date..:** 10/01/09
Prep Batch #...: 9273032 **Analysis Time..:** 17:56
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,4-D	**90**	**(33 - 110)**	**SW846 8151A**
2,4,5-T	**76**	**(34 - 114)**	**SW846 8151A**
2,4,5-TP (Silvex)	**84**	**(42 - 110)**	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	80	(19 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...:	C9I250302	**Work Order #...:**	LLN1V1AF-MS	**Matrix.....:**	SOLID
MS Lot-Sample #:	A9I290270-001		LLN1V1AG-MSD		
Date Sampled...:	09/22/09	**Date Received..:**	09/29/09	**MS Run #.....:**	9273020
Prep Date.....:	09/30/09	**Analysis Date..:**	10/01/09		
Prep Batch #...:	9273032	**Analysis Time..:**	16:07		
Dilution Factor:	1	**% Moisture.....:**	100		

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2,4-D	**68**	**(15 - 110)**			**SW846 8151A**
	88	**(15 - 110)**	**26**	**(0-30)**	**SW846 8151A**
2,4,5-T	**55**	**(10 - 139)**			**SW846 8151A**
	95	**(10 - 139)**	**54**	**(0-30)**	**SW846 8151A**
2,4,5-TP (Silvex)	**87**	**(10 - 117)**			**SW846 8151A**
	87	**(10 - 117)**	**0.01**	**(0-30)**	**SW846 8151A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4-Dichlorophenylacetic acid	130	(19 - 122)
	112	(19 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

APPENDIX F

TestAmerica Analytical Report, Promenade, W1 - Z3, 9/12-9/13/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-23151-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/12/2009 5:36 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/12/2009

CA ELAP Certification # 2496
The Chain(s) of Custody are included and are an integral part of this report.
The report shall not be reproduced except in full, without the written approval of the laboratory. The client, by accepting this report, also agrees not to alter any reports whether in the hard copy or electronic format and to use reasonable efforts to preserve the reports in the form and substance originally provided by TestAmerica.
A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: W-6 (720-23151-6).

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-23151-2	**W-2**				
Diesel Range Organics [C10-C28]		6.6	1.0	mg/Kg	8015B
720-23151-3	**W-3**				
Diesel Range Organics [C10-C28]		2.5	1.0	mg/Kg	8015B
720-23151-4	**W-4**				
Diesel Range Organics [C10-C28]		1.8	1.0	mg/Kg	8015B
720-23151-6	**W-6**				
Diesel Range Organics [C10-C28]		110	5.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		640	250	mg/Kg	8015B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23151-1	W-1	Solid	10/09/2009 0000	10/09/2009 1345
720-23151-2	W-2	Solid	10/09/2009 0000	10/09/2009 1345
720-23151-3	W-3	Solid	10/09/2009 0000	10/09/2009 1345
720-23151-4	W-4	Solid	10/09/2009 0000	10/09/2009 1345
720-23151-5	W-5	Solid	10/09/2009 0000	10/09/2009 1345
720-23151-6	W-6	Solid	10/09/2009 0000	10/09/2009 1345

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-1**

Lab Sample ID: 720-23151-1
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.21 g
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 1317		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		ND		0.99
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	89		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-2**

Lab Sample ID: 720-23151-2
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.04 g
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 1437		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		6.6		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	84		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-3**

Lab Sample ID: 720-23151-3
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID: CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume: 30.13 g
Dilution:	1.0		Final Weight/Volume: 5 mL
Date Analyzed:	10/10/2009 1504		Injection Volume: 1 uL
Date Prepared:	10/09/2009 1451		Result Type: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		2.5		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	89		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-4**

Lab Sample ID: 720-23151-4
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273		Initial Weight/Volume:	30.10 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 1531			Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		1.8		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	87		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-5**

Lab Sample ID: 720-23151-5
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.11 g
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 2308		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		ND		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	82		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Client Sample ID: **W-6**

Lab Sample ID: 720-23151-6
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1345

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.01 g
Dilution:	5.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 2335		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		110		5.0
Motor Oil Range Organics [C24-C36]		640		250

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	0	D	31 - 114

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-23151-1

Lab Section	Qualifier	Description
GC Semi VOA		
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Client: Berlogar Geotechnical

Job Number: 720-23151-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-59273					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-59273/1-A	Method Blank	T	Solid	3550B	
720-23151-1	W-1	T	Solid	3550B	
720-23151-1MS	Matrix Spike	T	Solid	3550B	
720-23151-1MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-23151-2	W-2	T	Solid	3550B	
720-23151-3	W-3	T	Solid	3550B	
720-23151-4	W-4	T	Solid	3550B	
720-23151-5	W-5	T	Solid	3550B	
720-23151-6	W-6	T	Solid	3550B	
Analysis Batch:720-59307					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	8015B	720-59273
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	8015B	720-59273
MB 720-59273/1-A	Method Blank	T	Solid	8015B	720-59273
720-23151-1	W-1	T	Solid	8015B	720-59273
720-23151-1MS	Matrix Spike	T	Solid	8015B	720-59273
720-23151-1MSD	Matrix Spike Duplicate	T	Solid	8015B	720-59273
720-23151-2	W-2	T	Solid	8015B	720-59273
720-23151-3	W-3	T	Solid	8015B	720-59273
720-23151-4	W-4	T	Solid	8015B	720-59273
720-23151-5	W-5	T	Solid	8015B	720-59273
720-23151-6	W-6	T	Solid	8015B	720-59273

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Method Blank - Batch: 720-59273

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-59273/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1129
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010007.d
Initial Weight/Volume: 30.28 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		0.99
Motor Oil Range Organics [C24-C36]	ND		50

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	92	31 - 114

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59273

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-59273/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1719
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010020.d
Initial Weight/Volume: 30.23 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-59273/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1746
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010021.d
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	85	82	49 - 115	4	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	89	87	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-59273

Method: 8015B
Preparation: 3550B

MS Lab Sample ID:	720-23151-1	Analysis Batch:	720-59307	Instrument ID:	HP DRO5
Client Matrix:	Solid	Prep Batch:	720-59273	Lab File ID:	5a1010012.d
Dilution:	1.0			Initial Weight/Volume:	30.28 g
Date Analyzed:	10/10/2009 1343			Final Weight/Volume:	5 mL
Date Prepared:	10/09/2009 1451			Injection Volume:	1 uL
				Column ID:	PRIMARY

MSD Lab Sample ID:	720-23151-1	Analysis Batch:	720-59307	Instrument ID:	HP DRO5
Client Matrix:	Solid	Prep Batch:	720-59273	Lab File ID:	5a1010013.d
Dilution:	1.0			Initial Weight/Volume:	30.17 g
Date Analyzed:	10/10/2009 1410			Final Weight/Volume:	5 mL
Date Prepared:	10/09/2009 1451			Injection Volume:	1 uL
				Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Diesel Range Organics [C10-C28]	83	76	50 - 130	8	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
p-Terphenyl	85	80	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 FAX: (925) 600-3002

Reference #: 119604

Date _____ Page _____ of _____

710-2351

Report To

Attn: Bill Stevens
Company: Pleasanton
Address: 5757 Sunol Blvd
Phone: 484-2720 Email: bstevens@
Bill To: BCC
Sampled By: RDV
Attn: Bill
Phone: 484-2720

Analysis Request

Sample ID	Date	Time	Matrix	Preservative
W-1	10 Aug 09			-
W-2	"	"		-
W-3	"	"		-
W-4	"	"		-
W-5	"	"		-
W-6	"	"		-

Analysis columns: TPH EPA ☐ 8015M/D ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE; Purgeable Aromatics BTEX EPA ☐ 8021 ☐ 8260; TEPH EPA 8015M ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other; Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol; Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B; Volatile Organics GCMS (VOCs) ☐ EPA 8260B ☐ 624; Semivolatiles GCMS ☐ EPA 8270 ☐ 625; Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total; Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608; PNAs by ☐ 8270 ☐ 8310; CAM17 Metals (EPA 6010/7470/7471); Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other; Low Level Metals by EPA 200.8/6020 (ICP-MS); W.E.T (STLC) ☐ TCLP; Hexavalent Chromium pH (24h hold time for H2O); Specific Cond ☐ Alkalinity ☐ TDS ☐ TSS; Anions: ☐ Cl ☐ SO4 ☐ NO3 ☐ F ☐ Br ☐ NO2 ☐ PO4; Number of Containers

CAM17 Metals: 2

RUSH

Project Info.

Project Name: Dublin
Project#:
PO#:
Credit Card#:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF
Special Instructions / Comments: ☐ Global ID: _____

Sample Receipt

of Containers: 6
Head Space:
Temp: 25
Conforms to record

1) Relinquished by: [signature] 1345
Signature Time
Printed Name Date
Company BCC 10 Aug 09

2) Relinquished by
Signature Time
Printed Name Date
Company

3) Relinquished by
Signature Time
Printed Name Date
Company

1) Received by: [signature] 1345
Signature Time
Printed Name Mulley 10-9-09
Company

2) Received by
Signature Time
Printed Name Date
Company

3) Received by
Signature Time
Printed Name Date
Company

Rev02/09

Page 16 of 17

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-23151-1

Login Number: 23151

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-23152-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/12/2009 5:39 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/12/2009

CA ELAP Certification # 2496
The Chain(s) of Custody are included and are an integral part of this report.
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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-23152-1	**X-1**				
Diesel Range Organics [C10-C28]		9.4	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		54	49	mg/Kg	8015B
720-23152-2	**X-2**				
Diesel Range Organics [C10-C28]		11	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		75	50	mg/Kg	8015B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23152-1	X-1	Solid	10/09/2009 0000	10/09/2009 1330
720-23152-2	X-2	Solid	10/09/2009 0000	10/09/2009 1330
720-23152-3	X-3	Solid	10/09/2009 0000	10/09/2009 1330
720-23152-4	X-4	Solid	10/09/2009 0000	10/09/2009 1330

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Client Sample ID: **X-1**

Lab Sample ID: 720-23152-1
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1330

8015B Diesel Range Organics (DRO) (GC)

Method:	z015B	PnalAsis Batch: 720-59307		Instrument ID:	CHDRO5
4reparation:	3550B	4rep Batch: 720-59273		Initial Weight/Volume:	30882 g
Dilution:	180			Final Weight/Volume:	5 mL
Date PnalAyed:	10/10/2009 155z			Injection Volume:	1 uL
Date 4repared:	10/09/2009 1. 51			Result TApe:	4RIMPRY

PnalAte	DrAWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C2z]		98		0899
Motor Oil Range Organics [C2. -C36]		5.		. 9

Surrogate	%Rec	Qualifier	Pcceptance Limits
p-TerphenAl	z5		31 - 11.

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Client Sample ID: **X-2**

Lab Sample ID: 720-23152-2
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1330

8015B Diesel Range Organics (DRO) (GC)

Method:	z015B	PnalAsis Batch: 720-59307		Instrument ID:	CHDRO5
4reparation:	3550B	4rep Batch: 720-59273		Initial Weight/Volume:	30816 g
Dilution:	180			Final Weight/Volume:	5 mL
Date PnalAyed:	10/10/2009 1625			Injection Volume:	1 uL
Date 4repared:	10/09/2009 1. 51			Result TApe:	4RIMPRY

PnalAte	DrAWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C2z]		11		0899
Motor Oil Range Organics [C2. -C36]		75		50

Surrogate	%Rec	Qualifier	Pcceptance Limits
p-TerphenAl	91		31 - 11.

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Client Sample ID: **X-3**

Lab Sample ID: 720-23152-3
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1330

8015B Diesel Range Organics (DRO) (GC)

Method:	z015B	PnalAsis Batch: 720-59307		Instrument ID:	CHDRO5
4reparation:	3550B	4rep Batch: 720-59273		Initial Weight/Volume:	30823 g
Dilution:	180			Final Weight/Volume:	5 mL
Date PnalAyed:	10/10/2009 1652			Injection Volume:	1 uL
Date 4repared:	10/09/2009 1. 51			Result TApe:	4RIMPRY

PnalAte	DrAWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C2z]		ND		0899
Motor Oil Range Organics [C2. -C36]		ND		50

Surrogate	%Rec	Qualifier	Pcceptance Limits
p-TerphenAl	z7		31 - 11.

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Client Sample ID: **X-4**

Lab Sample ID: 720-23152-.
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1330

8015B Diesel Range Organics (DRO) (GC)

Method:	z015B	PnalAsis Batch: 720-59307		Instrument ID:	CHDRO5
4reparation:	3550B	4rep Batch: 720-59273		Initial Weight/Volume:	308lz g
Dilution:	180			Final Weight/Volume:	5 mL
Date PnalAyed:	10/10/2009 1933			Injection Volume:	1 uL
Date 4repared:	10/09/2009 1. 51			Result TApe:	4RIMPRY

PnalAte	DrAWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C2z]		ND		0899
Motor Oil Range Organics [C2. -C36]		ND		50

Surrogate	%Rec	Qualifier	Pcceptance Limits
p-TerphenAl	92		31 - 11.

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Berlogar Geotechnical

Job Number: 720-23152-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-59273					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-59273/1-A	Method Blank	T	Solid	3550B	
720-23152-1	X-1	T	Solid	3550B	
720-23152-2	X-2	T	Solid	3550B	
720-23152-3	X-3	T	Solid	3550B	
720-23152-4	X-4	T	Solid	3550B	
Analysis Batch:720-59307					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	8015B	720-59273
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	8015B	720-59273
MB 720-59273/1-A	Method Blank	T	Solid	8015B	720-59273
720-23152-1	X-1	T	Solid	8015B	720-59273
720-23152-2	X-2	T	Solid	8015B	720-59273
720-23152-3	X-3	T	Solid	8015B	720-59273
720-23152-4	X-4	T	Solid	8015B	720-59273

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Method Blank - Batch: 720-59273

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-59273/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1129
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010007.d
Initial Weight/Volume: 30.28 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		0.99
Motor Oil Range Organics [C24-C36]	ND		50

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	92	31 - 114

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59273

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-59273/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1719
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010020.d
Initial Weight/Volume: 30.23 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-59273/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1746
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010021.d
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	85	82	49 - 115	4	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	89	87	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
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TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 119605

720-23152

Date _____ Page _____ of _____

Report To

Attn: BILL SHEVLIN
Company: BIGELOW
Address: 5858 SUNOL BLVD
Phone: 784-0220 Email: SHEVLIN@BIGELOW
Bill To: BOC
Sampled By: ROV
Attn: BILL
Phone: 784-0224

Analysis Request

Sample ID	Date	Time	Matrix	Preservative	TPH EPA - ☐ 8015M ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA ☐ 602 ☐ 8021B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other:	Fuel Tank EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Animal	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other	Low Level Metals by EPA 200.8/6020 (ICP-MS)	W.E.T. (STLC) ☐ TCLP ☐	Hexavalent Chromium ☐ 6H (24hr hold time for H2O)	Spec. Cond. ☐ Alkalinity ☐ TDS ☐ TSS	Anions: ☐ Cl ☐ SO4 ☐ NO3 ☐ Br ☐ NO2 ☐ PO4				Number of Containers
X-1	10/9/09	11		-			G																				3
X-1	"	11		-																							
X-2	"	11		-			G																				3
X-2	"	4		-																							
X-3	"	11		-			G																				3
X-3	"	4		-																							
X-4	"	11		-			G																				3
X-4	"	11		-																							

RUSH

Page 13 of 14

Project Info.

Project Name: Mullin
Project#:
PO#:
Credit Card#:

Sample Receipt

of Containers: 8
Head Space:
Temp: 2.5
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF
Special Instructions / Comments: ☐ Global ID: _____

Special terms and conditions may apply. Please refer to our website for our standard terms and conditions. Unless otherwise agreed to in writing, this agreement is governed by the laws of the State of California.

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 1600	Signature: Time:	Signature: Time:
Printed Name: RAMESH KUMAR Date: 10/9/09	Printed Name: Date:	Printed Name: Date:
Company: BOC	Company:	Company:
1) Received by:	**2) Received by:**	**3) Received by:**
Signature: [signature] Time: 1330	Signature: Time:	Signature: Time:
Printed Name: Mullen Date: 10/9/09	Printed Name: Date:	Printed Name: Date:
Company: TA	Company:	Company:

Rev 07/09

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-23152-1

Login Number: 23152

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

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ANALYTICAL REPORT

Job Number: 720-23153-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/12/2009 5:40 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/12/2009

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A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC Semi VOA
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-23153-1	**Y-1**				
8ie4el Dange s rganic4 RC10-C2KO		K.2	1.0	mg9 g	K015B
Motor s il Dange s rganic4 RC26-C3[O		[ ]	50	mg9 g	K015B
720-23153-2	**Y-2**				
8ie4el Dange s rganic4 RC10-C2KO		5.]	0.]]	mg9 g	K015B
720-23153-3	**Y-3**				
8ie4el Dange s rganic4 RC10-C2KO		2.1	0.]]	mg9 g	K015B

METHOD SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23153-1	Y-1	Solid	10/09/2009 0000	10/09/2009 1344
720-23153-2	Y-2	Solid	10/09/2009 0000	10/09/2009 1344
720-23153-3	Y-3	Solid	10/09/2009 0000	10/09/2009 1344
720-23153-4	Y-4	Solid	10/09/2009 0000	10/09/2009 1344

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Client Sample ID: **Y-1**

Lab Sample ID: 720-23153-1
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1344

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307		Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273		Initial Weight/Volume:	30.00 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 2000			Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		8.2		1.0
Motor Oil Range Organics [C24-C36]		69		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	42		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Client Sample ID: **Y-2**

Lab Sample ID: 720-23153-2
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1344

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.27 g
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 2027		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		5.9		0.99
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	87		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Client Sample ID: **Y-3**

Lab Sample ID: 720-23153-3
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1344

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID:	CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume:	30.29 g
Dilution:	1.0		Final Weight/Volume:	5 mL
Date Analyzed:	10/10/2009 2053		Injection Volume:	1 uL
Date Prepared:	10/09/2009 1451		Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		2.1		0.99
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	84		31 - 114

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Client Sample ID: **Y-4**

Lab Sample ID: 720-23153-4
Client Matrix: Solid

Date Sampled: 10/09/2009 0000
Date Received: 10/09/2009 1344

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-59307	Instrument ID: CHDRO5
Preparation:	3550B	Prep Batch: 720-59273	Initial Weight/Volume: 30.13 g
Dilution:	1.0		Final Weight/Volume: 5 mL
Date Analyzed:	10/10/2009 2120		Injection Volume: 1 uL
Date Prepared:	10/09/2009 1451		Result Type: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		ND		1.0
Motor Oil Range Organics [C24-C36]		ND		50

Surrogate	%Rec	Qualifier	Acceptance Limits
p-Terphenyl	82		31 - 114

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Berlogar Geotechnical

Job Number: 720-23153-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-59273					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	3550B	
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	3550B	
MB 720-59273/1-A	Method Blank	T	Solid	3550B	
720-23153-1	Y-1	T	Solid	3550B	
720-23153-2	Y-2	T	Solid	3550B	
720-23153-3	Y-3	T	Solid	3550B	
720-23153-4	Y-4	T	Solid	3550B	
Analysis Batch:720-59307					
LCS 720-59273/2-A	Lab Control Sample	T	Solid	8015B	720-59273
LCSD 720-59273/3-A	Lab Control Sample Duplicate	T	Solid	8015B	720-59273
MB 720-59273/1-A	Method Blank	T	Solid	8015B	720-59273
720-23153-1	Y-1	T	Solid	8015B	720-59273
720-23153-2	Y-2	T	Solid	8015B	720-59273
720-23153-3	Y-3	T	Solid	8015B	720-59273
720-23153-4	Y-4	T	Solid	8015B	720-59273

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Method Blank - Batch: 720-59273

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-59273/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1129
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010007.d
Initial Weight/Volume: 30.28 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		0.99
Motor Oil Range Organics [C24-C36]	ND		50

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	92	31 - 114

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59273

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-59273/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1719
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010020.d
Initial Weight/Volume: 30.23 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-59273/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1746
Date Prepared: 10/09/2009 1224

Analysis Batch: 720-59307
Prep Batch: 720-59273
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: 5a1010021.d
Initial Weight/Volume: 30.09 g
Final Weight/Volume: 5 mL
Injection Volume: 1 uL
Column ID: PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diesel Range Organics [C10-C28]	85	82	49 - 115	4	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	89	87	31 - 114

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
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TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 119607

Date _____ Page _____ of _____

720: 23153

Report To

Attn: BILL STEVENS
Company: DIEDERICH
Address: 5387 SUNOL BLVD
Phone: 484 0220 Email: B.STEVENS@DIEDERICH.COM
Bill To: DOC
Sampled By: ROV
Attn: BILL
Phone: 484 0220

Analysis Request

Sample ID	Date	Time	# of Containers	Preservative	TPH-EPA - ☐ 8015B/21 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ EDA 8260 ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil And Grease (EPA 1664) ☐ Petroleum ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other	Low Level Metals by EPA 200.8/6020 (ICP-MS)	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ ☐ pH (24h hold time for H2O)	Basic Cond. ☐ Alkalinity ☐ ☐ TDS ☐ ☐ TSS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4				Number of Containers
Y-1	10/9/09	10		-			V																			
Y-2	"	10		-			V																			
Y-3	"	10		-			V																			
Y-4	"	10		-			V																			

RUSH

Project Info.

Project Name: Dublin
Project#:
PO#:
Deliv. Code#:

Sample Receipt

of Containers: 4
Head Space:
Temp: 2.5°
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Forms
Fuax EDF
Special Instructions / Comments: ☐ Global ID: _____

See reverse side for terms and conditions.

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 1:44	Signature: Time:	Signature: Time:
Printed Name: RAMWAITAMSI Date:	Printed Name: Date:	Printed Name: Date:
Company: DOC 10.6.09	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] Time: 1344	Signature: Time:	Signature: Time:
Printed Name: [signature] Date: 10-6-09	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

Rev 02/09

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-23153-1

Login Number: 23153

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-23206-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/13/2009 3:01 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/13/2009

CA ELAP Certification # 2496
The Chain(s) of Custody are included and are an integral part of this report.
The report shall not be reproduced except in full, without the written approval of the laboratory. The client, by accepting this report, also agrees not to alter any reports whether in the hard copy or electronic format and to use reasonable efforts to preserve the reports in the form and substance originally provided by TestAmerica.
A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method

No Detections

METHOD SUMMARY

Client: Berlogar Geotechnical Job Number: 720-23206-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23206-1	Z 3	Solid	10/12/2009 1100	10/12/2009 1212

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Client Sample ID: **Z 3**

Lab Sample ID: 720-23206-1
Client Matrix: Solid

Date Sampled: 10/12/2009 1100
Date Received: 10/12/2009 1212

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59384		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59432		Lab File ID:	10120926.D
Dilution:	1.0			Initial Weight/Volume:	5.19 g
Date Analyzed:	10/12/2009 2326			Final Weight/Volume:	10 mL
Date Prepared:	10/12/2009 1300				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		4.8
Acetone		ND		48
Benzene		ND		4.8
Dichlorobromomethane		ND		4.8
Bromobenzene		ND		4.8
Chlorobromomethane		ND		19
Bromoform		ND		4.8
Bromomethane		ND		9.6
2-Butanone (MEK)		ND		48
n-Butylbenzene		ND		4.8
sec-Butylbenzene		ND		4.8
tert-Butylbenzene		ND		4.8
Carbon disulfide		ND		4.8
Carbon tetrachloride		ND		4.8
Chlorobenzene		ND		4.8
Chloroethane		ND		9.6
Chloroform		ND		4.8
Chloromethane		ND		9.6
2-Chlorotoluene		ND		4.8
4-Chlorotoluene		ND		4.8
Chlorodibromomethane		ND		4.8
1,2-Dichlorobenzene		ND		4.8
1,3-Dichlorobenzene		ND		4.8
1,4-Dichlorobenzene		ND		4.8
1,3-Dichloropropane		ND		4.8
1,1-Dichloropropene		ND		4.8
1,2-Dibromo-3-Chloropropane		ND		4.8
Ethylene Dibromide		ND		4.8
Dibromomethane		ND		9.6
Dichlorodifluoromethane		ND		9.6
1,1-Dichloroethane		ND		4.8
1,2-Dichloroethane		ND		4.8
1,1-Dichloroethene		ND		4.8
cis-1,2-Dichloroethene		ND		4.8
trans-1,2-Dichloroethene		ND		4.8
1,2-Dichloropropane		ND		4.8
cis-1,3-Dichloropropene		ND		4.8
trans-1,3-Dichloropropene		ND		4.8
Ethylbenzene		ND		4.8
Hexachlorobutadiene		ND		4.8
2-Hexanone		ND		48
Isopropylbenzene		ND		4.8
4-Isopropyltoluene		ND		4.8
Methylene Chloride		ND		9.6
4-Methyl-2-pentanone (MIBK)		ND		48
Naphthalene		ND		9.6

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Client Sample ID: **Z 3**

Lab Sample ID: 720-23206-1
Client Matrix: Solid

Date Sampled: 10/12/2009 1100
Date Received: 10/12/2009 1212

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59384		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59432		Lab File ID:	10120926.D
Dilution:	1.0			Initial Weight/Volume:	5.19 g
Date Analyzed:	10/12/2009 2326			Final Weight/Volume:	10 mL
Date Prepared:	10/12/2009 1300				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		4.8
Styrene		ND		4.8
1,1,1,2-Tetrachloroethane		ND		4.8
1,1,2,2-Tetrachloroethane		ND		4.8
Tetrachloroethene		ND		4.8
Toluene		ND		4.8
1,2,3-Trichlorobenzene		ND		4.8
1,2,4-Trichlorobenzene		ND		4.8
1,1,1-Trichloroethane		ND		4.8
1,1,2-Trichloroethane		ND		4.8
Trichloroethene		ND		4.8
Trichlorofluoromethane		ND		4.8
1,2,3-Trichloropropane		ND		4.8
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		4.8
1,2,4-Trimethylbenzene		ND		4.8
1,3,5-Trimethylbenzene		ND		4.8
Vinyl acetate		ND		48
Vinyl chloride		ND		4.8
Xylenes, Total		ND		9.6
2,2-Dichloropropane		ND		4.8

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	98		52 - 140
1,2-Dichloroethane-d4 (Surr)	128		60 - 140
Toluene-d8 (Surr)	100		58 - 140

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Berlogar Geotechnical

Job Number: 720-23206-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-59384					
LCS 720-59432/1-A	Lab Control Sample	T	Solid	8260B	720-59432
LCSD 720-59432/2-A	Lab Control Sample Duplicate	T	Solid	8260B	720-59432
MB 720-59432/3-A	Method Blank	T	Solid	8260B	720-59432
720-23206-1	Z 3	T	Solid	8260B	720-59432
Prep Batch: 720-59432					
LCS 720-59432/1-A	Lab Control Sample	T	Solid	5030B	
LCSD 720-59432/2-A	Lab Control Sample Duplicate	T	Solid	5030B	
MB 720-59432/3-A	Method Blank	T	Solid	5030B	
720-23206-1	Z 3	T	Solid	5030B	

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Method Blank - Batch: 720-59432

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59432/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2253
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120925.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		5.0
Dichlorobromomethane	ND		5.0
Bromobenzene	ND		5.0
Chlorobromomethane	ND		20
Bromoform	ND		5.0
Bromomethane	ND		10
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		5.0
sec-Butylbenzene	ND		5.0
tert-Butylbenzene	ND		5.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		5.0
Chlorobenzene	ND		5.0
Chloroethane	ND		10
Chloroform	ND		5.0
Chloromethane	ND		10
2-Chlorotoluene	ND		5.0
4-Chlorotoluene	ND		5.0
Chlorodibromomethane	ND		5.0
1,2-Dichlorobenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0
1,3-Dichloropropane	ND		5.0
1,1-Dichloropropene	ND		5.0
1,2-Dibromo-3-Chloropropane	ND		5.0
Ethylene Dibromide	ND		5.0
Dibromomethane	ND		10
Dichlorodifluoromethane	ND		10
1,1-Dichloroethane	ND		5.0
1,2-Dichloroethane	ND		5.0
1,1-Dichloroethene	ND		5.0
cis-1,2-Dichloroethene	ND		5.0
trans-1,2-Dichloroethene	ND		5.0
1,2-Dichloropropane	ND		5.0
cis-1,3-Dichloropropene	ND		5.0
trans-1,3-Dichloropropene	ND		5.0
Ethylbenzene	ND		5.0
Hexachlorobutadiene	ND		5.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Method Blank - Batch: 720-59432

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59432/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2253
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120925.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		5.0
4-Isopropyltoluene	ND		5.0
Methylene Chloride	ND		10
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		10
N-Propylbenzene	ND		5.0
Styrene	ND		5.0
1,1,1,2-Tetrachloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0
Tetrachloroethene	ND		5.0
Toluene	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0
1,1,2-Trichloroethane	ND		5.0
Trichloroethene	ND		5.0
Trichlorofluoromethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0
Vinyl acetate	ND		50
Vinyl chloride	ND		5.0
Xylenes, Total	ND		10
2,2-Dichloropropane	ND		5.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	105	52 - 140
1,2-Dichloroethane-d4 (Surr)	119	60 - 140
Toluene-d8 (Surr)	103	58 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59432

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-59432/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2042
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120921.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-59432/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2115
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120922.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	114	109	69 - 125	4	20		
Acetone	125	117	37 - 150	7	20		
Benzene	104	103	72 - 120	1	20		
Dichlorobromomethane	119	117	64 - 135	2	20		
Bromobenzene	98	98	77 - 121	0	20		
Chlorobromomethane	98	97	65 - 128	2	20		
Bromoform	108	106	58 - 132	1	20		
Bromomethane	102	99	56 - 124	3	20		
2-Butanone (MEK)	122	116	41 - 150	5	20		
n-Butylbenzene	120	120	60 - 145	1	20		
sec-Butylbenzene	108	108	64 - 137	0	20		
tert-Butylbenzene	106	106	63 - 134	0	20		
Carbon disulfide	92	91	10 - 150	1	20		
Carbon tetrachloride	109	107	54 - 141	1	20		
Chlorobenzene	103	103	70 - 121	0	20		
Chloroethane	105	105	61 - 125	0	20		
Chloroform	109	108	67 - 125	1	20		
Chloromethane	106	106	50 - 131	0	20		
2-Chlorotoluene	112	111	75 - 131	1	20		
4-Chlorotoluene	113	112	76 - 129	1	20		
Chlorodibromomethane	116	113	60 - 140	3	20		
1,2-Dichlorobenzene	103	104	73 - 126	1	20		
1,3-Dichlorobenzene	102	102	73 - 128	1	20		
1,4-Dichlorobenzene	100	100	72 - 122	1	20		
1,3-Dichloropropane	119	115	74 - 127	4	20		
1,1-Dichloropropene	111	109	67 - 128	1	20		
1,2-Dibromo-3-Chloropropane	118	106	57 - 130	11	20		
Ethylene Dibromide	110	106	66 - 135	4	20		
Dibromomethane	115	113	65 - 131	2	20		
Dichlorodifluoromethane	110	111	38 - 120	1	20		
1,1-Dichloroethane	111	110	67 - 126	1	20		
1,2-Dichloroethane	118	116	73 - 122	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59432

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-59432/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2042
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120921.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-59432/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/12/2009 2115
Date Prepared: 10/12/2009 0800

Analysis Batch: 720-59384
Prep Batch: 720-59432
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10120922.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	107	106	64 - 129	1	20		
cis-1,2-Dichloroethene	112	111	68 - 131	1	20		
trans-1,2-Dichloroethene	101	99	70 - 130	2	20		
1,2-Dichloropropane	110	107	65 - 133	3	20		
cis-1,3-Dichloropropene	123	122	46 - 139	1	20		
trans-1,3-Dichloropropene	122	120	55 - 131	2	20		
Ethylbenzene	110	108	65 - 130	2	20		
Hexachlorobutadiene	106	109	58 - 132	2	20		
2-Hexanone	124	113	44 - 150	9	20		
Isopropylbenzene	93	92	65 - 130	1	20		
4-Isopropyltoluene	109	109	69 - 134	0	20		
Methylene Chloride	98	99	63 - 129	0	20		
4-Methyl-2-pentanone (MIBK)	124	114	51 - 140	8	20		
Naphthalene	120	116	45 - 146	3	20		
N-Propylbenzene	109	110	71 - 130	1	20		
Styrene	108	106	58 - 135	2	20		
1,1,1,2-Tetrachloroethane	107	106	64 - 133	1	20		
1,1,2,2-Tetrachloroethane	123	117	75 - 131	5	20		
Tetrachloroethene	93	93	67 - 128	1	20		
Toluene	101	101	72 - 120	1	20		
1,2,3-Trichlorobenzene	109	109	58 - 138	0	20		
1,2,4-Trichlorobenzene	105	105	49 - 144	0	20		
1,1,1-Trichloroethane	107	108	57 - 133	1	20		
1,1,2-Trichloroethane	119	114	68 - 132	4	20		
Trichloroethene	93	90	66 - 125	3	20		
Trichlorofluoromethane	110	107	61 - 127	3	20		
1,2,3-Trichloropropane	126	123	62 - 150	3	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	94	92	52 - 126	2	20		
1,2,4-Trimethylbenzene	115	116	64 - 140	1	20		
1,3,5-Trimethylbenzene	111	111	67 - 134	0	20		
Vinyl acetate	122	117	52 - 150	4	20		
Vinyl chloride	101	99	62 - 120	2	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59432

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59432/1-A	Analysis Batch:	720-59384	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59432	Lab File ID:	10120921.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/12/2009 2042			Final Weight/Volume:	10 mL
Date Prepared:	10/12/2009 0800				

LCSD Lab Sample ID:	LCSD 720-59432/2-A	Analysis Batch:	720-59384	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59432	Lab File ID:	10120922.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/12/2009 2115			Final Weight/Volume:	10 mL
Date Prepared:	10/12/2009 0800				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	117	115	63 - 130	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	112	109	52 - 140
1,2-Dichloroethane-d4 (Surr)	118	114	60 - 140
Toluene-d8 (Surr)	105	104	58 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: [illegible] 484-1919 Fax: (925) 600-3002

Reference #: 119698

Date_____ Page_____ of_____

726-23206

Report To

Attn: BILL STEVENS
Company: AEROTECH ENV. INC.
Address: 5587 SUNOL BLVD
Phone: 484-0220 Email: BSTEVENS@AEROTECHENV.COM
Bill To: BGC
Sampled By: ROV
Attn: BILL
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preservative	TPH EPA ☐ 8015B* ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum ☐ Total (EPA 1664)	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7060/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS)	WET (STLC) ☐ TCLP	Hexavalent Chromium pH (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TDS ☐ TSS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	METHANE			Number of Containers
Z3	10/2/09	11:00	-	-																						2

RUSH

Project Info.

Project Name: DUBLIN
Project#:
PO#:
Credit Card#:

Sample Receipt

of Containers: 2
Head Space:
Temp: 7.9° 24hrs
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID

See Terms and Conditions on reverse.
*TestAmerica SF reports 8015M from C_6-C_{36} (industry norm). Default for 8015B is C_{10}-C_{36}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [illegible] Time: 12:12	Signature: Time:	Signature: Time:
Printed Name: ROY VALDEMORA Date:	Printed Name: Date:	Printed Name: Date:
Company: BGC 10.12.09	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [illegible] Time: 12:12	Signature: Time:	Signature: Time:
Printed Name: Muller Date: 10-12-09	Printed Name: Date:	Printed Name: Date:
Company: Test America	Company:	Company:

Rev(02/09)

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-23206-1

Login Number: 23206

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-23154-1

Job Description: Dublin

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, CA 94566

Attention: Mr. Bill Stevens

Surinder Sidhu

Approved for release.
Surinder Sidhu
Customer Service Manager
10/12/2009 5:41 PM

Surinder Sidhu
Customer Service Manager
surinder.sidhu@testamericainc.com
10/12/2009

CA ELAP Certification # 2496
The Chain(s) of Custody are included and are an integral part of this report.
The report shall not be reproduced except in full, without the written approval of the laboratory. The client, by accepting this report, also agrees not to alter any reports whether in the hard copy or electronic format and to use reasonable efforts to preserve the reports in the form and substance originally provided by TestAmerica.
A trip blank is required to be provided for volatile analyses. If trip blank results are not included in the report, either the trip blank was not submitted or requested to be analyzed.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for preparation batch #59302 exceeded control limits for the following analytes: 1,2-Dichloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) for 1,1,2,2-Tetrachloroethane and 1,2,3-Trichloropropane recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method

No Detections

METHOD SUMMARY

l imet B gerioaGr c eoBehSt rnGl

Job Number: 720-2361C-6

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
OoiGBie p raGt rn l omdout s(/c l NI WT	ALF W5	W8 4CV 42V0g	
Purae Gt s ArGd	ALF W5		W8 4CV 1030g

Lab References:

ALF W5 = Ae(BL merrnGWGt 5rGt hr(ho

Method References:

W8 4CV = "Ae(B) eBSos(5or EvGluGBa Wbins 8 G(Be, PSy(rnGlM SemrnGl) eBSos(", ASrns EsrnBot , November 694V Lt s IB(UdsGBe(.

SAMPLE SUMMARY

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-23154-1	Z-1	Solid	10/09/2009 0800	10/09/2009 1327
720-23154-2	Z-2	Solid	10/09/2009 0800	10/09/2009 1327

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Client Sample ID: **Z-1**

Lab Sample ID: 720-23154-1
Client Matrix: Solid

Date Sampled: 10/09/2009 0800
Date Received: 10/09/2009 1327

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59302		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59352		Lab File ID:	10100914.D
Dilution:	1.0			Initial Weight/Volume:	1 g
Date Analyzed:	10/10/2009 1816			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		25
Acetone		ND		250
Benzene		ND		25
Dichlorobromomethane		ND		25
Bromobenzene		ND		25
Chlorobromomethane		ND		100
Bromoform		ND		25
Bromomethane		ND		50
2-Butanone (MEK)		ND		250
n-Butylbenzene		ND		25
sec-Butylbenzene		ND		25
tert-Butylbenzene		ND		25
Carbon disulfide		ND		25
Carbon tetrachloride		ND		25
Chlorobenzene		ND		25
Chloroethane		ND		50
Chloroform		ND		25
Chloromethane		ND		50
2-Chlorotoluene		ND		25
4-Chlorotoluene		ND		25
Chlorodibromomethane		ND		25
1,2-Dichlorobenzene		ND		25
1,3-Dichlorobenzene		ND		25
1,4-Dichlorobenzene		ND		25
1,3-Dichloropropane		ND		25
1,1-Dichloropropene		ND		25
1,2-Dibromo-3-Chloropropane		ND		25
Ethylene Dibromide		ND		25
Dibromomethane		ND		50
Dichlorodifluoromethane		ND		50
1,1-Dichloroethane		ND		25
1,2-Dichloroethane		ND	*	25
1,1-Dichloroethene		ND		25
cis-1,2-Dichloroethene		ND		25
trans-1,2-Dichloroethene		ND		25
1,2-Dichloropropane		ND		25
cis-1,3-Dichloropropene		ND		25
trans-1,3-Dichloropropene		ND		25
Ethylbenzene		ND		25
Hexachlorobutadiene		ND		25
2-Hexanone		ND		250
Isopropylbenzene		ND		25
4-Isopropyltoluene		ND		25
Methylene Chloride		ND		50
4-Methyl-2-pentanone (MIBK)		ND		250
Naphthalene		ND		50

Client: Berlogar Geotechnical | Job Number: 720-23154-1

Client Sample ID: **Z-1**

Lab Sample ID: 720-23154-1 | Date Sampled: 10/09/2009 0800
Client Matrix: Solid | Date Received: 10/09/2009 1327

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59302		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59352		Lab File ID:	10100914.D
Dilution:	1.0			Initial Weight/Volume:	1 g
Date Analyzed:	10/10/2009 1816			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		25
Styrene		ND		25
1,1,1,2-Tetrachloroethane		ND		25
1,1,2,2-Tetrachloroethane		ND		25
Tetrachloroethene		ND		25
Toluene		ND		25
1,2,3-Trichlorobenzene		ND		25
1,2,4-Trichlorobenzene		ND		25
1,1,1-Trichloroethane		ND		25
1,1,2-Trichloroethane		ND		25
Trichloroethene		ND		25
Trichlorofluoromethane		ND		25
1,2,3-Trichloropropane		ND		25
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		25
1,2,4-Trimethylbenzene		ND		25
1,3,5-Trimethylbenzene		ND		25
Vinyl acetate		ND		250
Vinyl chloride		ND		25
Xylenes, Total		ND		50
2,2-Dichloropropane		ND		25

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	102		52 - 130
1,2-Dichloroethane-d4 (Surr)	115		67 - 132
Toluene-d8 (Surr)	104		58 - 130

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Client Sample ID: **Z-2**

Lab Sample ID: 720-23154-2
Client Matrix: Solid

Date Sampled: 10/09/2009 0800
Date Received: 10/09/2009 1327

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59302		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59352		Lab File ID:	10100915.D
Dilution:	1.0			Initial Weight/Volume:	5.03 g
Date Analyzed:	10/10/2009 1848			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		5.0
Acetone		ND		50
Benzene		ND		5.0
Dichlorobromomethane		ND		5.0
Bromobenzene		ND		5.0
Chlorobromomethane		ND		20
Bromoform		ND		5.0
Bromomethane		ND		9.9
2-Butanone (MEK)		ND		50
n-Butylbenzene		ND		5.0
sec-Butylbenzene		ND		5.0
tert-Butylbenzene		ND		5.0
Carbon disulfide		ND		5.0
Carbon tetrachloride		ND		5.0
Chlorobenzene		ND		5.0
Chloroethane		ND		9.9
Chloroform		ND		5.0
Chloromethane		ND		9.9
2-Chlorotoluene		ND		5.0
4-Chlorotoluene		ND		5.0
Chlorodibromomethane		ND		5.0
1,2-Dichlorobenzene		ND		5.0
1,3-Dichlorobenzene		ND		5.0
1,4-Dichlorobenzene		ND		5.0
1,3-Dichloropropane		ND		5.0
1,1-Dichloropropene		ND		5.0
1,2-Dibromo-3-Chloropropane		ND		5.0
Ethylene Dibromide		ND		5.0
Dibromomethane		ND		9.9
Dichlorodifluoromethane		ND		9.9
1,1-Dichloroethane		ND		5.0
1,2-Dichloroethane		ND	*	5.0
1,1-Dichloroethene		ND		5.0
cis-1,2-Dichloroethene		ND		5.0
trans-1,2-Dichloroethene		ND		5.0
1,2-Dichloropropane		ND		5.0
cis-1,3-Dichloropropene		ND		5.0
trans-1,3-Dichloropropene		ND		5.0
Ethylbenzene		ND		5.0
Hexachlorobutadiene		ND		5.0
2-Hexanone		ND		50
Isopropylbenzene		ND		5.0
4-Isopropyltoluene		ND		5.0
Methylene Chloride		ND		9.9
4-Methyl-2-pentanone (MIBK)		ND		50
Naphthalene		ND		9.9

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Client Sample ID: **Z-2**

Lab Sample ID: 720-23154-2
Client Matrix: Solid

Date Sampled: 10/09/2009 0800
Date Received: 10/09/2009 1327

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-59302		Instrument ID:	HP12
Preparation:	5030B	Prep Batch: 720-59352		Lab File ID:	10100915.D
Dilution:	1.0			Initial Weight/Volume:	5.03 g
Date Analyzed:	10/10/2009 1848			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
N-Propylbenzene		ND		5.0
Styrene		ND		5.0
1,1,1,2-Tetrachloroethane		ND		5.0
1,1,2,2-Tetrachloroethane		ND		5.0
Tetrachloroethene		ND		5.0
Toluene		ND		5.0
1,2,3-Trichlorobenzene		ND		5.0
1,2,4-Trichlorobenzene		ND		5.0
1,1,1-Trichloroethane		ND		5.0
1,1,2-Trichloroethane		ND		5.0
Trichloroethene		ND		5.0
Trichlorofluoromethane		ND		5.0
1,2,3-Trichloropropane		ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		5.0
1,2,4-Trimethylbenzene		ND		5.0
1,3,5-Trimethylbenzene		ND		5.0
Vinyl acetate		ND		50
Vinyl chloride		ND		5.0
Xylenes, Total		ND		9.9
2,2-Dichloropropane		ND		5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	97		52 - 130
1,2-Dichloroethane-d4 (Surr)	122		67 - 132
Toluene-d8 (Surr)	102		58 - 130

DATA REPORTING QUALIFIERS

Client: Berlogar Geotechnical Job Number: 720-23154-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits

Client: Berlogar Geotechnical

Job Number: 720-2361L-6

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-59302					
SCp 720-19312/2-A	Sab Control pamdle	T	poli5	4280B	720-19312
SCpD 720-19312/3-A	Sab Control pamdle Dudlicate	T	poli5	4280B	720-19312
MB 720-19312/8-A	Metho5 Blank	T	poli5	4280B	720-19312
720-2361L-6	Z-6	T	poli5	4280B	720-19312
720-2361L-2	Z-2	T	poli5	4280B	720-19312
Prep Batch: 720-59352					
SCp 720-19312/2-A	Sab Control pamdle	T	poli5	1030B	
SCpD 720-19312/3-A	Sab Control pamdle Dudlicate	T	poli5	1030B	
MB 720-19312/8-A	Metho5 Blank	T	poli5	1030B	
720-2361L-6	Z-6	T	poli5	1030B	
720-2361L-2	Z-2	T	poli5	1030B	

Report Basis

T = Total

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Method Blank - Batch: 720-59352

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59352/6-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1447
Date Prepared: 10/10/2009 1000

Analysis Batch: 720-59302
Prep Batch: 720-59352
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10100908.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		5.0
Dichlorobromomethane	ND		5.0
Bromobenzene	ND		5.0
Chlorobromomethane	ND		20
Bromoform	ND		5.0
Bromomethane	ND		10
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		5.0
sec-Butylbenzene	ND		5.0
tert-Butylbenzene	ND		5.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		5.0
Chlorobenzene	ND		5.0
Chloroethane	ND		10
Chloroform	ND		5.0
Chloromethane	ND		10
2-Chlorotoluene	ND		5.0
4-Chlorotoluene	ND		5.0
Chlorodibromomethane	ND		5.0
1,2-Dichlorobenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0
1,3-Dichloropropane	ND		5.0
1,1-Dichloropropene	ND		5.0
1,2-Dibromo-3-Chloropropane	ND		5.0
Ethylene Dibromide	ND		5.0
Dibromomethane	ND		10
Dichlorodifluoromethane	ND		10
1,1-Dichloroethane	ND		5.0
1,2-Dichloroethane	ND		5.0
1,1-Dichloroethene	ND		5.0
cis-1,2-Dichloroethene	ND		5.0
trans-1,2-Dichloroethene	ND		5.0
1,2-Dichloropropane	ND		5.0
cis-1,3-Dichloropropene	ND		5.0
trans-1,3-Dichloropropene	ND		5.0
Ethylbenzene	ND		5.0
Hexachlorobutadiene	ND		5.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Method Blank - Batch: 720-59352

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-59352/6-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1447
Date Prepared: 10/10/2009 1000

Analysis Batch: 720-59302
Prep Batch: 720-59352
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10100908.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		5.0
4-Isopropyltoluene	ND		5.0
Methylene Chloride	ND		10
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		10
N-Propylbenzene	ND		5.0
Styrene	ND		5.0
1,1,1,2-Tetrachloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0
Tetrachloroethene	ND		5.0
Toluene	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0
1,1,2-Trichloroethane	ND		5.0
Trichloroethene	ND		5.0
Trichlorofluoromethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0
Vinyl acetate	ND		50
Vinyl chloride	ND		5.0
Xylenes, Total	ND		10
2,2-Dichloropropane	ND		5.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	106	52 - 130
1,2-Dichloroethane-d4 (Surr)	128	67 - 132
Toluene-d8 (Surr)	106	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59352

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59352/2-A	Analysis Batch:	720-59302	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59352	Lab File ID:	10100904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/10/2009 1236			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

LCSD Lab Sample ID:	LCSD 720-59352/3-A	Analysis Batch:	720-59302	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59352	Lab File ID:	10100905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/10/2009 1309			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Methyl tert-butyl ether	123	111	69 - 125	10	20		
Acetone	124	109	37 - 150	12	20		
Benzene	100	98	72 - 120	1	20		
Dichlorobromomethane	122	116	64 - 135	5	20		
Bromobenzene	98	97	77 - 121	1	20		
Chlorobromomethane	103	98	65 - 128	5	20		
Bromoform	118	108	58 - 132	9	20		
Bromomethane	98	93	56 - 124	6	20		
2-Butanone (MEK)	130	111	41 - 150	16	20		
n-Butylbenzene	110	110	60 - 145	0	20		
sec-Butylbenzene	101	102	64 - 137	1	20		
tert-Butylbenzene	101	103	63 - 134	1	20		
Carbon disulfide	84	83	10 - 150	1	20		
Carbon tetrachloride	108	110	54 - 141	1	20		
Chlorobenzene	103	99	70 - 121	3	20		
Chloroethane	103	94	61 - 125	9	20		
Chloroform	109	107	67 - 125	2	20		
Chloromethane	99	94	50 - 131	5	20		
2-Chlorotoluene	106	108	75 - 131	2	20		
4-Chlorotoluene	107	107	76 - 129	0	20		
Chlorodibromomethane	123	116	60 - 140	5	20		
1,2-Dichlorobenzene	102	100	73 - 126	2	20		
1,3-Dichlorobenzene	100	99	73 - 128	0	20		
1,4-Dichlorobenzene	98	97	72 - 122	1	20		
1,3-Dichloropropane	118	110	74 - 127	6	20		
1,1-Dichloropropene	106	105	67 - 128	1	20		
1,2-Dibromo-3-Chloropropane	123	109	57 - 130	12	20		
Ethylene Dibromide	114	105	66 - 135	8	20		
Dibromomethane	116	109	65 - 131	7	20		
Dichlorodifluoromethane	96	92	38 - 120	5	20		
1,1-Dichloroethane	107	105	67 - 126	2	20		
1,2-Dichloroethane	124	117	73 - 122	6	20	*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59352

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-59352/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1236
Date Prepared: 10/10/2009 1000

Analysis Batch: 720-59302
Prep Batch: 720-59352
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10100904.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-59352/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 10/10/2009 1309
Date Prepared: 10/10/2009 1000

Analysis Batch: 720-59302
Prep Batch: 720-59352
Units: ug/Kg

Instrument ID: Chenstation 3
Lab File ID: 10100905.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1-Dichloroethene	99	99	64 - 129	0	20		
cis-1,2-Dichloroethene	109	106	68 - 131	3	20		
trans-1,2-Dichloroethene	98	96	70 - 130	2	20		
1,2-Dichloropropane	107	103	65 - 133	4	20		
cis-1,3-Dichloropropene	126	117	46 - 139	7	20		
trans-1,3-Dichloropropene	128	118	55 - 131	8	20		
Ethylbenzene	109	105	65 - 130	3	20		
Hexachlorobutadiene	100	100	58 - 132	1	20		
2-Hexanone	132	112	44 - 150	17	20		
Isopropylbenzene	91	90	65 - 130	1	20		
4-Isopropyltoluene	104	105	69 - 134	2	20		
Methylene Chloride	100	94	63 - 129	7	20		
4-Methyl-2-pentanone (MIBK)	131	114	51 - 140	14	20		
Naphthalene	115	108	45 - 146	7	20		
N-Propylbenzene	103	104	71 - 130	1	20		
Styrene	109	105	58 - 135	4	20		
1,1,1,2-Tetrachloroethane	111	108	64 - 133	3	20		
1,1,2,2-Tetrachloroethane	122	112	75 - 131	9	20		
Tetrachloroethene	95	94	67 - 128	0	20		
Toluene	100	98	72 - 120	2	20		
1,2,3-Trichlorobenzene	106	103	58 - 138	2	20		
1,2,4-Trichlorobenzene	101	97	49 - 144	4	20		
1,1,1-Trichloroethane	108	109	57 - 133	1	20		
1,1,2-Trichloroethane	120	111	68 - 132	8	20		
Trichloroethene	95	93	66 - 125	2	20		
Trichlorofluoromethane	104	105	61 - 127	1	20		
1,2,3-Trichloropropane	125	115	62 - 150	8	20		
1,1,2-Trichloro-1,2,2-trifluoroethane	91	91	52 - 126	1	20		
1,2,4-Trimethylbenzene	113	113	64 - 140	0	20		
1,3,5-Trimethylbenzene	107	108	67 - 134	0	20		
Vinyl acetate	123	114	52 - 150	8	20		
Vinyl chloride	100	100	62 - 120	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Berlogar Geotechnical

Job Number: 720-23154-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-59352

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 720-59352/2-A	Analysis Batch:	720-59302	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59352	Lab File ID:	10100904.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/10/2009 1236			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

LCSD Lab Sample ID:	LCSD 720-59352/3-A	Analysis Batch:	720-59302	Instrument ID:	Chenstation 3
Client Matrix:	Solid	Prep Batch:	720-59352	Lab File ID:	10100905.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	5 g
Date Analyzed:	10/10/2009 1309			Final Weight/Volume:	10 mL
Date Prepared:	10/10/2009 1000				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,2-Dichloropropane	116	115	63 - 130	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	112	107	52 - 130
1,2-Dichloroethane-d4 (Surr)	127	119	67 - 132
Toluene-d8 (Surr)	106	108	58 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 Fax: (925) 600-3002

Reference #: 119608

720-23154

Date _____ Page _____ of _____

Report To

Attn: BILL STEVENS
Company: BERLOGAR
Address: 5757 SUNOL BLVD
Phone: 484-0220 Email: BSTEVENS@BERLOGAR.COM
Bill To: BGC
Sampled By: ROV
Attn: BILL
Phone: 484-0220

Analysis Request

Sample ID	Date	Time	Matrix	Preservative
2-1	10.9.09	8		—
2-2	10.9.09	8		—

Analysis columns: TPH: EPA - ☐ 8015B ☐ 8015M ☐ Gas w/ ☐ BTEX ☐ MTBE; Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B; TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other; Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Fuel Oxygenates ☐ DCA EDB ☐ Ethanol; Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B; Volatile Organics GCMS (VOCs) ☐ EPA 8260B ☐ 624; Semivolatiles GCMS ☐ EPA 3570 ☐ 625; Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total; Pesticides ☐ EPA 8081 ☐ 608 ☐ EPA 8082 ☐ 608 PCBs; PNAs by ☐ 8270 ☐ 8310; CAM17 Metals (EPA 6010/7470/7471); Metals ☐ Lead ☐ LUFT ☐ RCRA ☐ Other; Low Level Metals by EPA 200.8/6020 (ICP-MS); W.E.T. (STLC) ☐ ☐ TCLP; Hexavalent Chromium pH (24hr hold time for 7402); Spec Cond. ☐ TDS ☐ TSS; Alkalinity ☐ ☐; Anions: ☐ ☐ SO_4 ☐ ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4; Number of Containers

5 DAYS

RUSH

Project Info

Project Name: Dublin
Project #:
PO#:
Global ID:

Sample Receipt

of Containers: 2
Head Space:
Temp: 2.5°
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Task
Fund: EDF
Special Instructions / Comments:

1) Relinquished by
Signature: _____ Time: 1:12
Printed Name: RAMANDEEP KAUR Date: 10/9/09
Company: BGC

2) Relinquished by
Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Relinquished by
Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

1) Received by
Signature: _____ Time: 1327
Printed Name: Mullen Date: 10-09-09
Company: _____

2) Received by
Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Received by
Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

Rev 02/09

Login Sample Receipt Check List

Client: Berlogar Geotechnical

Job Number: 720-2315R-1

Login Number: 23154

List Source: TestAmerica San Francisco

Creator: Mullen, Joan

List Number: 1

Question	T / F/ NA	Comment
d avioactiyitweither s a, not mea, urev orf ikmea, urevf i, at or belos bac/ grounv	NAT	
' he coolerp cu, tovw, ealf ik. re, entf i, intactS	NAT	
' he cooler or , am. le, vo not a. . ear to haye been com. romi, ev or tam. erev s ithS	' rue	
Oam. le, s ere receiyev on iceS	' rue	
Cooler ' em. erature i, acce. tableS	' rue	
Cooler ' em. erature i, recorvevS	' rue	
CI C i, . re, entS	' rue	
CI C i, killev out in in/ anv legibleS	' rue	
CI C i, killev out s ith all . ertinent inkormationS	' rue	
' here are no vi, cre. ancie, bets een the , am. le DH, on the container, anv the CI CS	' rue	
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Oam. le container, haye legible label, S	' rue	
Container, are not bro/ en or lea/ ingS	' rue	
Oam. le collection vateAime, are . royivevS	' rue	
T. . ro. riate , am. le container, are u, evS	' rue	
Oam. le bottle, are com. letelwkillevS	' rue	
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TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-76174-1
Client Project/Site: PM9717

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, California 94566

Attn: Stefanie Parman

Authorized for release by:
12/15/2016 9:44:31 AM
Paloma Duong, Project Manager I
paloma.duong@testamericainc.com

Designee for

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-76174-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-76174-1

Comments
No additional comments.

Receipt
The samples were received on 12/6/2016 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3º C.

Receipt Exceptions
Two of the jars received were cracked upon arrival. After the volatiles departmet received their aliquot, the sample was transfered into another jar.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270C: The following analytes 2,4-Dinitrophenol and 2-Methyl-4,6-dinitrophenol recovered outside control limits for the LCS associated with preparation batch 720-214477 and analytical batch 720-214508: This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270C: The following sample was diluted due to the abundance of non-target analytes: S-3@6-12" (720-76174-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method 8082: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: (LCS 720-214323/2-A), (MB 720-214323/1-A), S-1@6-12" (720-76174-1), S-2@6-12" (720-76174-2), S-3@6-12" (720-76174-3) and S-4@6-12" (720-76174-4).

Method 8081A: The following sample has clear evidence of the presence of chlordane based on the presence of alpha and gamma chlordane; however, the chlordane peaks in the sample do not closely match the laboratory's Technical Chlordane standard: S-3@6-12" (720-76174-3). As a result, there is increased quantitative uncertainty associated with this result.

Method 8081A: The %RPD between the primary and confirmation column exceeded 40% for alpha-Chlordane for the following sample: S-3@6-12" (720-76174-3). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010B: The method blank for preparation batch 720-214285 and analytical batch 720-214443 contained Cu above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Job ID: 720-76174-1 (Continued)

Laboratory: TestAmerica Pleasanton (Continued)

Method 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-196722.

Method 3541: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-196776.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-1@6-12" — Lab Sample ID: 720-76174-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.7		0.99		mg/Kg	1		8015B	Total/NA
Arsenic	2.9		2.9		mg/Kg	4		6010B	Total/NA
Barium	160		1.4		mg/Kg	4		6010B	Total/NA
Chromium	26		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	7.2		0.57		mg/Kg	4		6010B	Total/NA
Copper	17		4.9		mg/Kg	4		6010B	Total/NA
Lead	4.7		1.4		mg/Kg	4		6010B	Total/NA
Nickel	29		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	30		1.4		mg/Kg	4		6010B	Total/NA
Zinc	31		4.3		mg/Kg	4		6010B	Total/NA
Mercury	0.013		0.0090		mg/Kg	1		7471A	Total/NA

Client Sample ID: S-2@6-12" — Lab Sample ID: 720-76174-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.0		0.99		mg/Kg	1		8015B	Total/NA
Arsenic	4.6		2.9		mg/Kg	4		6010B	Total/NA
Barium	210		1.4		mg/Kg	4		6010B	Total/NA
Beryllium	0.42		0.29		mg/Kg	4		6010B	Total/NA
Chromium	31		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	9.5		0.58		mg/Kg	4		6010B	Total/NA
Copper	16		5.4		mg/Kg	4		6010B	Total/NA
Lead	6.3		1.4		mg/Kg	4		6010B	Total/NA
Nickel	37		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	37		1.4		mg/Kg	4		6010B	Total/NA
Zinc	40		4.3		mg/Kg	4		6010B	Total/NA
Mercury	0.014		0.010		mg/Kg	1		7471A	Total/NA

Client Sample ID: S-3@6-12" — Lab Sample ID: 720-76174-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	8.9		0.99		mg/Kg	1		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	75		49		mg/Kg	1		8015B	Total/NA
Dieldrin	24		2.0		ug/Kg	1		8081A	Total/NA
alpha-Chlordane	5.4	p	2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	5.4		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	4.7		3.8		mg/Kg	4		6010B	Total/NA
Barium	220		1.9		mg/Kg	4		6010B	Total/NA
Chromium	31		1.9		mg/Kg	4		6010B	Total/NA
Cobalt	9.3		0.75		mg/Kg	4		6010B	Total/NA
Copper	15		5.5		mg/Kg	4		6010B	Total/NA
Lead	5.9		1.9		mg/Kg	4		6010B	Total/NA
Nickel	32		1.9		mg/Kg	4		6010B	Total/NA
Vanadium	41		1.9		mg/Kg	4		6010B	Total/NA
Zinc	40		5.7		mg/Kg	4		6010B	Total/NA
Mercury	0.029		0.0085		mg/Kg	1		7471A	Total/NA

Client Sample ID: S-4@6-12" — Lab Sample ID: 720-76174-4

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-4@6-12" (Continued) — Lab Sample ID: 720-76174-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	5.9		1.0		mg/Kg	1		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	55		50		mg/Kg	1		8015B	Total/NA
Arsenic	4.7		2.6		mg/Kg	4		6010B	Total/NA
Barium	260		1.3		mg/Kg	4		6010B	Total/NA
Beryllium	0.32		0.26		mg/Kg	4		6010B	Total/NA
Chromium	26		1.3		mg/Kg	4		6010B	Total/NA
Cobalt	10		0.51		mg/Kg	4		6010B	Total/NA
Copper	14		4.9		mg/Kg	4		6010B	Total/NA
Lead	6.0		1.3		mg/Kg	4		6010B	Total/NA
Nickel	32		1.3		mg/Kg	4		6010B	Total/NA
Vanadium	38		1.3		mg/Kg	4		6010B	Total/NA
Zinc	40		3.8		mg/Kg	4		6010B	Total/NA
Mercury	0.023		0.0094		mg/Kg	1		7471A	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-1@6-12"
Date Collected: 12/05/16 13:59
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Acetone	ND		48		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Benzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Dichlorobromomethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Bromobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chlorobromomethane	ND		19		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Bromoform	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Bromomethane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
2-Butanone (MEK)	ND		48		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
n-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
sec-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
tert-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Carbon disulfide	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Carbon tetrachloride	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chloroethane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chloroform	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chloromethane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
2-Chlorotoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
4-Chlorotoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Chlorodibromomethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,3-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,4-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,3-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2-Dibromo-3-Chloropropane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Ethylene Dibromide	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Dibromomethane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Dichlorodifluoromethane	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1-Dichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2-Dichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
cis-1,2-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
trans-1,2-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
cis-1,3-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
trans-1,3-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Ethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Hexachlorobutadiene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
2-Hexanone	ND		48		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Isopropylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
4-Isopropyltoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Methylene Chloride	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
4-Methyl-2-pentanone (MIBK)	ND		48		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Naphthalene	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
N-Propylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Styrene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1,1,2-Tetrachloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-1@6-12"
Date Collected: 12/05/16 13:59
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Tetrachloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Toluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2,3-Trichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2,4-Trichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1,1-Trichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1,2-Trichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Trichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Trichlorofluoromethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2,3-Trichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,2,4-Trimethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
1,3,5-Trimethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Vinyl acetate	ND		19		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Vinyl chloride	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Xylenes, Total	ND		9.6		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
2,2-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 14:27	1
Gasoline Range Organics (GRO) -C5-C12	ND		240		ug/Kg		12/06/16 13:00	12/07/16 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*45 - 131*	*12/06/16 13:00*	*12/07/16 14:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 140*	*12/06/16 13:00*	*12/07/16 14:27*	*1*
Toluene-d8 (Surr)	*88*		*58 - 140*	*12/06/16 13:00*	*12/07/16 14:27*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Chlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzyl alcohol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
1,2-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Methylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Hexachloroethane	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Nitrobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Isophorone	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Nitrophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Naphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Chloroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Hexachlorobutadiene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Methylnaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-1@6-12"
Date Collected: 12/05/16 13:59
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-1
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Chloronaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Dimethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Acenaphthylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
3-Nitroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Acenaphthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4-Dinitrophenol	ND	*	0.66		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Nitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Dibenzofuran	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Diethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Fluorene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
2-Methyl-4,6-dinitrophenol	ND	*	0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Hexachlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Pentachlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Phenanthrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzo[a]anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Chrysene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzo[a]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Benzoic acid	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Azobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*63*		*21 - 98*	*12/09/16 08:36*	*12/12/16 21:18*	*1*
2-Fluorobiphenyl	*72*		*30 - 112*	*12/09/16 08:36*	*12/12/16 21:18*	*1*
Terphenyl-d14	*83*		*59 - 134*	*12/09/16 08:36*	*12/12/16 21:18*	*1*
2-Fluorophenol	*67*		*28 - 98*	*12/09/16 08:36*	*12/12/16 21:18*	*1*
Phenol-d5	*71*		*23 - 101*	*12/09/16 08:36*	*12/12/16 21:18*	*1*
2,4,6-Tribromophenol	*83*		*37 - 114*	*12/09/16 08:36*	*12/12/16 21:18*	*1*

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.7**		0.99		mg/Kg		12/09/16 18:48	12/10/16 23:39	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		12/09/16 18:48	12/10/16 23:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*97*		*40 - 130*	*12/09/16 18:48*	*12/10/16 23:39*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Dieldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endrin aldehyde	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endrin ketone	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Heptachlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Heptachlor epoxide	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
4,4'-DDT	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
4,4'-DDE	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
4,4'-DDD	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endosulfan I	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endosulfan II	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
alpha-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
beta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
delta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Endosulfan sulfate	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Methoxychlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Toxaphene	ND		40		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
Chlordane (technical)	ND		40		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
alpha-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1
gamma-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*57 - 122*	*12/07/16 09:13*	*12/08/16 15:25*	*1*
DCB Decachlorobiphenyl	*107*		*21 - 136*	*12/07/16 09:13*	*12/08/16 15:25*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1221	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1232	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1242	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1248	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1254	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1
PCB-1260	ND		50		ug/Kg		12/07/16 09:31	12/08/16 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*46*		*45 - 132*	*12/07/16 09:31*	*12/08/16 14:44*	*1*
DCB Decachlorobiphenyl	*53*		*42 - 146*	*12/07/16 09:31*	*12/08/16 14:44*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Bolstar	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Chlorpyrifos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Coumaphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1

Client Sample ID: S-1@6-12"
Date Collected: 12/05/16 13:59
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-1
Matrix: Solid

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton, Total	ND		66		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Demeton-O	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Demeton-S	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Diazinon	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Dichlorvos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Dimethoate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Disulfoton	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
EPN	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Famphur	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Fensulfothion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Fenthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Malathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Methyl parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Mevinphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
O,O,O-Triethyl phosphorothioate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Phorate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Ronnel	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Stirophos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Sulfotepp	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Tokuthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Trichloronate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Mocap	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1
Thionazin	ND		33		ug/Kg		12/09/16 05:17	12/11/16 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*81*		*45 - 150*	*12/09/16 05:17*	*12/11/16 00:09*	*1*
Tributyl phosphate	*75*		*28 - 150*	*12/09/16 05:17*	*12/11/16 00:09*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		80		ug/Kg		12/08/16 11:45	12/09/16 11:26	20
2,4,5-T	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:26	20
Silvex (2,4,5-TP)	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:26	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*47*		*19 - 122*	*12/08/16 11:45*	*12/09/16 11:26*	*20*

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30		mg/Kg		12/12/16 21:03	12/14/16 12:11	3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Arsenic	**2.9**		2.9		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Barium	**160**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Beryllium	ND		0.29		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Cadmium	ND		0.36		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Chromium	**26**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Cobalt	**7.2**		0.57		mg/Kg		12/07/16 11:25	12/08/16 18:00	4

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-1@6-12"
Date Collected: 12/05/16 13:59
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-1
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**17**		4.9		mg/Kg		12/09/16 09:44	12/10/16 03:19	4
Lead	**4.7**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Molybdenum	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Nickel	**29**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Selenium	ND		2.9		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Silver	ND		0.71		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Thallium	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Vanadium	**30**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:00	4
Zinc	**31**		4.3		mg/Kg		12/07/16 11:25	12/08/16 18:00	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.013**		0.0090		mg/Kg		12/08/16 17:26	12/09/16 16:25	1

Client Sample ID: S-2@6-12"
Date Collected: 12/05/16 14:10
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-2
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Acetone	ND		47		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Benzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Dichlorobromomethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Bromobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chlorobromomethane	ND		19		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Bromoform	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Bromomethane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
2-Butanone (MEK)	ND		47		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
n-Butylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
sec-Butylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
tert-Butylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Carbon disulfide	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Carbon tetrachloride	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chloroethane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chloroform	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chloromethane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
2-Chlorotoluene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
4-Chlorotoluene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Chlorodibromomethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2-Dichlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,3-Dichlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,4-Dichlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,3-Dichloropropane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1-Dichloropropene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2-Dibromo-3-Chloropropane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Ethylene Dibromide	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Dibromomethane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Dichlorodifluoromethane	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1-Dichloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2-Dichloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1-Dichloroethene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
cis-1,2-Dichloroethene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
trans-1,2-Dichloroethene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2-Dichloropropane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
cis-1,3-Dichloropropene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
trans-1,3-Dichloropropene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Ethylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Hexachlorobutadiene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
2-Hexanone	ND		47		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Isopropylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
4-Isopropyltoluene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Methylene Chloride	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
4-Methyl-2-pentanone (MIBK)	ND		47		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Naphthalene	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
N-Propylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Styrene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1,1,2-Tetrachloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-2@6-12"
Date Collected: 12/05/16 14:10
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-2
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Tetrachloroethene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Toluene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2,3-Trichlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2,4-Trichlorobenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1,1-Trichloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1,2-Trichloroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Trichloroethene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Trichlorofluoromethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2,3-Trichloropropane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,2,4-Trimethylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
1,3,5-Trimethylbenzene	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Vinyl acetate	ND		19		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Vinyl chloride	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Xylenes, Total	ND		9.4		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
2,2-Dichloropropane	ND		4.7		ug/Kg		12/06/16 13:00	12/07/16 14:57	1
Gasoline Range Organics (GRO) -C5-C12	ND		230		ug/Kg		12/06/16 13:00	12/07/16 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*45 - 131*	*12/06/16 13:00*	*12/07/16 14:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 140*	*12/06/16 13:00*	*12/07/16 14:57*	*1*
Toluene-d8 (Surr)	*88*		*58 - 140*	*12/06/16 13:00*	*12/07/16 14:57*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Chlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzyl alcohol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
1,2-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Methylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Hexachloroethane	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Nitrobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Isophorone	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Nitrophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Naphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Chloroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Hexachlorobutadiene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Methylnaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-2@6-12"
Date Collected: 12/05/16 14:10
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-2
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Chloronaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Dimethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Acenaphthylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
3-Nitroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Acenaphthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4-Dinitrophenol	ND	*	0.66		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Nitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Dibenzofuran	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Diethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Fluorene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
2-Methyl-4,6-dinitrophenol	ND	*	0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Hexachlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Pentachlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Phenanthrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzo[a]anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Chrysene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzo[a]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Benzoic acid	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Azobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*65*		*21 - 98*	*12/09/16 08:36*	*12/12/16 21:44*	*1*
2-Fluorobiphenyl	*75*		*30 - 112*	*12/09/16 08:36*	*12/12/16 21:44*	*1*
Terphenyl-d14	*82*		*59 - 134*	*12/09/16 08:36*	*12/12/16 21:44*	*1*
2-Fluorophenol	*70*		*28 - 98*	*12/09/16 08:36*	*12/12/16 21:44*	*1*
Phenol-d5	*72*		*23 - 101*	*12/09/16 08:36*	*12/12/16 21:44*	*1*
2,4,6-Tribromophenol	*81*		*37 - 114*	*12/09/16 08:36*	*12/12/16 21:44*	*1*

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**2.0**		0.99		mg/Kg		12/09/16 18:48	12/11/16 00:03	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		12/09/16 18:48	12/11/16 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*91*		*40 - 130*	*12/09/16 18:48*	*12/11/16 00:03*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Dieldrin	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endrin aldehyde	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endrin	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endrin ketone	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Heptachlor	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Heptachlor epoxide	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
4,4'-DDT	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
4,4'-DDE	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
4,4'-DDD	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endosulfan I	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endosulfan II	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
alpha-BHC	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
beta-BHC	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
gamma-BHC (Lindane)	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
delta-BHC	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Endosulfan sulfate	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Methoxychlor	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Toxaphene	ND		39		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
Chlordane (technical)	ND		39		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
alpha-Chlordane	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1
gamma-Chlordane	ND		1.9		ug/Kg		12/07/16 09:13	12/08/16 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*57 - 122*	*12/07/16 09:13*	*12/08/16 15:42*	*1*
DCB Decachlorobiphenyl	*108*		*21 - 136*	*12/07/16 09:13*	*12/08/16 15:42*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1221	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1232	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1242	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1248	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1254	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1
PCB-1260	ND		48		ug/Kg		12/07/16 09:31	12/08/16 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*45 - 132*	*12/07/16 09:31*	*12/08/16 15:00*	*1*
DCB Decachlorobiphenyl	*78*		*42 - 146*	*12/07/16 09:31*	*12/08/16 15:00*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Bolstar	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Chlorpyrifos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Coumaphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1

Client Sample ID: S-2@6-12"
Date Collected: 12/05/16 14:10
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-2
Matrix: Solid

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton, Total	ND		65		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Demeton-O	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Demeton-S	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Diazinon	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Dichlorvos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Dimethoate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Disulfoton	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
EPN	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Famphur	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Fensulfothion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Fenthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Malathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Methyl parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Mevinphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
O,O,O-Triethyl phosphorothioate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Phorate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Ronnel	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Stirophos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Sulfotepp	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Tokuthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Trichloronate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Mocap	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1
Thionazin	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*84*		*45 - 150*	*12/09/16 05:17*	*12/11/16 02:20*	*1*
Tributyl phosphate	*81*		*28 - 150*	*12/09/16 05:17*	*12/11/16 02:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		80		ug/Kg		12/08/16 11:45	12/09/16 11:50	20
2,4,5-T	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:50	20
Silvex (2,4,5-TP)	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:50	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*66*		*19 - 122*	*12/08/16 11:45*	*12/09/16 11:50*	*20*

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30		mg/Kg		12/12/16 21:03	12/14/16 12:22	3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Arsenic	**4.6**		2.9		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Barium	**210**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Beryllium	**0.42**		0.29		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Cadmium	ND		0.36		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Chromium	**31**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Cobalt	**9.5**		0.58		mg/Kg		12/07/16 11:25	12/08/16 18:05	4

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-2@6-12"
Date Collected: 12/05/16 14:10
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-2
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**16**		5.4		mg/Kg		12/09/16 09:44	12/10/16 03:24	4
Lead	**6.3**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Molybdenum	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Nickel	**37**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Selenium	ND		2.9		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Silver	ND		0.72		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Thallium	ND		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Vanadium	**37**		1.4		mg/Kg		12/07/16 11:25	12/08/16 18:05	4
Zinc	**40**		4.3		mg/Kg		12/07/16 11:25	12/08/16 18:05	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**		0.010		mg/Kg		12/08/16 17:26	12/09/16 16:28	1

Client Sample ID: S-3@6-12"
Date Collected: 12/05/16 14:22
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-3
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Acetone	ND		48		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Benzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Dichlorobromomethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Bromobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chlorobromomethane	ND		19		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Bromoform	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Bromomethane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
2-Butanone (MEK)	ND		48		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
n-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
sec-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
tert-Butylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Carbon disulfide	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Carbon tetrachloride	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chloroethane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chloroform	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chloromethane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
2-Chlorotoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
4-Chlorotoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Chlorodibromomethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,3-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,4-Dichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,3-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2-Dibromo-3-Chloropropane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Ethylene Dibromide	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Dibromomethane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Dichlorodifluoromethane	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1-Dichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2-Dichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
cis-1,2-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
trans-1,2-Dichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
cis-1,3-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
trans-1,3-Dichloropropene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Ethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Hexachlorobutadiene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
2-Hexanone	ND		48		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Isopropylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
4-Isopropyltoluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Methylene Chloride	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
4-Methyl-2-pentanone (MIBK)	ND		48		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Naphthalene	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
N-Propylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Styrene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1,1,2-Tetrachloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-3@6-12"
Date Collected: 12/05/16 14:22
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-3
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Tetrachloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Toluene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2,3-Trichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2,4-Trichlorobenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1,1-Trichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1,2-Trichloroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Trichloroethene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Trichlorofluoromethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2,3-Trichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,2,4-Trimethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
1,3,5-Trimethylbenzene	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Vinyl acetate	ND		19		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Vinyl chloride	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Xylenes, Total	ND		9.7		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
2,2-Dichloropropane	ND		4.8		ug/Kg		12/06/16 13:00	12/07/16 15:28	1
Gasoline Range Organics (GRO) -C5-C12	ND		240		ug/Kg		12/06/16 13:00	12/07/16 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*45 - 131*	*12/06/16 13:00*	*12/07/16 15:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 140*	*12/06/16 13:00*	*12/07/16 15:28*	*1*
Toluene-d8 (Surr)	*88*		*58 - 140*	*12/06/16 13:00*	*12/07/16 15:28*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Bis(2-chloroethyl)ether	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Chlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
1,3-Dichlorobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
1,4-Dichlorobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzyl alcohol	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
1,2-Dichlorobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Methylphenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Methylphenol, 3 & 4	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
N-Nitrosodi-n-propylamine	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Hexachloroethane	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Nitrobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Isophorone	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Nitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4-Dimethylphenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Bis(2-chloroethoxy)methane	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4-Dichlorophenol	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
1,2,4-Trichlorobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Naphthalene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Chloroaniline	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Hexachlorobutadiene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Chloro-3-methylphenol	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Methylnaphthalene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-3@6-12"
Date Collected: 12/05/16 14:22
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-3
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4,6-Trichlorophenol	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4,5-Trichlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Chloronaphthalene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Nitroaniline	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Dimethyl phthalate	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Acenaphthylene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
3-Nitroaniline	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Acenaphthene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4-Dinitrophenol	ND	*	3.3		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Nitrophenol	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Dibenzofuran	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,4-Dinitrotoluene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2,6-Dinitrotoluene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Diethyl phthalate	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Chlorophenyl phenyl ether	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Fluorene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Nitroaniline	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
2-Methyl-4,6-dinitrophenol	ND	*	1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
N-Nitrosodiphenylamine	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
4-Bromophenyl phenyl ether	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Hexachlorobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Pentachlorophenol	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Phenanthrene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Di-n-butyl phthalate	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Fluoranthene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Pyrene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Butyl benzyl phthalate	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
3,3'-Dichlorobenzidine	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzo[a]anthracene	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Bis(2-ethylhexyl) phthalate	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Chrysene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Di-n-octyl phthalate	ND		0.84		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzo[b]fluoranthene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzo[a]pyrene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzo[k]fluoranthene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Indeno[1,2,3-cd]pyrene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzo[g,h,i]perylene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Benzoic acid	ND		1.6		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Azobenzene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5
Dibenz(a,h)anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*21 - 98*	*12/09/16 08:36*	*12/12/16 22:09*	*5*
2-Fluorobiphenyl	*99*		*30 - 112*	*12/09/16 08:36*	*12/12/16 22:09*	*5*
Terphenyl-d14	*100*		*59 - 134*	*12/09/16 08:36*	*12/12/16 22:09*	*5*
2-Fluorophenol	*75*		*28 - 98*	*12/09/16 08:36*	*12/12/16 22:09*	*5*
Phenol-d5	*83*		*23 - 101*	*12/09/16 08:36*	*12/12/16 22:09*	*5*
2,4,6-Tribromophenol	*88*		*37 - 114*	*12/09/16 08:36*	*12/12/16 22:09*	*5*

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**8.9**		0.99		mg/Kg		12/09/16 18:48	12/12/16 11:32	1
Motor Oil Range Organics [C24-C36]	**75**		49		mg/Kg		12/09/16 18:48	12/12/16 11:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*88*		*40 - 130*	*12/09/16 18:48*	*12/12/16 11:32*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Dieldrin	**24**		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endrin aldehyde	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endrin ketone	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Heptachlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Heptachlor epoxide	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
4,4'-DDT	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
4,4'-DDE	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
4,4'-DDD	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endosulfan I	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endosulfan II	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
alpha-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
beta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
delta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Endosulfan sulfate	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Methoxychlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Toxaphene	ND		40		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
Chlordane (technical)	ND		40		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
alpha-Chlordane	**5.4**	**p**	2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1
gamma-Chlordane	**5.4**		2.0		ug/Kg		12/07/16 09:13	12/08/16 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*91*		*57 - 122*	*12/07/16 09:13*	*12/08/16 15:58*	*1*
DCB Decachlorobiphenyl	*103*		*21 - 136*	*12/07/16 09:13*	*12/08/16 15:58*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1221	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1232	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1242	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1248	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1254	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1
PCB-1260	ND		50		ug/Kg		12/07/16 09:31	12/08/16 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*74*		*45 - 132*	*12/07/16 09:31*	*12/08/16 15:17*	*1*
DCB Decachlorobiphenyl	*79*		*42 - 146*	*12/07/16 09:31*	*12/08/16 15:17*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Bolstar	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Chlorpyrifos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-3@6-12"
Date Collected: 12/05/16 14:22
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-3
Matrix: Solid

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Demeton, Total	ND		65		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Demeton-O	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Demeton-S	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Diazinon	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Dichlorvos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Dimethoate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Disulfoton	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
EPN	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Famphur	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Fensulfothion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Fenthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Malathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Methyl parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Mevinphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
O,O,O-Triethyl phosphorothioate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Phorate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Ronnel	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Stirophos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Sulfotepp	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Tokuthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Trichloronate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Mocap	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1
Thionazin	ND		33		ug/Kg		12/09/16 05:17	12/11/16 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*80*		*45 - 150*	*12/09/16 05:17*	*12/11/16 02:53*	*1*
Tributyl phosphate	*69*		*28 - 150*	*12/09/16 05:17*	*12/11/16 02:53*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		80		ug/Kg		12/08/16 11:45	12/09/16 12:14	20
2,4,5-T	ND		20		ug/Kg		12/08/16 11:45	12/09/16 12:14	20
Silvex (2,4,5-TP)	ND		20		ug/Kg		12/08/16 11:45	12/09/16 12:14	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*55*		*19 - 122*	*12/08/16 11:45*	*12/09/16 12:14*	*20*

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30		mg/Kg		12/12/16 21:03	12/14/16 12:34	3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Arsenic	**4.7**		3.8		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Barium	**220**		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Beryllium	ND		0.38		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Cadmium	ND		0.47		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Chromium	**31**		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-3@6-12"
Date Collected: 12/05/16 14:22
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-3
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**9.3**		0.75		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Copper	**15**		5.5		mg/Kg		12/09/16 09:44	12/10/16 03:29	4
Lead	**5.9**		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Molybdenum	ND		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Nickel	**32**		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Selenium	ND		3.8		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Silver	ND		0.94		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Thallium	ND		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Vanadium	**41**		1.9		mg/Kg		12/07/16 11:25	12/08/16 18:10	4
Zinc	**40**		5.7		mg/Kg		12/07/16 11:25	12/08/16 18:10	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.029**		0.0085		mg/Kg		12/08/16 17:26	12/09/16 16:31	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-4@6-12"
Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Acetone	ND		49		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Benzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Dichlorobromomethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Bromobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chlorobromomethane	ND		19		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Bromoform	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Bromomethane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
2-Butanone (MEK)	ND		49		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
n-Butylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
sec-Butylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
tert-Butylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Carbon disulfide	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Carbon tetrachloride	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chloroethane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chloroform	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chloromethane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
2-Chlorotoluene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
4-Chlorotoluene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Chlorodibromomethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2-Dichlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,3-Dichlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,4-Dichlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,3-Dichloropropane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1-Dichloropropene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2-Dibromo-3-Chloropropane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Ethylene Dibromide	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Dibromomethane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Dichlorodifluoromethane	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1-Dichloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2-Dichloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1-Dichloroethene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
cis-1,2-Dichloroethene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
trans-1,2-Dichloroethene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2-Dichloropropane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
cis-1,3-Dichloropropene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
trans-1,3-Dichloropropene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Ethylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Hexachlorobutadiene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
2-Hexanone	ND		49		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Isopropylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
4-Isopropyltoluene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Methylene Chloride	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
4-Methyl-2-pentanone (MIBK)	ND		49		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Naphthalene	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
N-Propylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Styrene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1,1,2-Tetrachloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1

Client Sample ID: S-4@6-12"
Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Tetrachloroethene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Toluene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2,3-Trichlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2,4-Trichlorobenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1,1-Trichloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1,2-Trichloroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Trichloroethene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Trichlorofluoromethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2,3-Trichloropropane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,2,4-Trimethylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
1,3,5-Trimethylbenzene	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Vinyl acetate	ND		19		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Vinyl chloride	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Xylenes, Total	ND		9.7		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
2,2-Dichloropropane	ND		4.9		ug/Kg		12/06/16 13:00	12/06/16 18:50	1
Gasoline Range Organics (GRO) -C5-C12	ND		240		ug/Kg		12/06/16 13:00	12/06/16 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*45 - 131*	*12/06/16 13:00*	*12/06/16 18:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*	*12/06/16 13:00*	*12/06/16 18:50*	*1*
Toluene-d8 (Surr)	*87*		*58 - 140*	*12/06/16 13:00*	*12/06/16 18:50*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Chlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzyl alcohol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
1,2-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Methylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Hexachloroethane	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Nitrobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Isophorone	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Nitrophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Naphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Chloroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Hexachlorobutadiene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Methylnaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-4@6-12"
Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Chloronaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Dimethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Acenaphthylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
3-Nitroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Acenaphthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4-Dinitrophenol	ND	*	0.66		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Nitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Dibenzofuran	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Diethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Fluorene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
2-Methyl-4,6-dinitrophenol	ND	*	0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Hexachlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Pentachlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Phenanthrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzo[a]anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Chrysene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzo[a]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Benzoic acid	ND		0.33		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Azobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/12/16 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*58*		*21 - 98*	*12/09/16 08:36*	*12/12/16 22:35*	*1*
2-Fluorobiphenyl	*65*		*30 - 112*	*12/09/16 08:36*	*12/12/16 22:35*	*1*
Terphenyl-d14	*76*		*59 - 134*	*12/09/16 08:36*	*12/12/16 22:35*	*1*
2-Fluorophenol	*59*		*28 - 98*	*12/09/16 08:36*	*12/12/16 22:35*	*1*
Phenol-d5	*62*		*23 - 101*	*12/09/16 08:36*	*12/12/16 22:35*	*1*
2,4,6-Tribromophenol	*71*		*37 - 114*	*12/09/16 08:36*	*12/12/16 22:35*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**5.9**		1.0		mg/Kg		12/09/16 18:48	12/11/16 00:52	1
Motor Oil Range Organics [C24-C36]	**55**		50		mg/Kg		12/09/16 18:48	12/11/16 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*92*		*40 - 130*	*12/09/16 18:48*	*12/11/16 00:52*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Dieldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endrin aldehyde	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endrin ketone	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Heptachlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Heptachlor epoxide	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
4,4'-DDT	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
4,4'-DDE	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
4,4'-DDD	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endosulfan I	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endosulfan II	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
alpha-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
beta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
delta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Endosulfan sulfate	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Methoxychlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Toxaphene	ND		39		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
Chlordane (technical)	ND		39		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
alpha-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1
gamma-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*		*57 - 122*	*12/07/16 09:13*	*12/08/16 16:15*	*1*
DCB Decachlorobiphenyl	*108*		*21 - 136*	*12/07/16 09:13*	*12/08/16 16:15*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1221	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1232	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1242	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1248	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1254	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1
PCB-1260	ND		49		ug/Kg		12/07/16 09:31	12/08/16 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*74*		*45 - 132*	*12/07/16 09:31*	*12/08/16 15:34*	*1*
DCB Decachlorobiphenyl	*84*		*42 - 146*	*12/07/16 09:31*	*12/08/16 15:34*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Bolstar	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Chlorpyrifos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1

Client Sample ID: S-4@6-12"
Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4
Matrix: Solid

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Demeton, Total	ND		66		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Demeton-O	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Demeton-S	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Diazinon	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Dichlorvos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Dimethoate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Disulfoton	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
EPN	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Famphur	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Fensulfothion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Fenthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Malathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Methyl parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Mevinphos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
O,O,O-Triethyl phosphorothioate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Parathion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Phorate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Ronnel	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Stirophos	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Sulfotepp	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Tokuthion	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Trichloronate	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Mocap	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1
Thionazin	ND		33		ug/Kg		12/09/16 05:17	12/11/16 03:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*80*		*45 - 150*	*12/09/16 05:17*	*12/11/16 03:26*	*1*
Tributyl phosphate	*69*		*28 - 150*	*12/09/16 05:17*	*12/11/16 03:26*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		80		ug/Kg		12/08/16 11:45	12/09/16 12:38	20
2,4,5-T	ND		20		ug/Kg		12/08/16 11:45	12/09/16 12:38	20
Silvex (2,4,5-TP)	ND		20		ug/Kg		12/08/16 11:45	12/09/16 12:38	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*126*	*X*	*19 - 122*	*12/08/16 11:45*	*12/09/16 12:38*	*20*

Method: 7199 - Chromium, Hexavalent (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30		mg/Kg		12/12/16 21:03	12/14/16 19:32	3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Arsenic	**4.7**		2.6		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Barium	**260**		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Beryllium	**0.32**		0.26		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Cadmium	ND		0.32		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Chromium	**26**		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-4@6-12"
Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**10**		0.51		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Copper	**14**		4.9		mg/Kg		12/09/16 09:44	12/10/16 03:34	4
Lead	**6.0**		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Molybdenum	ND		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Nickel	**32**		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Selenium	ND		2.6		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Silver	ND		0.64		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Thallium	ND		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Vanadium	**38**		1.3		mg/Kg		12/07/16 11:25	12/08/16 18:15	4
Zinc	**40**		3.8		mg/Kg		12/07/16 11:25	12/08/16 18:15	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**		0.0094		mg/Kg		12/08/16 17:26	12/09/16 16:34	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-214236/4
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			12/06/16 09:19	1
Acetone	ND		50		ug/Kg			12/06/16 09:19	1
Benzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Dichlorobromomethane	ND		5.0		ug/Kg			12/06/16 09:19	1
Bromobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Chlorobromomethane	ND		20		ug/Kg			12/06/16 09:19	1
Bromoform	ND		5.0		ug/Kg			12/06/16 09:19	1
Bromomethane	ND		10		ug/Kg			12/06/16 09:19	1
2-Butanone (MEK)	ND		50		ug/Kg			12/06/16 09:19	1
n-Butylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
sec-Butylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
tert-Butylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Carbon disulfide	ND		5.0		ug/Kg			12/06/16 09:19	1
Carbon tetrachloride	ND		5.0		ug/Kg			12/06/16 09:19	1
Chlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Chloroethane	ND		10		ug/Kg			12/06/16 09:19	1
Chloroform	ND		5.0		ug/Kg			12/06/16 09:19	1
Chloromethane	ND		10		ug/Kg			12/06/16 09:19	1
2-Chlorotoluene	ND		5.0		ug/Kg			12/06/16 09:19	1
4-Chlorotoluene	ND		5.0		ug/Kg			12/06/16 09:19	1
Chlorodibromomethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,3-Dichloropropane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1-Dichloropropene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			12/06/16 09:19	1
Ethylene Dibromide	ND		5.0		ug/Kg			12/06/16 09:19	1
Dibromomethane	ND		10		ug/Kg			12/06/16 09:19	1
Dichlorodifluoromethane	ND		10		ug/Kg			12/06/16 09:19	1
1,1-Dichloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2-Dichloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1-Dichloroethene	ND		5.0		ug/Kg			12/06/16 09:19	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			12/06/16 09:19	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2-Dichloropropane	ND		5.0		ug/Kg			12/06/16 09:19	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			12/06/16 09:19	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			12/06/16 09:19	1
Ethylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Hexachlorobutadiene	ND		5.0		ug/Kg			12/06/16 09:19	1
2-Hexanone	ND		50		ug/Kg			12/06/16 09:19	1
Isopropylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
4-Isopropyltoluene	ND		5.0		ug/Kg			12/06/16 09:19	1
Methylene Chloride	ND		10		ug/Kg			12/06/16 09:19	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			12/06/16 09:19	1
Naphthalene	ND		10		ug/Kg			12/06/16 09:19	1
N-Propylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Styrene	ND		5.0		ug/Kg			12/06/16 09:19	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-214236/4
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
Tetrachloroethene	ND		5.0		ug/Kg			12/06/16 09:19	1
Toluene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
Trichloroethene	ND		5.0		ug/Kg			12/06/16 09:19	1
Trichlorofluoromethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			12/06/16 09:19	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			12/06/16 09:19	1
Vinyl acetate	ND		20		ug/Kg			12/06/16 09:19	1
Vinyl chloride	ND		5.0		ug/Kg			12/06/16 09:19	1
Xylenes, Total	ND		10		ug/Kg			12/06/16 09:19	1
2,2-Dichloropropane	ND		5.0		ug/Kg			12/06/16 09:19	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			12/06/16 09:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*45 - 131*		*12/06/16 09:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*		*12/06/16 09:19*	*1*
Toluene-d8 (Surr)	*92*		*58 - 140*		*12/06/16 09:19*	*1*

Lab Sample ID: LCS 720-214236/5
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	45.6		ug/Kg		91	70 - 144
Acetone	250	207		ug/Kg		83	30 - 162
Benzene	50.0	45.0		ug/Kg		90	70 - 130
Dichlorobromomethane	50.0	50.5		ug/Kg		101	70 - 140
Bromobenzene	50.0	45.1		ug/Kg		90	70 - 130
Chlorobromomethane	50.0	45.2		ug/Kg		90	70 - 130
Bromoform	50.0	51.6		ug/Kg		103	59 - 158
Bromomethane	50.0	48.5		ug/Kg		97	59 - 132
2-Butanone (MEK)	250	225		ug/Kg		90	59 - 159
n-Butylbenzene	50.0	45.2		ug/Kg		90	70 - 142
sec-Butylbenzene	50.0	43.1		ug/Kg		86	70 - 136
tert-Butylbenzene	50.0	42.8		ug/Kg		86	70 - 130
Carbon disulfide	50.0	42.6		ug/Kg		85	60 - 140
Carbon tetrachloride	50.0	50.5		ug/Kg		101	70 - 142
Chlorobenzene	50.0	43.6		ug/Kg		87	70 - 130
Chloroethane	50.0	49.8		ug/Kg		100	65 - 130
Chloroform	50.0	46.8		ug/Kg		94	77 - 127

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-214236/5
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	50.0	54.2		ug/Kg		108	55 - 140
2-Chlorotoluene	50.0	43.8		ug/Kg		88	70 - 138
4-Chlorotoluene	50.0	44.2		ug/Kg		88	70 - 136
Chlorodibromomethane	50.0	47.0		ug/Kg		94	70 - 146
1,2-Dichlorobenzene	50.0	43.8		ug/Kg		88	70 - 130
1,3-Dichlorobenzene	50.0	44.4		ug/Kg		89	70 - 131
1,4-Dichlorobenzene	50.0	44.0		ug/Kg		88	70 - 130
1,3-Dichloropropane	50.0	45.6		ug/Kg		91	70 - 140
1,1-Dichloropropene	50.0	44.5		ug/Kg		89	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	44.0		ug/Kg		88	60 - 145
Ethylene Dibromide	50.0	47.6		ug/Kg		95	70 - 140
Dibromomethane	50.0	46.6		ug/Kg		93	70 - 139
Dichlorodifluoromethane	50.0	55.3		ug/Kg		111	37 - 158
1,1-Dichloroethane	50.0	43.8		ug/Kg		88	70 - 130
1,2-Dichloroethane	50.0	48.7		ug/Kg		97	70 - 130
1,1-Dichloroethene	50.0	41.7		ug/Kg		83	74 - 122
cis-1,2-Dichloroethene	50.0	45.7		ug/Kg		91	70 - 138
trans-1,2-Dichloroethene	50.0	43.6		ug/Kg		87	67 - 130
1,2-Dichloropropane	50.0	47.5		ug/Kg		95	73 - 127
cis-1,3-Dichloropropene	50.0	50.5		ug/Kg		101	68 - 147
trans-1,3-Dichloropropene	50.0	46.4		ug/Kg		93	70 - 155
Ethylbenzene	50.0	43.7		ug/Kg		87	80 - 137
Hexachlorobutadiene	50.0	45.4		ug/Kg		91	70 - 132
2-Hexanone	250	241		ug/Kg		96	62 - 158
Isopropylbenzene	50.0	45.1		ug/Kg		90	70 - 130
4-Isopropyltoluene	50.0	44.3		ug/Kg		89	70 - 133
Methylene Chloride	50.0	44.1		ug/Kg		88	70 - 134
4-Methyl-2-pentanone (MIBK)	250	238		ug/Kg		95	60 - 160
Naphthalene	50.0	45.8		ug/Kg		92	60 - 147
N-Propylbenzene	50.0	44.3		ug/Kg		89	70 - 130
Styrene	50.0	46.8		ug/Kg		94	70 - 130
1,1,1,2-Tetrachloroethane	50.0	51.0		ug/Kg		102	70 - 130
1,1,2,2-Tetrachloroethane	50.0	44.7		ug/Kg		89	70 - 146
Tetrachloroethene	50.0	44.8		ug/Kg		90	70 - 132
Toluene	50.0	43.1		ug/Kg		86	75 - 120
1,2,3-Trichlorobenzene	50.0	45.3		ug/Kg		91	60 - 140
1,2,4-Trichlorobenzene	50.0	47.1		ug/Kg		94	60 - 140
1,1,1-Trichloroethane	50.0	47.3		ug/Kg		95	70 - 130
1,1,2-Trichloroethane	50.0	45.2		ug/Kg		90	70 - 130
Trichloroethene	50.0	44.9		ug/Kg		90	70 - 133
Trichlorofluoromethane	50.0	51.0		ug/Kg		102	60 - 140
1,2,3-Trichloropropane	50.0	46.1		ug/Kg		92	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	43.1		ug/Kg		86	60 - 140
1,2,4-Trimethylbenzene	50.0	45.2		ug/Kg		90	70 - 130
1,3,5-Trimethylbenzene	50.0	44.5		ug/Kg		89	70 - 131
Vinyl acetate	50.0	51.9		ug/Kg		104	38 - 176
Vinyl chloride	50.0	51.8		ug/Kg		104	58 - 125

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-214236/5
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m-Xylene & p-Xylene	50.0	44.5		ug/Kg		89	70 - 146
o-Xylene	50.0	44.5		ug/Kg		89	70 - 140
2,2-Dichloropropane	50.0	46.9		ug/Kg		94	70 - 162

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*94*		*58 - 140*

Lab Sample ID: LCS 720-214236/7
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	1090		ug/Kg		109	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*93*		*58 - 140*

Lab Sample ID: LCSD 720-214236/6
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	45.7		ug/Kg		91	70 - 144	0	20
Acetone	250	193		ug/Kg		77	30 - 162	7	30
Benzene	50.0	45.5		ug/Kg		91	70 - 130	1	20
Dichlorobromomethane	50.0	50.3		ug/Kg		101	70 - 140	0	20
Bromobenzene	50.0	45.2		ug/Kg		90	70 - 130	0	20
Chlorobromomethane	50.0	45.7		ug/Kg		91	70 - 130	1	20
Bromoform	50.0	50.5		ug/Kg		101	59 - 158	2	20
Bromomethane	50.0	48.9		ug/Kg		98	59 - 132	1	20
2-Butanone (MEK)	250	215		ug/Kg		86	59 - 159	5	20
n-Butylbenzene	50.0	44.9		ug/Kg		90	70 - 142	1	20
sec-Butylbenzene	50.0	43.1		ug/Kg		86	70 - 136	0	20
tert-Butylbenzene	50.0	42.8		ug/Kg		86	70 - 130	0	20
Carbon disulfide	50.0	42.7		ug/Kg		85	60 - 140	0	20
Carbon tetrachloride	50.0	50.4		ug/Kg		101	70 - 142	0	20
Chlorobenzene	50.0	44.1		ug/Kg		88	70 - 130	1	20
Chloroethane	50.0	49.4		ug/Kg		99	65 - 130	1	20
Chloroform	50.0	47.0		ug/Kg		94	77 - 127	0	20
Chloromethane	50.0	53.0		ug/Kg		106	55 - 140	2	20
2-Chlorotoluene	50.0	43.9		ug/Kg		88	70 - 138	0	20
4-Chlorotoluene	50.0	44.4		ug/Kg		89	70 - 136	0	20
Chlorodibromomethane	50.0	47.0		ug/Kg		94	70 - 146	0	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-214236/6
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	50.0	44.3		ug/Kg		89	70 - 130	1	20
1,3-Dichlorobenzene	50.0	44.3		ug/Kg		89	70 - 131	0	20
1,4-Dichlorobenzene	50.0	44.2		ug/Kg		88	70 - 130	0	20
1,3-Dichloropropane	50.0	45.2		ug/Kg		90	70 - 140	1	20
1,1-Dichloropropene	50.0	44.5		ug/Kg		89	70 - 130	0	20
1,2-Dibromo-3-Chloropropane	50.0	42.3		ug/Kg		85	60 - 145	4	20
Ethylene Dibromide	50.0	46.9		ug/Kg		94	70 - 140	2	20
Dibromomethane	50.0	46.0		ug/Kg		92	70 - 139	1	20
Dichlorodifluoromethane	50.0	56.6		ug/Kg		113	37 - 158	2	20
1,1-Dichloroethane	50.0	44.2		ug/Kg		88	70 - 130	1	20
1,2-Dichloroethane	50.0	48.2		ug/Kg		96	70 - 130	1	20
1,1-Dichloroethene	50.0	41.6		ug/Kg		83	74 - 122	0	20
cis-1,2-Dichloroethene	50.0	46.1		ug/Kg		92	70 - 138	1	20
trans-1,2-Dichloroethene	50.0	44.0		ug/Kg		88	67 - 130	1	20
1,2-Dichloropropane	50.0	47.5		ug/Kg		95	73 - 127	0	20
cis-1,3-Dichloropropene	50.0	50.5		ug/Kg		101	68 - 147	0	20
trans-1,3-Dichloropropene	50.0	46.1		ug/Kg		92	70 - 155	1	20
Ethylbenzene	50.0	43.6		ug/Kg		87	80 - 137	0	20
Hexachlorobutadiene	50.0	45.1		ug/Kg		90	70 - 132	1	20
2-Hexanone	250	230		ug/Kg		92	62 - 158	5	20
Isopropylbenzene	50.0	44.9		ug/Kg		90	70 - 130	0	20
4-Isopropyltoluene	50.0	44.0		ug/Kg		88	70 - 133	1	20
Methylene Chloride	50.0	44.2		ug/Kg		88	70 - 134	0	20
4-Methyl-2-pentanone (MIBK)	250	230		ug/Kg		92	60 - 160	3	20
Naphthalene	50.0	45.1		ug/Kg		90	60 - 147	1	20
N-Propylbenzene	50.0	44.1		ug/Kg		88	70 - 130	1	20
Styrene	50.0	46.6		ug/Kg		93	70 - 130	1	20
1,1,1,2-Tetrachloroethane	50.0	50.8		ug/Kg		102	70 - 130	0	20
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/Kg		88	70 - 146	1	20
Tetrachloroethene	50.0	44.5		ug/Kg		89	70 - 132	1	20
Toluene	50.0	43.2		ug/Kg		86	75 - 120	0	20
1,2,3-Trichlorobenzene	50.0	45.6		ug/Kg		91	60 - 140	1	20
1,2,4-Trichlorobenzene	50.0	46.8		ug/Kg		94	60 - 140	1	20
1,1,1-Trichloroethane	50.0	47.6		ug/Kg		95	70 - 130	1	20
1,1,2-Trichloroethane	50.0	44.8		ug/Kg		90	70 - 130	1	20
Trichloroethene	50.0	45.6		ug/Kg		91	70 - 133	2	20
Trichlorofluoromethane	50.0	50.7		ug/Kg		101	60 - 140	1	20
1,2,3-Trichloropropane	50.0	45.6		ug/Kg		91	70 - 146	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.4		ug/Kg		87	60 - 140	1	20
1,2,4-Trimethylbenzene	50.0	45.0		ug/Kg		90	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	44.4		ug/Kg		89	70 - 131	0	20
Vinyl acetate	50.0	51.0		ug/Kg		102	38 - 176	2	20
Vinyl chloride	50.0	52.1		ug/Kg		104	58 - 125	1	20
m-Xylene & p-Xylene	50.0	44.5		ug/Kg		89	70 - 146	0	20
o-Xylene	50.0	44.2		ug/Kg		88	70 - 140	1	20
2,2-Dichloropropane	50.0	47.5		ug/Kg		95	70 - 162	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-214236/6
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*95*		*58 - 140*

Lab Sample ID: LCSD 720-214236/8
Matrix: Solid
Analysis Batch: 214236

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	1150		ug/Kg		115	61 - 128	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*93*		*58 - 140*

Lab Sample ID: MB 720-214308/4
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			12/07/16 09:25	1
Acetone	ND		50		ug/Kg			12/07/16 09:25	1
Benzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Dichlorobromomethane	ND		5.0		ug/Kg			12/07/16 09:25	1
Bromobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Chlorobromomethane	ND		20		ug/Kg			12/07/16 09:25	1
Bromoform	ND		5.0		ug/Kg			12/07/16 09:25	1
Bromomethane	ND		10		ug/Kg			12/07/16 09:25	1
2-Butanone (MEK)	ND		50		ug/Kg			12/07/16 09:25	1
n-Butylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
sec-Butylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
tert-Butylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Carbon disulfide	ND		5.0		ug/Kg			12/07/16 09:25	1
Carbon tetrachloride	ND		5.0		ug/Kg			12/07/16 09:25	1
Chlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Chloroethane	ND		10		ug/Kg			12/07/16 09:25	1
Chloroform	ND		5.0		ug/Kg			12/07/16 09:25	1
Chloromethane	ND		10		ug/Kg			12/07/16 09:25	1
2-Chlorotoluene	ND		5.0		ug/Kg			12/07/16 09:25	1
4-Chlorotoluene	ND		5.0		ug/Kg			12/07/16 09:25	1
Chlorodibromomethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,3-Dichloropropane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1-Dichloropropene	ND		5.0		ug/Kg			12/07/16 09:25	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-214308/4
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			12/07/16 09:25	1
Ethylene Dibromide	ND		5.0		ug/Kg			12/07/16 09:25	1
Dibromomethane	ND		10		ug/Kg			12/07/16 09:25	1
Dichlorodifluoromethane	ND		10		ug/Kg			12/07/16 09:25	1
1,1-Dichloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2-Dichloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1-Dichloroethene	ND		5.0		ug/Kg			12/07/16 09:25	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			12/07/16 09:25	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2-Dichloropropane	ND		5.0		ug/Kg			12/07/16 09:25	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			12/07/16 09:25	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			12/07/16 09:25	1
Ethylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Hexachlorobutadiene	ND		5.0		ug/Kg			12/07/16 09:25	1
2-Hexanone	ND		50		ug/Kg			12/07/16 09:25	1
Isopropylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
4-Isopropyltoluene	ND		5.0		ug/Kg			12/07/16 09:25	1
Methylene Chloride	ND		10		ug/Kg			12/07/16 09:25	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			12/07/16 09:25	1
Naphthalene	ND		10		ug/Kg			12/07/16 09:25	1
N-Propylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Styrene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
Tetrachloroethene	ND		5.0		ug/Kg			12/07/16 09:25	1
Toluene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
Trichloroethene	ND		5.0		ug/Kg			12/07/16 09:25	1
Trichlorofluoromethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			12/07/16 09:25	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			12/07/16 09:25	1
Vinyl acetate	ND		20		ug/Kg			12/07/16 09:25	1
Vinyl chloride	ND		5.0		ug/Kg			12/07/16 09:25	1
Xylenes, Total	ND		10		ug/Kg			12/07/16 09:25	1
2,2-Dichloropropane	ND		5.0		ug/Kg			12/07/16 09:25	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			12/07/16 09:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*45 - 131*		*12/07/16 09:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*		*12/07/16 09:25*	*1*
Toluene-d8 (Surr)	*91*		*58 - 140*		*12/07/16 09:25*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-214308/5
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	45.0		ug/Kg		90	70 - 144
Acetone	250	212		ug/Kg		85	30 - 162
Benzene	50.0	45.1		ug/Kg		90	70 - 130
Dichlorobromomethane	50.0	49.8		ug/Kg		100	70 - 140
Bromobenzene	50.0	45.8		ug/Kg		92	70 - 130
Chlorobromomethane	50.0	45.8		ug/Kg		92	70 - 130
Bromoform	50.0	47.8		ug/Kg		96	59 - 158
Bromomethane	50.0	48.0		ug/Kg		96	59 - 132
2-Butanone (MEK)	250	210		ug/Kg		84	59 - 159
n-Butylbenzene	50.0	45.0		ug/Kg		90	70 - 142
sec-Butylbenzene	50.0	43.3		ug/Kg		87	70 - 136
tert-Butylbenzene	50.0	43.0		ug/Kg		86	70 - 130
Carbon disulfide	50.0	41.5		ug/Kg		83	60 - 140
Carbon tetrachloride	50.0	48.8		ug/Kg		98	70 - 142
Chlorobenzene	50.0	43.9		ug/Kg		88	70 - 130
Chloroethane	50.0	49.0		ug/Kg		98	65 - 130
Chloroform	50.0	46.9		ug/Kg		94	77 - 127
Chloromethane	50.0	52.0		ug/Kg		104	55 - 140
2-Chlorotoluene	50.0	44.4		ug/Kg		89	70 - 138
4-Chlorotoluene	50.0	44.8		ug/Kg		90	70 - 136
Chlorodibromomethane	50.0	45.4		ug/Kg		91	70 - 146
1,2-Dichlorobenzene	50.0	44.1		ug/Kg		88	70 - 130
1,3-Dichlorobenzene	50.0	44.1		ug/Kg		88	70 - 131
1,4-Dichlorobenzene	50.0	44.5		ug/Kg		89	70 - 130
1,3-Dichloropropane	50.0	45.8		ug/Kg		92	70 - 140
1,1-Dichloropropene	50.0	44.3		ug/Kg		89	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	40.7		ug/Kg		81	60 - 145
Ethylene Dibromide	50.0	46.8		ug/Kg		94	70 - 140
Dibromomethane	50.0	45.8		ug/Kg		92	70 - 139
Dichlorodifluoromethane	50.0	51.7		ug/Kg		103	37 - 158
1,1-Dichloroethane	50.0	44.2		ug/Kg		88	70 - 130
1,2-Dichloroethane	50.0	49.0		ug/Kg		98	70 - 130
1,1-Dichloroethene	50.0	40.7		ug/Kg		81	74 - 122
cis-1,2-Dichloroethene	50.0	45.8		ug/Kg		92	70 - 138
trans-1,2-Dichloroethene	50.0	43.2		ug/Kg		86	67 - 130
1,2-Dichloropropane	50.0	47.8		ug/Kg		96	73 - 127
cis-1,3-Dichloropropene	50.0	49.7		ug/Kg		99	68 - 147
trans-1,3-Dichloropropene	50.0	45.8		ug/Kg		92	70 - 155
Ethylbenzene	50.0	43.7		ug/Kg		87	80 - 137
Hexachlorobutadiene	50.0	44.9		ug/Kg		90	70 - 132
2-Hexanone	250	232		ug/Kg		93	62 - 158
Isopropylbenzene	50.0	44.8		ug/Kg		90	70 - 130
4-Isopropyltoluene	50.0	44.3		ug/Kg		89	70 - 133
Methylene Chloride	50.0	43.8		ug/Kg		88	70 - 134
4-Methyl-2-pentanone (MIBK)	250	230		ug/Kg		92	60 - 160
Naphthalene	50.0	45.1		ug/Kg		90	60 - 147
N-Propylbenzene	50.0	44.5		ug/Kg		89	70 - 130
Styrene	50.0	46.5		ug/Kg		93	70 - 130

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-214308/5
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	49.8		ug/Kg		100	70 - 130
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/Kg		88	70 - 146
Tetrachloroethene	50.0	44.5		ug/Kg		89	70 - 132
Toluene	50.0	43.3		ug/Kg		87	75 - 120
1,2,3-Trichlorobenzene	50.0	45.5		ug/Kg		91	60 - 140
1,2,4-Trichlorobenzene	50.0	47.3		ug/Kg		95	60 - 140
1,1,1-Trichloroethane	50.0	46.5		ug/Kg		93	70 - 130
1,1,2-Trichloroethane	50.0	44.6		ug/Kg		89	70 - 130
Trichloroethene	50.0	44.9		ug/Kg		90	70 - 133
Trichlorofluoromethane	50.0	48.6		ug/Kg		97	60 - 140
1,2,3-Trichloropropane	50.0	45.4		ug/Kg		91	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	42.6		ug/Kg		85	60 - 140
1,2,4-Trimethylbenzene	50.0	45.3		ug/Kg		91	70 - 130
1,3,5-Trimethylbenzene	50.0	44.8		ug/Kg		90	70 - 131
Vinyl acetate	50.0	50.9		ug/Kg		102	38 - 176
Vinyl chloride	50.0	50.4		ug/Kg		101	58 - 125
m-Xylene & p-Xylene	50.0	44.5		ug/Kg		89	70 - 146
o-Xylene	50.0	44.6		ug/Kg		89	70 - 140
2,2-Dichloropropane	50.0	47.6		ug/Kg		95	70 - 162

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*94*		*58 - 140*

Lab Sample ID: LCS 720-214308/7
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	1120		ug/Kg		112	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*93*		*58 - 140*

Lab Sample ID: LCSD 720-214308/6
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	48.6		ug/Kg		97	70 - 144	8	20
Acetone	250	235		ug/Kg		94	30 - 162	11	30
Benzene	50.0	46.2		ug/Kg		92	70 - 130	2	20
Dichlorobromomethane	50.0	50.5		ug/Kg		101	70 - 140	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-214308/6
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	50.0	46.5		ug/Kg		93	70 - 130	2	20
Chlorobromomethane	50.0	46.2		ug/Kg		92	70 - 130	1	20
Bromoform	50.0	48.1		ug/Kg		96	59 - 158	1	20
Bromomethane	50.0	48.0		ug/Kg		96	59 - 132	0	20
2-Butanone (MEK)	250	236		ug/Kg		94	59 - 159	11	20
n-Butylbenzene	50.0	45.8		ug/Kg		92	70 - 142	2	20
sec-Butylbenzene	50.0	43.9		ug/Kg		88	70 - 136	1	20
tert-Butylbenzene	50.0	43.4		ug/Kg		87	70 - 130	1	20
Carbon disulfide	50.0	43.0		ug/Kg		86	60 - 140	4	20
Carbon tetrachloride	50.0	48.2		ug/Kg		96	70 - 142	1	20
Chlorobenzene	50.0	43.2		ug/Kg		86	70 - 130	2	20
Chloroethane	50.0	49.9		ug/Kg		100	65 - 130	2	20
Chloroform	50.0	48.0		ug/Kg		96	77 - 127	2	20
Chloromethane	50.0	53.8		ug/Kg		108	55 - 140	3	20
2-Chlorotoluene	50.0	46.0		ug/Kg		92	70 - 138	3	20
4-Chlorotoluene	50.0	46.1		ug/Kg		92	70 - 136	3	20
Chlorodibromomethane	50.0	46.2		ug/Kg		92	70 - 146	2	20
1,2-Dichlorobenzene	50.0	45.2		ug/Kg		90	70 - 130	3	20
1,3-Dichlorobenzene	50.0	44.8		ug/Kg		90	70 - 131	2	20
1,4-Dichlorobenzene	50.0	45.3		ug/Kg		91	70 - 130	2	20
1,3-Dichloropropane	50.0	47.2		ug/Kg		94	70 - 140	3	20
1,1-Dichloropropene	50.0	45.6		ug/Kg		91	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/Kg		89	60 - 145	9	20
Ethylene Dibromide	50.0	49.0		ug/Kg		98	70 - 140	5	20
Dibromomethane	50.0	47.9		ug/Kg		96	70 - 139	5	20
Dichlorodifluoromethane	50.0	50.5		ug/Kg		101	37 - 158	2	20
1,1-Dichloroethane	50.0	46.2		ug/Kg		92	70 - 130	5	20
1,2-Dichloroethane	50.0	51.0		ug/Kg		102	70 - 130	4	20
1,1-Dichloroethene	50.0	41.5		ug/Kg		83	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	48.0		ug/Kg		96	70 - 138	5	20
trans-1,2-Dichloroethene	50.0	44.6		ug/Kg		89	67 - 130	3	20
1,2-Dichloropropane	50.0	49.7		ug/Kg		99	73 - 127	4	20
cis-1,3-Dichloropropene	50.0	51.7		ug/Kg		103	68 - 147	4	20
trans-1,3-Dichloropropene	50.0	47.7		ug/Kg		95	70 - 155	4	20
Ethylbenzene	50.0	43.3		ug/Kg		87	80 - 137	1	20
Hexachlorobutadiene	50.0	44.1		ug/Kg		88	70 - 132	2	20
2-Hexanone	250	264		ug/Kg		105	62 - 158	13	20
Isopropylbenzene	50.0	44.0		ug/Kg		88	70 - 130	2	20
4-Isopropyltoluene	50.0	44.5		ug/Kg		89	70 - 133	1	20
Methylene Chloride	50.0	45.6		ug/Kg		91	70 - 134	4	20
4-Methyl-2-pentanone (MIBK)	250	261		ug/Kg		104	60 - 160	12	20
Naphthalene	50.0	48.1		ug/Kg		96	60 - 147	6	20
N-Propylbenzene	50.0	45.4		ug/Kg		91	70 - 130	2	20
Styrene	50.0	46.1		ug/Kg		92	70 - 130	1	20
1,1,1,2-Tetrachloroethane	50.0	48.9		ug/Kg		98	70 - 130	2	20
1,1,2,2-Tetrachloroethane	50.0	48.0		ug/Kg		96	70 - 146	8	20
Tetrachloroethene	50.0	43.4		ug/Kg		87	70 - 132	3	20
Toluene	50.0	42.7		ug/Kg		85	75 - 120	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-214308/6
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene			50.0	46.6		ug/Kg		93	60 - 140	2	20
1,2,4-Trichlorobenzene			50.0	47.5		ug/Kg		95	60 - 140	0	20
1,1,1-Trichloroethane			50.0	47.1		ug/Kg		94	70 - 130	1	20
1,1,2-Trichloroethane			50.0	47.6		ug/Kg		95	70 - 130	6	20
Trichloroethene			50.0	44.8		ug/Kg		90	70 - 133	0	20
Trichlorofluoromethane			50.0	47.7		ug/Kg		95	60 - 140	2	20
1,2,3-Trichloropropane			50.0	49.0		ug/Kg		98	70 - 146	8	20
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	41.8		ug/Kg		84	60 - 140	2	20
1,2,4-Trimethylbenzene			50.0	46.3		ug/Kg		93	70 - 130	2	20
1,3,5-Trimethylbenzene			50.0	45.6		ug/Kg		91	70 - 131	2	20
Vinyl acetate			50.0	55.6		ug/Kg		111	38 - 176	9	20
Vinyl chloride			50.0	50.9		ug/Kg		102	58 - 125	1	20
m-Xylene & p-Xylene			50.0	44.0		ug/Kg		88	70 - 146	1	20
o-Xylene			50.0	44.2		ug/Kg		88	70 - 140	1	20
2,2-Dichloropropane			50.0	48.5		ug/Kg		97	70 - 162	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*92*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*94*		*58 - 140*

Lab Sample ID: LCSD 720-214308/8
Matrix: Solid
Analysis Batch: 214308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	1150		ug/Kg		115	61 - 128	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*
Toluene-d8 (Surr)	*93*		*58 - 140*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-214477/1-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Chlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzyl alcohol	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-214477/1-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Methylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Hexachloroethane	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Nitrobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Isophorone	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Nitrophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Naphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Chloroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Hexachlorobutadiene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Methylnaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Chloronaphthalene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Dimethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Acenaphthylene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
3-Nitroaniline	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Acenaphthene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4-Dinitrophenol	ND		0.66		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Nitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Dibenzofuran	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Diethyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Fluorene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Nitroaniline	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
2-Methyl-4,6-dinitrophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Hexachlorobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Pentachlorophenol	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Phenanthrene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-214477/1-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Chrysene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzo[a]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Benzoic acid	ND		0.33		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Azobenzene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		12/09/16 08:36	12/09/16 18:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*55*		*21 - 98*	*12/09/16 08:36*	*12/09/16 18:22*	*1*
2-Fluorobiphenyl	*62*		*30 - 112*	*12/09/16 08:36*	*12/09/16 18:22*	*1*
Terphenyl-d14	*94*		*59 - 134*	*12/09/16 08:36*	*12/09/16 18:22*	*1*
2-Fluorophenol	*66*		*28 - 98*	*12/09/16 08:36*	*12/09/16 18:22*	*1*
Phenol-d5	*63*		*23 - 101*	*12/09/16 08:36*	*12/09/16 18:22*	*1*
2,4,6-Tribromophenol	*53*		*37 - 114*	*12/09/16 08:36*	*12/09/16 18:22*	*1*

Lab Sample ID: LCS 720-214477/2-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1.33	0.904		mg/Kg		68	48 - 115
Bis(2-chloroethyl)ether	1.33	0.837		mg/Kg		63	45 - 115
2-Chlorophenol	1.33	0.877		mg/Kg		66	48 - 115
1,3-Dichlorobenzene	1.33	0.765		mg/Kg		57	41 - 115
1,4-Dichlorobenzene	1.33	0.766		mg/Kg		57	40 - 115
Benzyl alcohol	1.33	0.913		mg/Kg		68	51 - 115
1,2-Dichlorobenzene	1.33	0.789		mg/Kg		59	44 - 115
2-Methylphenol	1.33	0.904		mg/Kg		68	54 - 115
Methylphenol, 3 & 4	1.33	0.950		mg/Kg		71	42 - 115
N-Nitrosodi-n-propylamine	1.33	0.886		mg/Kg		66	46 - 115
Hexachloroethane	1.33	0.811		mg/Kg		61	44 - 115
Nitrobenzene	1.33	0.878		mg/Kg		66	48 - 115
Isophorone	1.33	0.881		mg/Kg		66	54 - 115
2-Nitrophenol	1.33	0.869		mg/Kg		65	48 - 115
2,4-Dimethylphenol	1.33	0.921		mg/Kg		69	52 - 115
Bis(2-chloroethoxy)methane	1.33	0.876		mg/Kg		66	46 - 115
2,4-Dichlorophenol	1.33	0.896		mg/Kg		67	49 - 100
1,2,4-Trichlorobenzene	1.33	0.815		mg/Kg		61	47 - 115
Naphthalene	1.33	0.867		mg/Kg		65	44 - 115
4-Chloroaniline	1.33	0.780		mg/Kg		58	30 - 115
Hexachlorobutadiene	1.33	0.788		mg/Kg		59	44 - 115

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-214477/2-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	1.33	0.979		mg/Kg		73	58 - 115
2-Methylnaphthalene	1.33	0.883		mg/Kg		66	49 - 115
Hexachlorocyclopentadiene	1.33	0.606		mg/Kg		45	42 - 132
2,4,6-Trichlorophenol	1.33	0.904		mg/Kg		68	45 - 115
2,4,5-Trichlorophenol	1.33	0.913		mg/Kg		68	48 - 115
2-Chloronaphthalene	1.33	0.890		mg/Kg		67	52 - 115
2-Nitroaniline	1.33	0.940		mg/Kg		70	54 - 115
Dimethyl phthalate	1.33	0.935		mg/Kg		70	64 - 119
Acenaphthylene	1.33	0.896		mg/Kg		67	61 - 129
3-Nitroaniline	1.33	0.880		mg/Kg		66	50 - 115
Acenaphthene	1.33	0.898		mg/Kg		67	50 - 115
2,4-Dinitrophenol	2.67	0.342	J *	mg/Kg		13	15 - 115
4-Nitrophenol	2.67	2.02		mg/Kg		76	54 - 125
Dibenzofuran	1.33	0.916		mg/Kg		69	55 - 115
2,4-Dinitrotoluene	1.33	0.941		mg/Kg		71	57 - 115
2,6-Dinitrotoluene	1.33	0.917		mg/Kg		69	54 - 119
Diethyl phthalate	1.33	0.987		mg/Kg		74	49 - 117
4-Chlorophenyl phenyl ether	1.33	0.967		mg/Kg		73	57 - 115
Fluorene	1.33	0.944		mg/Kg		71	54 - 115
4-Nitroaniline	1.33	0.902		mg/Kg		68	59 - 115
2-Methyl-4,6-dinitrophenol	2.67	0.866	*	mg/Kg		32	39 - 115
N-Nitrosodiphenylamine	1.33	0.964		mg/Kg		72	56 - 115
4-Bromophenyl phenyl ether	1.33	0.908		mg/Kg		68	53 - 115
Hexachlorobenzene	1.33	0.895		mg/Kg		67	55 - 115
Pentachlorophenol	2.67	1.40		mg/Kg		52	35 - 115
Phenanthrene	1.33	0.972		mg/Kg		73	54 - 115
Anthracene	1.33	0.979		mg/Kg		73	55 - 115
Di-n-butyl phthalate	1.33	1.03		mg/Kg		77	55 - 115
Fluoranthene	1.33	0.967		mg/Kg		72	52 - 130
Pyrene	1.33	1.03		mg/Kg		77	48 - 115
Butyl benzyl phthalate	1.33	1.05		mg/Kg		79	53 - 115
3,3'-Dichlorobenzidine	1.33	0.836		mg/Kg		63	42 - 115
Benzo[a]anthracene	1.33	0.958		mg/Kg		72	55 - 115
Bis(2-ethylhexyl) phthalate	1.33	1.07		mg/Kg		80	53 - 115
Chrysene	1.33	0.968		mg/Kg		73	58 - 115
Di-n-octyl phthalate	1.33	1.07		mg/Kg		80	53 - 115
Benzo[b]fluoranthene	1.33	0.973		mg/Kg		73	50 - 119
Benzo[a]pyrene	1.33	0.981		mg/Kg		74	57 - 122
Benzo[k]fluoranthene	1.33	0.956		mg/Kg		72	55 - 120
Indeno[1,2,3-cd]pyrene	1.33	0.989		mg/Kg		74	56 - 115
Benzo[g,h,i]perylene	1.33	0.990		mg/Kg		74	56 - 115
Benzoic acid	1.33	0.273	J	mg/Kg		21	10 - 115
Azobenzene	1.33	0.993		mg/Kg		75	52 - 115
Dibenz(a,h)anthracene	1.33	0.990		mg/Kg		74	57 - 121

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-214477/2-A
Matrix: Solid
Analysis Batch: 214508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214477

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	64		21 - 98
2-Fluorobiphenyl	69		30 - 112
Terphenyl-d14	86		59 - 134
2-Fluorophenol	71		28 - 98
Phenol-d5	69		23 - 101
2,4,6-Tribromophenol	64		37 - 114

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-214528/1-A
Matrix: Solid
Analysis Batch: 214544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		1.0		mg/Kg		12/09/16 18:48	12/10/16 21:14	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		12/09/16 18:48	12/10/16 21:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	93		40 - 130	12/09/16 18:48	12/10/16 21:14	1

Lab Sample ID: LCS 720-214528/2-A
Matrix: Solid
Analysis Batch: 214544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	83.3	78.7		mg/Kg		94	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
p-Terphenyl	103		40 - 130

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-214319/1-A
Matrix: Solid
Analysis Batch: 214408

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Dieldrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endrin aldehyde	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endrin	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endrin ketone	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Heptachlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Heptachlor epoxide	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
4,4'-DDT	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 720-214319/1-A
Matrix: Solid
Analysis Batch: 214408

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
4,4'-DDD	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endosulfan I	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endosulfan II	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
alpha-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
beta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
delta-BHC	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Endosulfan sulfate	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Methoxychlor	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Toxaphene	ND		40		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
Chlordane (technical)	ND		40		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
alpha-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1
gamma-Chlordane	ND		2.0		ug/Kg		12/07/16 09:13	12/08/16 13:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*57 - 122*	*12/07/16 09:13*	*12/08/16 13:24*	*1*
DCB Decachlorobiphenyl	*105*		*21 - 136*	*12/07/16 09:13*	*12/08/16 13:24*	*1*

Lab Sample ID: LCS 720-214319/2-A
Matrix: Solid
Analysis Batch: 214408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	16.7	15.6		ug/Kg		94	65 - 120
Dieldrin	16.7	16.3		ug/Kg		98	72 - 120
Endrin aldehyde	16.7	18.3		ug/Kg		110	68 - 120
Endrin	16.7	16.9		ug/Kg		101	68 - 120
Endrin ketone	16.7	19.5		ug/Kg		117	84 - 133
Heptachlor	16.7	15.9		ug/Kg		96	69 - 120
Heptachlor epoxide	16.7	16.6		ug/Kg		100	68 - 120
4,4'-DDT	16.7	17.6		ug/Kg		106	63 - 127
4,4'-DDE	16.7	17.2		ug/Kg		103	84 - 126
4,4'-DDD	16.7	18.6		ug/Kg		112	85 - 128
Endosulfan I	16.7	16.7		ug/Kg		100	62 - 120
Endosulfan II	16.7	17.4		ug/Kg		104	65 - 120
alpha-BHC	16.7	15.6		ug/Kg		94	62 - 120
beta-BHC	16.7	18.3		ug/Kg		110	78 - 136
gamma-BHC (Lindane)	16.7	16.2		ug/Kg		97	72 - 120
delta-BHC	16.7	14.1		ug/Kg		85	43 - 125
Endosulfan sulfate	16.7	17.2		ug/Kg		103	74 - 121
Methoxychlor	16.7	18.9		ug/Kg		113	71 - 132
alpha-Chlordane	16.7	16.3		ug/Kg		98	70 - 120
gamma-Chlordane	16.7	16.1		ug/Kg		97	68 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*87*		*57 - 122*

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 720-214319/2-A
Matrix: Solid
Analysis Batch: 214408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214319

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*109*		*21 - 136*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-214323/1-A
Matrix: Solid
Analysis Batch: 214341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214323

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1221	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1232	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1242	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1248	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1254	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1
PCB-1260	ND		50		ug/Kg		12/07/16 09:31	12/07/16 23:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*45 - 132*	*12/07/16 09:31*	*12/07/16 23:26*	*1*
DCB Decachlorobiphenyl	*91*		*42 - 146*	*12/07/16 09:31*	*12/07/16 23:26*	*1*

Lab Sample ID: LCS 720-214323/2-A
Matrix: Solid
Analysis Batch: 214341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214323

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			133	105		ug/Kg		79	65 - 121		
PCB-1260			133	109		ug/Kg		82	68 - 127		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*78*		*45 - 132*
DCB Decachlorobiphenyl	*73*		*42 - 146*

Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 180-196776/1-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 196776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Bolstar	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Chlorpyrifos	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Coumaphos	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Demeton, Total	ND		66		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Demeton-O	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Demeton-S	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 180-196776/1-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 196776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diazinon	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Dichlorvos	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Dimethoate	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Disulfoton	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
EPN	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Famphur	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Fensulfothion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Fenthion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Malathion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Methyl parathion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Mevinphos	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
O,O,O-Triethyl phosphorothioate	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Parathion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Phorate	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Ronnel	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Stirophos	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Sulfotepp	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Tokuthion	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Trichloronate	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Mocap	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1
Thionazin	ND		33		ug/Kg		12/09/16 05:17	12/10/16 23:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*82*		*45 - 150*	*12/09/16 05:17*	*12/10/16 23:36*	*1*
Tributyl phosphate	*63*		*28 - 150*	*12/09/16 05:17*	*12/10/16 23:36*	*1*

Lab Sample ID: LCS 180-196776/2-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 196776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	333	346		ug/Kg		104	55 - 147
Bolstar	333	334		ug/Kg		100	79 - 132
Chlorpyrifos	333	342		ug/Kg		103	80 - 134
Coumaphos	333	342		ug/Kg		103	64 - 144
Demeton, Total	333	331		ug/Kg		99	27 - 150
Demeton-O	93.3	88.8		ug/Kg		95	
Demeton-S	240	242		ug/Kg		101	
Diazinon	333	346		ug/Kg		104	79 - 130
Dichlorvos	333	322		ug/Kg		97	48 - 136
Dimethoate	333	298		ug/Kg		89	36 - 150
Disulfoton	333	342		ug/Kg		103	66 - 142
EPN	333	327		ug/Kg		98	41 - 150
Famphur	333	325		ug/Kg		98	62 - 150
Fensulfothion	333	285		ug/Kg		86	31 - 150
Fenthion	333	331		ug/Kg		99	78 - 133
Malathion	333	365		ug/Kg		110	59 - 150
Methyl parathion	333	315		ug/Kg		94	66 - 141

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-196776/2-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 196776

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mevinphos			333	302		ug/Kg		91	35 - 130		
O,O,O-Triethyl phosphorothioate			333	347		ug/Kg		104	52 - 150		
Parathion			333	336		ug/Kg		101	54 - 150		
Phorate			333	320		ug/Kg		96	75 - 129		
Ronnel			333	347		ug/Kg		104	78 - 137		
Stirophos			333	356		ug/Kg		107	72 - 140		
Sulfotepp			333	348		ug/Kg		104	59 - 150		
Tokuthion			333	337		ug/Kg		101	78 - 129		
Trichloronate			333	358		ug/Kg		107	79 - 133		
Mocap			333	325		ug/Kg		97	75 - 129		
Thionazin			333	335		ug/Kg		100	57 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Triphenylphosphate	*122*		*45 - 150*
Tributyl phosphate	*122*		*28 - 150*

Lab Sample ID: LCSD 180-196776/3-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 196776

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl			333	350		ug/Kg		105	55 - 147	1	17
Bolstar			333	336		ug/Kg		101	79 - 132	0	15
Chlorpyrifos			333	343		ug/Kg		103	80 - 134	0	15
Coumaphos			333	340		ug/Kg		102	64 - 144	1	24
Demeton, Total			333	333		ug/Kg		100	27 - 150	1	15
Demeton-O			93.3	89.4		ug/Kg		96		1	
Demeton-S			240	244		ug/Kg		102		1	
Diazinon			333	350		ug/Kg		105	79 - 130	1	15
Dichlorvos			333	321		ug/Kg		96	48 - 136	0	15
Dimethoate			333	320		ug/Kg		96	36 - 150	7	15
Disulfoton			333	344		ug/Kg		103	66 - 142	1	15
EPN			333	327		ug/Kg		98	41 - 150	0	16
Famphur			333	326		ug/Kg		98	62 - 150	0	15
Fensulfothion			333	302		ug/Kg		91	31 - 150	6	15
Fenthion			333	329		ug/Kg		99	78 - 133	1	15
Malathion			333	361		ug/Kg		108	59 - 150	1	15
Methyl parathion			333	316		ug/Kg		95	66 - 141	0	15
Mevinphos			333	308		ug/Kg		92	35 - 130	2	15
O,O,O-Triethyl phosphorothioate			333	345		ug/Kg		104	52 - 150	1	15
Parathion			333	337		ug/Kg		101	54 - 150	0	15
Phorate			333	321		ug/Kg		96	75 - 129	0	15
Ronnel			333	350		ug/Kg		105	78 - 137	1	15
Stirophos			333	356		ug/Kg		107	72 - 140	0	15
Sulfotepp			333	349		ug/Kg		105	59 - 150	0	15
Tokuthion			333	341		ug/Kg		102	78 - 129	1	15
Trichloronate			333	359		ug/Kg		108	79 - 133	0	15
Mocap			333	324		ug/Kg		97	75 - 129	0	15

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCSD 180-196776/3-A
Matrix: Solid
Analysis Batch: 196906

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 196776

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Thionazin			333	336		ug/Kg		101	57 - 150	0	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Triphenylphosphate	*122*		*45 - 150*
Tributyl phosphate	*125*		*28 - 150*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-196722/1-A
Matrix: Solid
Analysis Batch: 196813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 196722

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		80		ug/Kg		12/08/16 11:45	12/09/16 11:02	20
2,4,5-T	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:02	20
Silvex (2,4,5-TP)	ND		20		ug/Kg		12/08/16 11:45	12/09/16 11:02	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*64*		*19 - 122*	*12/08/16 11:45*	*12/09/16 11:02*	*20*

Lab Sample ID: LCS 180-196722/2-A
Matrix: Solid
Analysis Batch: 196813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 196722

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D			400	291		ug/Kg		73	10 - 103
2,4,5-T			100	82.8		ug/Kg		83	15 - 114
Silvex (2,4,5-TP)			100	94.7		ug/Kg		95	27 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*62*		*19 - 122*

Lab Sample ID: LCSD 180-196722/3-A
Matrix: Solid
Analysis Batch: 196813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 196722

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D			400	334		ug/Kg		84	10 - 103	14	40
2,4,5-T			100	93.0		ug/Kg		93	15 - 114	12	40
Silvex (2,4,5-TP)			100	94.8		ug/Kg		95	27 - 126	0	31

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*66*		*19 - 122*

Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 440-375303/1-A
Matrix: Solid
Analysis Batch: 375651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375303

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.30		mg/Kg		12/12/16 21:03	12/14/16 10:23	3

Lab Sample ID: LCS 440-375303/2-A
Matrix: Solid
Analysis Batch: 375651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	39.7	37.9		mg/Kg		95	80 - 120

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-214285/1-A
Matrix: Solid
Analysis Batch: 214443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Arsenic	ND		1.0		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Barium	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Beryllium	ND		0.10		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Cadmium	ND		0.13		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Chromium	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Cobalt	ND		0.20		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Copper	2.30		1.5		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Lead	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Molybdenum	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Nickel	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Selenium	ND		1.0		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Silver	ND		0.25		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Thallium	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Vanadium	ND		0.50		mg/Kg		12/07/16 11:25	12/08/16 15:59	1
Zinc	ND		1.5		mg/Kg		12/07/16 11:25	12/08/16 15:59	1

Lab Sample ID: LCS 720-214285/2-A
Matrix: Solid
Analysis Batch: 214435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	47.1		mg/Kg		94	80 - 120
Arsenic	50.0	47.2		mg/Kg		94	80 - 120
Barium	50.0	49.0		mg/Kg		98	80 - 120
Beryllium	50.0	49.2		mg/Kg		98	80 - 120
Cadmium	50.0	47.4		mg/Kg		95	80 - 120
Chromium	50.0	51.3		mg/Kg		103	80 - 120
Cobalt	50.0	48.5		mg/Kg		97	80 - 120
Copper	50.0	53.8		mg/Kg		108	80 - 120
Lead	50.0	48.3		mg/Kg		97	80 - 120
Molybdenum	50.0	48.1		mg/Kg		96	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-214285/2-A
Matrix: Solid
Analysis Batch: 214435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	50.0	48.2		mg/Kg		96	80 - 120
Selenium	50.0	46.7		mg/Kg		93	80 - 120
Silver	25.0	25.1		mg/Kg		101	80 - 120
Thallium	50.0	48.5		mg/Kg		97	80 - 120
Vanadium	50.0	51.7		mg/Kg		103	80 - 120
Zinc	50.0	47.8		mg/Kg		96	80 - 120

Lab Sample ID: MB 720-214461/1-A
Matrix: Solid
Analysis Batch: 214584

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		1.5		mg/Kg		12/09/16 09:44	12/10/16 01:32	1

Lab Sample ID: LCS 720-214461/2-A
Matrix: Solid
Analysis Batch: 214584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	50.0	48.0		mg/Kg		96	80 - 120

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-214293/1-A
Matrix: Solid
Analysis Batch: 214534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		12/08/16 17:26	12/09/16 16:15	1

Lab Sample ID: LCS 720-214293/2-A
Matrix: Solid
Analysis Batch: 214534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	0.713		mg/Kg		86	80 - 120

Lab Sample ID: 720-76174-1 MS
Matrix: Solid
Analysis Batch: 214534

Client Sample ID: S-1@6-12"
Prep Type: Total/NA
Prep Batch: 214293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.013		0.725	0.630		mg/Kg		85	75 - 125

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 720-76174-1 MSD
Matrix: Solid
Analysis Batch: 214534

Client Sample ID: S-1@6-12"
Prep Type: Total/NA
Prep Batch: 214293

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.013		0.820	0.739		mg/Kg		88	75 - 125	16	20

GC/MS VOA

Analysis Batch: 214236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-4	S-4@6-12"	Total/NA	Solid	8260B/CA_LUFT MS	214257
MB 720-214236/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-214236/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-214236/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-214236/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-214236/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 214257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	5030B	
720-76174-2	S-2@6-12"	Total/NA	Solid	5030B	
720-76174-3	S-3@6-12"	Total/NA	Solid	5030B	
720-76174-4	S-4@6-12"	Total/NA	Solid	5030B	

Analysis Batch: 214308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8260B/CA_LUFT MS	214257
720-76174-2	S-2@6-12"	Total/NA	Solid	8260B/CA_LUFT MS	214257
720-76174-3	S-3@6-12"	Total/NA	Solid	8260B/CA_LUFT MS	214257
MB 720-214308/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-214308/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-214308/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-214308/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-214308/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

GC/MS Semi VOA

Prep Batch: 214477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3546	
720-76174-2	S-2@6-12"	Total/NA	Solid	3546	
720-76174-3	S-3@6-12"	Total/NA	Solid	3546	
720-76174-4	S-4@6-12"	Total/NA	Solid	3546	
MB 720-214477/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214477/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 214508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-214477/1-A	Method Blank	Total/NA	Solid	8270C	214477
LCS 720-214477/2-A	Lab Control Sample	Total/NA	Solid	8270C	214477

Analysis Batch: 214624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8270C	214477
720-76174-2	S-2@6-12"	Total/NA	Solid	8270C	214477
720-76174-3	S-3@6-12"	Total/NA	Solid	8270C	214477
720-76174-4	S-4@6-12"	Total/NA	Solid	8270C	214477

GC Semi VOA

Prep Batch: 196722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8151A	
720-76174-2	S-2@6-12"	Total/NA	Solid	8151A	
720-76174-3	S-3@6-12"	Total/NA	Solid	8151A	
720-76174-4	S-4@6-12"	Total/NA	Solid	8151A	
MB 180-196722/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 180-196722/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 180-196722/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Prep Batch: 196776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3541	
720-76174-2	S-2@6-12"	Total/NA	Solid	3541	
720-76174-3	S-3@6-12"	Total/NA	Solid	3541	
720-76174-4	S-4@6-12"	Total/NA	Solid	3541	
MB 180-196776/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-196776/2-A	Lab Control Sample	Total/NA	Solid	3541	
LCSD 180-196776/3-A	Lab Control Sample Dup	Total/NA	Solid	3541	

Analysis Batch: 196813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8151A	196722
720-76174-2	S-2@6-12"	Total/NA	Solid	8151A	196722
720-76174-3	S-3@6-12"	Total/NA	Solid	8151A	196722
720-76174-4	S-4@6-12"	Total/NA	Solid	8151A	196722
MB 180-196722/1-A	Method Blank	Total/NA	Solid	8151A	196722
LCS 180-196722/2-A	Lab Control Sample	Total/NA	Solid	8151A	196722
LCSD 180-196722/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	196722

Analysis Batch: 196906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8141A	196776
720-76174-2	S-2@6-12"	Total/NA	Solid	8141A	196776
720-76174-3	S-3@6-12"	Total/NA	Solid	8141A	196776
720-76174-4	S-4@6-12"	Total/NA	Solid	8141A	196776
MB 180-196776/1-A	Method Blank	Total/NA	Solid	8141A	196776
LCS 180-196776/2-A	Lab Control Sample	Total/NA	Solid	8141A	196776
LCSD 180-196776/3-A	Lab Control Sample Dup	Total/NA	Solid	8141A	196776

Prep Batch: 214319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3546	
720-76174-2	S-2@6-12"	Total/NA	Solid	3546	
720-76174-3	S-3@6-12"	Total/NA	Solid	3546	
720-76174-4	S-4@6-12"	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 214319 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-214319/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214319/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 214323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3546	
720-76174-2	S-2@6-12"	Total/NA	Solid	3546	
720-76174-3	S-3@6-12"	Total/NA	Solid	3546	
720-76174-4	S-4@6-12"	Total/NA	Solid	3546	
MB 720-214323/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214323/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 214341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-214323/1-A	Method Blank	Total/NA	Solid	8082	214323
LCS 720-214323/2-A	Lab Control Sample	Total/NA	Solid	8082	214323

Analysis Batch: 214399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8082	214323
720-76174-2	S-2@6-12"	Total/NA	Solid	8082	214323
720-76174-3	S-3@6-12"	Total/NA	Solid	8082	214323
720-76174-4	S-4@6-12"	Total/NA	Solid	8082	214323

Analysis Batch: 214408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8081A	214319
720-76174-2	S-2@6-12"	Total/NA	Solid	8081A	214319
720-76174-3	S-3@6-12"	Total/NA	Solid	8081A	214319
720-76174-4	S-4@6-12"	Total/NA	Solid	8081A	214319
MB 720-214319/1-A	Method Blank	Total/NA	Solid	8081A	214319
LCS 720-214319/2-A	Lab Control Sample	Total/NA	Solid	8081A	214319

Prep Batch: 214528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3546	
720-76174-2	S-2@6-12"	Total/NA	Solid	3546	
720-76174-3	S-3@6-12"	Total/NA	Solid	3546	
720-76174-4	S-4@6-12"	Total/NA	Solid	3546	
MB 720-214528/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214528/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 214544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-214528/1-A	Method Blank	Total/NA	Solid	8015B	214528
LCS 720-214528/2-A	Lab Control Sample	Total/NA	Solid	8015B	214528

Analysis Batch: 214545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	8015B	214528
720-76174-2	S-2@6-12"	Total/NA	Solid	8015B	214528

GC Semi VOA (Continued)

Analysis Batch: 214545 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-4	S-4@6-12"	Total/NA	Solid	8015B	214528

Analysis Batch: 214567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-3	S-3@6-12"	Total/NA	Solid	8015B	214528

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Prep Batch: 375303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3060A	
720-76174-2	S-2@6-12"	Total/NA	Solid	3060A	
720-76174-3	S-3@6-12"	Total/NA	Solid	3060A	
720-76174-4	S-4@6-12"	Total/NA	Solid	3060A	
MB 440-375303/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 440-375303/2-A	Lab Control Sample	Total/NA	Solid	3060A	

Analysis Batch: 375651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	7199	375303
720-76174-2	S-2@6-12"	Total/NA	Solid	7199	375303
720-76174-3	S-3@6-12"	Total/NA	Solid	7199	375303
720-76174-4	S-4@6-12"	Total/NA	Solid	7199	375303
MB 440-375303/1-A	Method Blank	Total/NA	Solid	7199	375303
LCS 440-375303/2-A	Lab Control Sample	Total/NA	Solid	7199	375303

Metals

Prep Batch: 214285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3050B	
720-76174-2	S-2@6-12"	Total/NA	Solid	3050B	
720-76174-3	S-3@6-12"	Total/NA	Solid	3050B	
720-76174-4	S-4@6-12"	Total/NA	Solid	3050B	
MB 720-214285/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-214285/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 214293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	7471A	
720-76174-2	S-2@6-12"	Total/NA	Solid	7471A	
720-76174-3	S-3@6-12"	Total/NA	Solid	7471A	
720-76174-4	S-4@6-12"	Total/NA	Solid	7471A	
MB 720-214293/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-214293/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-76174-1 MS	S-1@6-12"	Total/NA	Solid	7471A	
720-76174-1 MSD	S-1@6-12"	Total/NA	Solid	7471A	

Metals (Continued)

Analysis Batch: 214435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-214285/2-A	Lab Control Sample	Total/NA	Solid	6010B	214285

Analysis Batch: 214443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-214285/1-A	Method Blank	Total/NA	Solid	6010B	214285

Prep Batch: 214461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	3050B	
720-76174-2	S-2@6-12"	Total/NA	Solid	3050B	
720-76174-3	S-3@6-12"	Total/NA	Solid	3050B	
720-76174-4	S-4@6-12"	Total/NA	Solid	3050B	
MB 720-214461/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-214461/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 214485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	6010B	214285
720-76174-2	S-2@6-12"	Total/NA	Solid	6010B	214285
720-76174-3	S-3@6-12"	Total/NA	Solid	6010B	214285
720-76174-4	S-4@6-12"	Total/NA	Solid	6010B	214285

Analysis Batch: 214534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	7471A	214293
720-76174-2	S-2@6-12"	Total/NA	Solid	7471A	214293
720-76174-3	S-3@6-12"	Total/NA	Solid	7471A	214293
720-76174-4	S-4@6-12"	Total/NA	Solid	7471A	214293
MB 720-214293/1-A	Method Blank	Total/NA	Solid	7471A	214293
LCS 720-214293/2-A	Lab Control Sample	Total/NA	Solid	7471A	214293
720-76174-1 MS	S-1@6-12"	Total/NA	Solid	7471A	214293
720-76174-1 MSD	S-1@6-12"	Total/NA	Solid	7471A	214293

Analysis Batch: 214584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76174-1	S-1@6-12"	Total/NA	Solid	6010B	214461
720-76174-2	S-2@6-12"	Total/NA	Solid	6010B	214461
720-76174-3	S-3@6-12"	Total/NA	Solid	6010B	214461
720-76174-4	S-4@6-12"	Total/NA	Solid	6010B	214461
MB 720-214461/1-A	Method Blank	Total/NA	Solid	6010B	214461
LCS 720-214461/2-A	Lab Control Sample	Total/NA	Solid	6010B	214461

Client Sample ID: S-1@6-12"

Lab Sample ID: 720-76174-1

Date Collected: 12/05/16 13:59

Matrix: Solid

Date Received: 12/06/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			214257	12/06/16 13:00	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	214308	12/07/16 14:27	A1C	TAL PLS
Total/NA	Prep	3546			214477	12/09/16 08:36	TTC	TAL PLS
Total/NA	Analysis	8270C		1	214624	12/12/16 21:18	MQL	TAL PLS
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 23:39	JXL	TAL PLS
Total/NA	Prep	3546			214319	12/07/16 09:13	TNL	TAL PLS
Total/NA	Analysis	8081A		1	214408	12/08/16 15:25	JZT	TAL PLS
Total/NA	Prep	3546			214323	12/07/16 09:31	TTC	TAL PLS
Total/NA	Analysis	8082		1	214399	12/08/16 14:44	DCH	TAL PLS
Total/NA	Prep	3541			196776	12/09/16 05:17	KLG	TAL PIT
Total/NA	Analysis	8141A		1	196906	12/11/16 00:09	JMO	TAL PIT
Total/NA	Prep	8151A			196722	12/08/16 11:45	MAL	TAL PIT
Total/NA	Analysis	8151A		20	196813	12/09/16 11:26	JMO	TAL PIT
Total/NA	Prep	3060A			375303	12/12/16 21:03	TMB	TAL IRV
Total/NA	Analysis	7199		3	375651	12/14/16 12:11	MN	TAL IRV
Total/NA	Prep	3050B			214285	12/07/16 11:25	BRB	TAL PLS
Total/NA	Analysis	6010B		4	214485	12/08/16 18:00	ASB	TAL PLS
Total/NA	Prep	3050B			214461	12/09/16 09:44	JNG	TAL PLS
Total/NA	Analysis	6010B		4	214584	12/10/16 03:19	ASB	TAL PLS
Total/NA	Prep	7471A			214293	12/08/16 17:26	MJD	TAL PLS
Total/NA	Analysis	7471A		1	214534	12/09/16 16:25	ASB	TAL PLS

Client Sample ID: S-2@6-12"

Lab Sample ID: 720-76174-2

Date Collected: 12/05/16 14:10

Matrix: Solid

Date Received: 12/06/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			214257	12/06/16 13:00	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	214308	12/07/16 14:57	A1C	TAL PLS
Total/NA	Prep	3546			214477	12/09/16 08:36	TTC	TAL PLS
Total/NA	Analysis	8270C		1	214624	12/12/16 21:44	MQL	TAL PLS
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/11/16 00:03	JXL	TAL PLS
Total/NA	Prep	3546			214319	12/07/16 09:13	TNL	TAL PLS
Total/NA	Analysis	8081A		1	214408	12/08/16 15:42	JZT	TAL PLS
Total/NA	Prep	3546			214323	12/07/16 09:31	TTC	TAL PLS
Total/NA	Analysis	8082		1	214399	12/08/16 15:00	DCH	TAL PLS
Total/NA	Prep	3541			196776	12/09/16 05:17	KLG	TAL PIT
Total/NA	Analysis	8141A		1	196906	12/11/16 02:20	JMO	TAL PIT
Total/NA	Prep	8151A			196722	12/08/16 11:45	MAL	TAL PIT
Total/NA	Analysis	8151A		20	196813	12/09/16 11:50	JMO	TAL PIT
Total/NA	Prep	3060A			375303	12/12/16 21:03	TMB	TAL IRV

Client Sample ID: S-2@6-12"

Lab Sample ID: 720-76174-2

Date Collected: 12/05/16 14:10
Matrix: Solid
Date Received: 12/06/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		3	375651	12/14/16 12:22	MN	TAL IRV
Total/NA	Prep	3050B			214285	12/07/16 11:25	BRB	TAL PLS
Total/NA	Analysis	6010B		4	214485	12/08/16 18:05	ASB	TAL PLS
Total/NA	Prep	3050B			214461	12/09/16 09:44	JNG	TAL PLS
Total/NA	Analysis	6010B		4	214584	12/10/16 03:24	ASB	TAL PLS
Total/NA	Prep	7471A			214293	12/08/16 17:26	MJD	TAL PLS
Total/NA	Analysis	7471A		1	214534	12/09/16 16:28	ASB	TAL PLS

Client Sample ID: S-3@6-12"

Lab Sample ID: 720-76174-3

Date Collected: 12/05/16 14:22
Matrix: Solid
Date Received: 12/06/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			214257	12/06/16 13:00	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	214308	12/07/16 15:28	A1C	TAL PLS
Total/NA	Prep	3546			214477	12/09/16 08:36	TTC	TAL PLS
Total/NA	Analysis	8270C		5	214624	12/12/16 22:09	MQL	TAL PLS
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214567	12/12/16 11:32	JXL	TAL PLS
Total/NA	Prep	3546			214319	12/07/16 09:13	TNL	TAL PLS
Total/NA	Analysis	8081A		1	214408	12/08/16 15:58	JZT	TAL PLS
Total/NA	Prep	3546			214323	12/07/16 09:31	TTC	TAL PLS
Total/NA	Analysis	8082		1	214399	12/08/16 15:17	DCH	TAL PLS
Total/NA	Prep	3541			196776	12/09/16 05:17	KLG	TAL PIT
Total/NA	Analysis	8141A		1	196906	12/11/16 02:53	JMO	TAL PIT
Total/NA	Prep	8151A			196722	12/08/16 11:45	MAL	TAL PIT
Total/NA	Analysis	8151A		20	196813	12/09/16 12:14	JMO	TAL PIT
Total/NA	Prep	3060A			375303	12/12/16 21:03	TMB	TAL IRV
Total/NA	Analysis	7199		3	375651	12/14/16 12:34	MN	TAL IRV
Total/NA	Prep	3050B			214285	12/07/16 11:25	BRB	TAL PLS
Total/NA	Analysis	6010B		4	214485	12/08/16 18:10	ASB	TAL PLS
Total/NA	Prep	3050B			214461	12/09/16 09:44	JNG	TAL PLS
Total/NA	Analysis	6010B		4	214584	12/10/16 03:29	ASB	TAL PLS
Total/NA	Prep	7471A			214293	12/08/16 17:26	MJD	TAL PLS
Total/NA	Analysis	7471A		1	214534	12/09/16 16:31	ASB	TAL PLS

Client Sample ID: S-4@6-12"

Lab Sample ID: 720-76174-4

Date Collected: 12/05/16 14:34
Matrix: Solid
Date Received: 12/06/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			214257	12/06/16 13:00	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	214236	12/06/16 18:50	LPL	TAL PLS

Lab Chronicle

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Client Sample ID: S-4@6-12"

Date Collected: 12/05/16 14:34
Date Received: 12/06/16 08:40

Lab Sample ID: 720-76174-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214477	12/09/16 08:36	TTC	TAL PLS
Total/NA	Analysis	8270C		1	214624	12/12/16 22:35	MQL	TAL PLS
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/11/16 00:52	JXL	TAL PLS
Total/NA	Prep	3546			214319	12/07/16 09:13	TNL	TAL PLS
Total/NA	Analysis	8081A		1	214408	12/08/16 16:15	JZT	TAL PLS
Total/NA	Prep	3546			214323	12/07/16 09:31	TTC	TAL PLS
Total/NA	Analysis	8082		1	214399	12/08/16 15:34	DCH	TAL PLS
Total/NA	Prep	3541			196776	12/09/16 05:17	KLG	TAL PIT
Total/NA	Analysis	8141A		1	196906	12/11/16 03:26	JMO	TAL PIT
Total/NA	Prep	8151A			196722	12/08/16 11:45	MAL	TAL PIT
Total/NA	Analysis	8151A		20	196813	12/09/16 12:38	JMO	TAL PIT
Total/NA	Prep	3060A			375303	12/12/16 21:03	TMB	TAL IRV
Total/NA	Analysis	7199		3	375651	12/14/16 19:32	MN	TAL IRV
Total/NA	Prep	3050B			214285	12/07/16 11:25	BRB	TAL PLS
Total/NA	Analysis	6010B		4	214485	12/08/16 18:15	ASB	TAL PLS
Total/NA	Prep	3050B			214461	12/09/16 09:44	JNG	TAL PLS
Total/NA	Analysis	6010B		4	214584	12/10/16 03:34	ASB	TAL PLS
Total/NA	Prep	7471A			214293	12/08/16 17:26	MJD	TAL PLS
Total/NA	Analysis	7471A		1	214534	12/09/16 16:34	ASB	TAL PLS

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-17
California	State Program	9	2891	03-31-18
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-17
Illinois	NELAP	5	200005	06-30-17
Kansas	NELAP	7	E-10350	01-31-17
Louisiana	NELAP	6	04041	06-30-17
New Hampshire	NELAP	1	2030	04-04-17
New Jersey	NELAP	2	PA005	06-30-17
New York	NELAP	2	11182	03-31-17
North Carolina (WW/SW)	State Program	4	434	12-31-16 *
Pennsylvania	NELAP	3	02-00416	04-30-17
South Carolina	State Program	4	89014	04-30-17
Texas	NELAP	6	T104704528-15-2	03-31-17
US Fish & Wildlife	Federal		LE94312A-1	10-31-17
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-17
Virginia	NELAP	3	460189	09-14-17
West Virginia DEP	State Program	3	142	01-31-17
Wisconsin	State Program	5	998027800	08-31-17

* Certification renewal pending - certification considered valid.

Method Summary

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8270C	Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
8081A	Organochlorine Pesticides (GC)	SW846	TAL PLS
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PLS
8141A	Organophosphorous Pesticides (GC)	SW846	TAL PIT
8151A	Herbicides (GC)	SW846	TAL PIT
7199	Chromium, Hexavalent (IC)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Berlogar Geotechnical
Project/Site: PM9717

TestAmerica Job ID: 720-76174-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-76174-1	S-1@6-12"	Solid	12/05/16 13:59	12/06/16 08:40
720-76174-2	S-2@6-12"	Solid	12/05/16 14:10	12/06/16 08:40
720-76174-3	S-3@6-12"	Solid	12/05/16 14:22	12/06/16 08:40
720-76174-4	S-4@6-12"	Solid	12/05/16 14:34	12/06/16 08:40

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756

Phone: (925) 484-1919 • Fax: (925) 600-1002

Reference #: ~~176~~ 172659

720-76174

Date 12.6.16 Page 1 of 1

12/15/2016

Report To

Attn: Stefanie Parman

Company: Berlogar Stevens

Address: 5587 Sunol Blvd; Pleasanton

Phone: 209.602.6588 Email: sparman@berlogar.com

Bill To: Berlogar | Sampled By: SPB

Attn: Stefanie Parman | Phone: 209.602.6588

Analysis Request

Sample ID	Date	Time	Matrix	Pres.	TPH - ☒ 8015B/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☒ EPA 8260B ☐ 624	Semivolatiles GC/MS ☒ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum ☐ Total (EPA 1664)	Pesticides ☒ EPA 8081 ☐ 608 PCBs ☒ EPA 8082 ☐ 508	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☒ Other: CR6 by 7199	Low Level Metals by EPA 200.8/6020 (ICP-MS):	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Organochlorine Pesticides, 8081A	Organophosphorus Pesticides, 8141	Organochlorine Herbicides, 8151	Number of Containers
S-1@6-12"	12.5.16	1359			X					X	X		X		X	X						X	X	X	
S-2@6-12"	12.5.16	1410			X					X	X		X		X	X						X	X	X	
S-3@6-12"	12.5.16	1422			X					X	X		X		X	X						X	X	X	
S-4@6-12"	12.5.16	1434			X					X	X		X		X	X						X	X	X	

720-76174 Chain of Custody

Project Info.

Project Name: PM9717

Project#: 3831.900

PO#:

Credit Card#:

Sample Receipt

of Containers: 4

Head Space:

Temp: 2.3°C

Conforms to record:

TAT: (5 Day) 72h 48h 24h Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments: ☐ Global ID

1) Relinquished by: 0840 | Signature Time | Stefanie Parman 12.6.16 | Printed Name Date | Berlogar Stevens | Company

2) Relinquished by: | Signature Time | Printed Name Date | Company

3) Relinquished by: | Signature Time | Printed Name Date | Company

1) Received by: 840 | Signature Time | C. Cuellar 12/6/16 | Printed Name Date | TA | Company

2) Received by: | Signature Time | Printed Name Date | Company

3) Received by: | Signature Time | Printed Name Date | Company

See Terms and Conditions on reverse

*TestAmerica SF reports 8015M from C_8-C_{34} (industry norm). Default for 8015B is C_{10}-C_{28}

Rev02/09

Salimpour, Afsaneh

From: Stefanie Parman <sparman@berlogar.com>
Sent: Wednesday, December 07, 2016 3:28 PM
To: Salimpour, Afsaneh
Cc: cmprgceghg@aol.com
Subject: Re: TestAmerica Sample Login Confirmation files from 720-76174 PM9717

Afsaneh,

Can you please verify if the testing order for samples S-1 through S-4 includes testing for TPHD AND TPHMO? And if not, can you please add that? Please confirm.

Thank you,

Stefanie Parman-Bettencourt
Project Engineer
BERLOGAR STEVENS & ASSOCIATES
(209) 602-6569

Sent from my iPhone

On Dec 7, 2016, at 10:31 AM, Salimpour, Afsaneh <afsaneh.salimpour@testamericainc.com> wrote:

Received 2 cracked jars. After volitiles got their aloquot transfered them into new jars.

Please feel free to contact me if you have any questions.

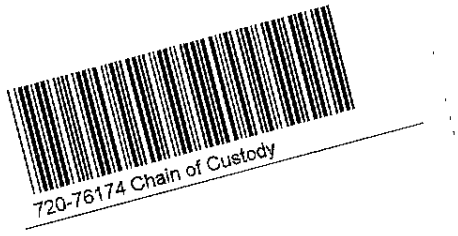
Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

AFSANEH SALIMPOUR
Senior Project Manager

TestAmerica Pleasanton
THE LEADER IN ENVIRONMENTAL TESTING

Tel. 925.484.1919
www.testamericainc.com



Reference: [232867]
Attachments: 2

<Std_Tal_Login_Ack for 720-76174-1.pdf>

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

720-76174 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh	COC No: 720-31541.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California	Job #: 720-76174-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 12/12/2016		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238	PO #:		
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	WO #:		
Email:	Project #: 72006769		
Project Name: PM9717	SSOW#:		
Site:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141A/3541 8141 Standard List	8151A/8151A_SP Herbicide Method 8151A Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
S-1@6-12" (720-76174-1)	12/5/16	13:59 Pacific		Solid			X	X	1	
S-2@6-12" (720-76174-2)	12/5/16	14:10 Pacific		Solid			X	X	1	
S-3@6-12" (720-76174-3)	12/5/16	14:22 Pacific		Solid			X	X	1	
S-4@6-12" (720-76174-4)	12/5/16	14:34 Pacific		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/6/16 1330	Company	Received by:	Date/Time: 12/8/16 855	Company TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

12/15/2016

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh	Carrier Tracking No(s): 7088 7097 5505	COC No: 720-31542.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 720-76174-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 12/12/2016			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: PM9717	Project #: 72006769			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	7199_ORGFM/3060A	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
S-1@6-12" (720-76174-1)	12/5/16	13:59 Pacific		Solid			X	1	
S-2@6-12" (720-76174-2)	12/5/16	14:10 Pacific		Solid			X	1	
S-3@6-12" (720-76174-3)	12/5/16	14:22 Pacific		Solid			X	1	
S-4@6-12" (720-76174-4)	12/5/16	14:34 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/6/16 1330	Company TAL	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: Olga Cuellar	Date/Time: 12/7/16 10:00	Company TAL

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:
	Cooler Temperature(s) °C and Other Remarks: 2.6°C/2.0°C IR-74

12/15/2016

Login Sample Receipt Checklist

Client: Berlogar Geotechnical

Job Number: 720-76174-1

Login Number: 76174
List Number: 1
Creator: Mullen, Joan

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Berlogar Geotechnical

Job Number: 720-76174-1

Login Number: 76174
List Number: 2
Creator: Salas, Margarita

List Source: TestAmerica Irvine
List Creation: 12/07/16 12:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Berlogar Geotechnical

Job Number: 720-76174-1

Login Number: 76174
List Number: 3
Creator: Say, Thomas C

List Source: TestAmerica Pittsburgh
List Creation: 12/08/16 11:28 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-76209-1
Client Project/Site: PM 9717

For:
Berlogar Geotechnical
5587 Sunol Boulevard
Pleasanton, California 94566

Attn: Stefanie Parman

Authorized for release by:
12/15/2016 5:01:44 PM
Dimple Sharma, Senior Project Manager
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Designee for

Afsaneh Salimpour, Senior Project Manager
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LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Job ID: 720-76209-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-76209-1

Comments
No additional comments.

Receipt
The samples were received on 12/7/2016 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1º C.

Receipt Exceptions

One or more containers for the following sample was received broken or leaking: Client sent in 1 broken 8 oz for sample: S-13 @ 6-12. Broken container received in a 16oz soil jar.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-5 @ 6-12" — Lab Sample ID: 720-76209-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	3.8		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-6 @ 6-12" — Lab Sample ID: 720-76209-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.7		0.98		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-7 @ 6-12" — Lab Sample ID: 720-76209-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.2		0.98		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-8 @ 6-12" — Lab Sample ID: 720-76209-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.5		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-9 @ 6-12" — Lab Sample ID: 720-76209-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	3.4		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-10 @ 6-12" — Lab Sample ID: 720-76209-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	4.8		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-11 @ 6-12" — Lab Sample ID: 720-76209-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.7		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-12 @ 6-12" — Lab Sample ID: 720-76209-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.5		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-13 @ 6-12" — Lab Sample ID: 720-76209-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.7		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-14 @ 6-12" — Lab Sample ID: 720-76209-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.3		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-15 @ 6-12" — Lab Sample ID: 720-76209-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-15 @ 6-12" (Continued) — **Lab Sample ID: 720-76209-11**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.8		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-16 @ 6-12" — **Lab Sample ID: 720-76209-12**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	4.5		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-17 @ 6-12" — **Lab Sample ID: 720-76209-13**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	3.9		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-18 @ 6-12" — **Lab Sample ID: 720-76209-14**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.1		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-19 @ 6-12" — **Lab Sample ID: 720-76209-15**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.1		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-20 @ 6-12" — **Lab Sample ID: 720-76209-16**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.2		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-21 @ 6-12" — **Lab Sample ID: 720-76209-17**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.6		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-22 @ 6-12" — **Lab Sample ID: 720-76209-18**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	3.7		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-23 @ 6-12" — **Lab Sample ID: 720-76209-19**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	4.9		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-24 @ 6-12" — **Lab Sample ID: 720-76209-20**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	12		2.5		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-25 @ 6-12" — **Lab Sample ID: 720-76209-21**

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-25 @ 6-12" (Continued) — **Lab Sample ID: 720-76209-21**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	5.9		1.0		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-26 @ 6-12" — **Lab Sample ID: 720-76209-22**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	6.8		2.5		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-27 @ 6-12" — **Lab Sample ID: 720-76209-23**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	4.1		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-28 @ 6-12" — **Lab Sample ID: 720-76209-24**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	3.3		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-29 @ 6-12" — **Lab Sample ID: 720-76209-25**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.7		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-30 @ 6-12" — **Lab Sample ID: 720-76209-26**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	9.6		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-31 @ 6-12" — **Lab Sample ID: 720-76209-27**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.9		0.99		mg/Kg	1		8015B	Total/NA

Client Sample ID: S-32 @ 6-12" — **Lab Sample ID: 720-76209-28**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	32		5.0		mg/Kg	2		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-5 @ 6-12"
Date Collected: 12/06/16 09:05
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-1
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**3.8**		1.0		mg/Kg		12/09/16 18:48	12/10/16 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*103*		*40 - 130*	*12/09/16 18:48*	*12/10/16 23:15*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-6 @ 6-12"
Date Collected: 12/06/16 09:14
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-2
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.7		0.98		mg/Kg		12/09/16 18:48	12/10/16 23:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*91*		*40 - 130*	*12/09/16 18:48*	*12/10/16 23:39*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-7 @ 6-12"
Date Collected: 12/06/16 09:22
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-3
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.2		0.98		mg/Kg		12/09/16 18:48	12/11/16 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*87*		*40 - 130*	*12/09/16 18:48*	*12/11/16 00:03*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-8 @ 6-12"
Date Collected: 12/06/16 09:29
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-4
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.5**		0.99		mg/Kg		12/09/16 18:48	12/11/16 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*102*		*40 - 130*	*12/09/16 18:48*	*12/11/16 00:27*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-9 @ 6-12"
Date Collected: 12/06/16 09:35
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-5
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.4		0.99		mg/Kg		12/09/16 18:48	12/11/16 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*116*		*40 - 130*	*12/09/16 18:48*	*12/11/16 00:52*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-10 @ 6-12"
Date Collected: 12/06/16 09:44
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-6
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	4.8		0.99		mg/Kg		12/09/16 18:48	12/11/16 01:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*114*		*40 - 130*	*12/09/16 18:48*	*12/11/16 01:16*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-11 @ 6-12"
Date Collected: 12/06/16 09:50
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-7
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.7**		1.0		mg/Kg		12/09/16 18:48	12/11/16 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*92*		*40 - 130*	*12/09/16 18:48*	*12/11/16 01:40*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-12 @ 6-12"
Date Collected: 12/06/16 09:57
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-8
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.5**		1.0		mg/Kg		12/09/16 18:48	12/10/16 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*94*		*40 - 130*	*12/09/16 18:48*	*12/10/16 21:38*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-13 @ 6-12"
Date Collected: 12/06/16 10:03
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-9
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.7		1.0		mg/Kg		12/09/16 18:48	12/10/16 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*93*		*40 - 130*	*12/09/16 18:48*	*12/10/16 22:03*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-14 @ 6-12"
Date Collected: 12/06/16 10:12
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-10
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.3**		0.99		mg/Kg		12/09/16 18:48	12/10/16 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*92*		*40 - 130*	*12/09/16 18:48*	*12/10/16 22:27*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-15 @ 6-12"
Date Collected: 12/06/16 10:18
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-11
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**2.8**		0.99		mg/Kg		12/09/16 18:48	12/10/16 22:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*97*		*40 - 130*	*12/09/16 18:48*	*12/10/16 22:51*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-16 @ 6-12"
Date Collected: 12/06/16 10:23
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-12
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**4.5**		0.99		mg/Kg		12/09/16 18:48	12/10/16 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*97*		*40 - 130*	*12/09/16 18:48*	*12/10/16 23:15*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-17 @ 6-12"
Date Collected: 12/06/16 10:31
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-13
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**3.9**		1.0		mg/Kg		12/14/16 08:56	12/14/16 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*82*		*40 - 130*	*12/14/16 08:56*	*12/14/16 22:24*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-18 @ 6-12"
Date Collected: 12/06/16 10:37
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-14
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.1		1.0		mg/Kg		12/14/16 08:56	12/14/16 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*81*		*40 - 130*	*12/14/16 08:56*	*12/14/16 20:56*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-19 @ 6-12"
Date Collected: 12/06/16 10:42
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-15
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**2.1**		0.99		mg/Kg		12/14/16 08:56	12/14/16 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*88*		*40 - 130*	*12/14/16 08:56*	*12/14/16 21:25*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-20 @ 6-12"
Date Collected: 12/06/16 10:46
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-16
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.2		0.99		mg/Kg		12/14/16 08:56	12/14/16 20:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*82*		*40 - 130*	*12/14/16 08:56*	*12/14/16 20:26*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-21 @ 6-12"
Date Collected: 12/06/16 10:50
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-17
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.6**		0.99		mg/Kg		12/14/16 08:56	12/14/16 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*95*		*40 - 130*	*12/14/16 08:56*	*12/14/16 20:56*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-22 @ 6-12"
Date Collected: 12/06/16 10:57
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-18
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.7		0.99		mg/Kg		12/14/16 08:56	12/14/16 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*103*		*40 - 130*	*12/14/16 08:56*	*12/14/16 21:25*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-23 @ 6-12"
Date Collected: 12/06/16 11:05
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-19
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**4.9**		0.99		mg/Kg		12/14/16 08:56	12/14/16 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*93*		*40 - 130*	*12/14/16 08:56*	*12/14/16 21:55*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-24 @ 6-12"
Date Collected: 12/06/16 11:09
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-20
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	12		2.5		mg/Kg		12/14/16 08:56	12/15/16 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*94*		*40 - 130*	*12/14/16 08:56*	*12/15/16 14:03*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-25 @ 6-12"
Date Collected: 12/06/16 11:21
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-21
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**5.9**		1.0		mg/Kg		12/14/16 08:56	12/15/16 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*99*		*40 - 130*	*12/14/16 08:56*	*12/15/16 14:03*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-26 @ 6-12"
Date Collected: 12/06/16 11:25
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-22
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**6.8**		2.5		mg/Kg		12/14/16 08:56	12/15/16 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*97*		*40 - 130*	*12/14/16 08:56*	*12/15/16 14:28*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-27 @ 6-12"
Date Collected: 12/06/16 11:30
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-23
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	4.1		0.99		mg/Kg		12/14/16 08:56	12/15/16 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*85*		*40 - 130*	*12/14/16 08:56*	*12/15/16 13:53*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-28 @ 6-12"
Date Collected: 12/06/16 11:35
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-24
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.3		0.99		mg/Kg		12/14/16 08:56	12/14/16 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*77*		*40 - 130*	*12/14/16 08:56*	*12/14/16 21:55*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-29 @ 6-12"
Date Collected: 12/06/16 11:44
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-25
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.7		0.99		mg/Kg		12/14/16 08:56	12/15/16 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*113*		*40 - 130*	*12/14/16 08:56*	*12/15/16 13:39*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-30 @ 6-12"
Date Collected: 12/06/16 11:51
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-26
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**9.6**		0.99		mg/Kg		12/14/16 09:14	12/15/16 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*101*		*40 - 130*	*12/14/16 09:14*	*12/15/16 13:53*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-31 @ 6-12"
Date Collected: 12/06/16 11:56
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-27
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**2.9**		0.99		mg/Kg		12/14/16 09:14	12/15/16 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*110*		*40 - 130*	*12/14/16 09:14*	*12/15/16 13:14*	*1*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Client Sample ID: S-32 @ 6-12"
Date Collected: 12/06/16 12:01
Date Received: 12/07/16 14:40

Lab Sample ID: 720-76209-28
Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	32		5.0		mg/Kg		12/14/16 09:14	12/15/16 14:27	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*105*		*40 - 130*	*12/14/16 09:14*	*12/15/16 14:27*	*2*

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
		PTP1						
Lab Sample ID	Client Sample ID	(40-130)						
720-76209-1	S-5 @ 6-12"	103						
720-76209-2	S-6 @ 6-12"	91						
720-76209-3	S-7 @ 6-12"	87						
720-76209-4	S-8 @ 6-12"	102						
720-76209-5	S-9 @ 6-12"	116						
720-76209-6	S-10 @ 6-12"	114						
720-76209-7	S-11 @ 6-12"	92						
720-76209-8	S-12 @ 6-12"	94						
720-76209-9	S-13 @ 6-12"	93						
720-76209-10	S-14 @ 6-12"	92						
720-76209-11	S-15 @ 6-12"	97						
720-76209-12	S-16 @ 6-12"	97						
720-76209-13	S-17 @ 6-12"	82						
720-76209-14	S-18 @ 6-12"	81						
720-76209-15	S-19 @ 6-12"	88						
720-76209-16	S-20 @ 6-12"	82						
720-76209-17	S-21 @ 6-12"	95						
720-76209-18	S-22 @ 6-12"	103						
720-76209-19	S-23 @ 6-12"	93						
720-76209-20	S-24 @ 6-12"	94						
720-76209-21	S-25 @ 6-12"	99						
720-76209-22	S-26 @ 6-12"	97						
720-76209-23	S-27 @ 6-12"	85						
720-76209-24	S-28 @ 6-12"	77						
720-76209-24 MS	S-28 @ 6-12"	70						
720-76209-24 MSD	S-28 @ 6-12"	68						
720-76209-25	S-29 @ 6-12"	113						
720-76209-26	S-30 @ 6-12"	101						
720-76209-27	S-31 @ 6-12"	110						
720-76209-28	S-32 @ 6-12"	105						
LCS 720-214528/2-A	Lab Control Sample	103						
LCS 720-214720/2-A	Lab Control Sample	106						
MB 720-214528/1-A	Method Blank	93						
MB 720-214720/1-A	Method Blank	114						

Surrogate Legend

PTP = p-Terphenyl

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-214528/1-A
Matrix: Solid
Analysis Batch: 214544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		1.0		mg/Kg		12/09/16 18:48	12/10/16 21:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*93*		*40 - 130*	*12/09/16 18:48*	*12/10/16 21:14*	*1*

Lab Sample ID: LCS 720-214528/2-A
Matrix: Solid
Analysis Batch: 214544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	83.3	78.7		mg/Kg		94	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*103*		*40 - 130*

Lab Sample ID: MB 720-214720/1-A
Matrix: Solid
Analysis Batch: 214714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 214720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		1.0		mg/Kg		12/14/16 08:56	12/15/16 00:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*114*		*40 - 130*	*12/14/16 08:56*	*12/15/16 00:21*	*1*

Lab Sample ID: LCS 720-214720/2-A
Matrix: Solid
Analysis Batch: 214714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 214720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	83.3	73.5		mg/Kg		88	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*106*		*40 - 130*

Lab Sample ID: 720-76209-24 MS
Matrix: Solid
Analysis Batch: 214715

Client Sample ID: S-28 @ 6-12"
Prep Type: Total/NA
Prep Batch: 214720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	3.3		82.7	60.9		mg/Kg		70	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
p-Terphenyl	*70*		*40 - 130*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 720-76209-24 MSD
Matrix: Solid
Analysis Batch: 214715

Client Sample ID: S-28 @ 6-12"
Prep Type: Total/NA
Prep Batch: 214720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	3.3		82.5	58.6		mg/Kg		67	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
p-Terphenyl	*68*		*40 - 130*

GC Semi VOA

Prep Batch: 214528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-1	S-5 @ 6-12"	Total/NA	Solid	3546	
720-76209-2	S-6 @ 6-12"	Total/NA	Solid	3546	
720-76209-3	S-7 @ 6-12"	Total/NA	Solid	3546	
720-76209-4	S-8 @ 6-12"	Total/NA	Solid	3546	
720-76209-5	S-9 @ 6-12"	Total/NA	Solid	3546	
720-76209-6	S-10 @ 6-12"	Total/NA	Solid	3546	
720-76209-7	S-11 @ 6-12"	Total/NA	Solid	3546	
720-76209-8	S-12 @ 6-12"	Total/NA	Solid	3546	
720-76209-9	S-13 @ 6-12"	Total/NA	Solid	3546	
720-76209-10	S-14 @ 6-12"	Total/NA	Solid	3546	
720-76209-11	S-15 @ 6-12"	Total/NA	Solid	3546	
720-76209-12	S-16 @ 6-12"	Total/NA	Solid	3546	
MB 720-214528/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214528/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 214544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-1	S-5 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-2	S-6 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-3	S-7 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-4	S-8 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-5	S-9 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-6	S-10 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-7	S-11 @ 6-12"	Total/NA	Solid	8015B	214528
MB 720-214528/1-A	Method Blank	Total/NA	Solid	8015B	214528
LCS 720-214528/2-A	Lab Control Sample	Total/NA	Solid	8015B	214528

Analysis Batch: 214545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-8	S-12 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-9	S-13 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-10	S-14 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-11	S-15 @ 6-12"	Total/NA	Solid	8015B	214528
720-76209-12	S-16 @ 6-12"	Total/NA	Solid	8015B	214528

Analysis Batch: 214714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-17	S-21 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-18	S-22 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-19	S-23 @ 6-12"	Total/NA	Solid	8015B	214720
MB 720-214720/1-A	Method Blank	Total/NA	Solid	8015B	214720
LCS 720-214720/2-A	Lab Control Sample	Total/NA	Solid	8015B	214720

Analysis Batch: 214715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-13	S-17 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-14	S-18 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-15	S-19 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-16	S-20 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-24	S-28 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-24 MS	S-28 @ 6-12"	Total/NA	Solid	8015B	214720

GC Semi VOA (Continued)

Analysis Batch: 214715 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-24 MSD	S-28 @ 6-12"	Total/NA	Solid	8015B	214720

Prep Batch: 214720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-13	S-17 @ 6-12"	Total/NA	Solid	3546	
720-76209-14	S-18 @ 6-12"	Total/NA	Solid	3546	
720-76209-15	S-19 @ 6-12"	Total/NA	Solid	3546	
720-76209-16	S-20 @ 6-12"	Total/NA	Solid	3546	
720-76209-17	S-21 @ 6-12"	Total/NA	Solid	3546	
720-76209-18	S-22 @ 6-12"	Total/NA	Solid	3546	
720-76209-19	S-23 @ 6-12"	Total/NA	Solid	3546	
720-76209-20	S-24 @ 6-12"	Total/NA	Solid	3546	
720-76209-21	S-25 @ 6-12"	Total/NA	Solid	3546	
720-76209-22	S-26 @ 6-12"	Total/NA	Solid	3546	
720-76209-23	S-27 @ 6-12"	Total/NA	Solid	3546	
720-76209-24	S-28 @ 6-12"	Total/NA	Solid	3546	
720-76209-25	S-29 @ 6-12"	Total/NA	Solid	3546	
720-76209-26	S-30 @ 6-12"	Total/NA	Solid	3546	
720-76209-27	S-31 @ 6-12"	Total/NA	Solid	3546	
720-76209-28	S-32 @ 6-12"	Total/NA	Solid	3546	
MB 720-214720/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-214720/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-76209-24 MS	S-28 @ 6-12"	Total/NA	Solid	3546	
720-76209-24 MSD	S-28 @ 6-12"	Total/NA	Solid	3546	

Analysis Batch: 214792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-26	S-30 @ 6-12"	Total/NA	Solid	8015B	214720

Analysis Batch: 214793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-22	S-26 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-23	S-27 @ 6-12"	Total/NA	Solid	8015B	214720

Analysis Batch: 214796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-21	S-25 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-28	S-32 @ 6-12"	Total/NA	Solid	8015B	214720

Analysis Batch: 214797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-76209-20	S-24 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-25	S-29 @ 6-12"	Total/NA	Solid	8015B	214720
720-76209-27	S-31 @ 6-12"	Total/NA	Solid	8015B	214720

Client Sample ID: S-5 @ 6-12" — **Lab Sample ID: 720-76209-1**
Date Collected: 12/06/16 09:05 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/10/16 23:15	JXL	TAL PLS

Client Sample ID: S-6 @ 6-12" — **Lab Sample ID: 720-76209-2**
Date Collected: 12/06/16 09:14 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/10/16 23:39	JXL	TAL PLS

Client Sample ID: S-7 @ 6-12" — **Lab Sample ID: 720-76209-3**
Date Collected: 12/06/16 09:22 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/11/16 00:03	JXL	TAL PLS

Client Sample ID: S-8 @ 6-12" — **Lab Sample ID: 720-76209-4**
Date Collected: 12/06/16 09:29 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/11/16 00:27	JXL	TAL PLS

Client Sample ID: S-9 @ 6-12" — **Lab Sample ID: 720-76209-5**
Date Collected: 12/06/16 09:35 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/11/16 00:52	JXL	TAL PLS

Client Sample ID: S-10 @ 6-12" — **Lab Sample ID: 720-76209-6**
Date Collected: 12/06/16 09:44 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/11/16 01:16	JXL	TAL PLS

Client Sample ID: S-11 @ 6-12" — **Lab Sample ID: 720-76209-7**
Date Collected: 12/06/16 09:50 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214544	12/11/16 01:40	JXL	TAL PLS

Client Sample ID: S-12 @ 6-12" — **Lab Sample ID: 720-76209-8**
Date Collected: 12/06/16 09:57 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 21:38	JXL	TAL PLS

Client Sample ID: S-13 @ 6-12" — **Lab Sample ID: 720-76209-9**
Date Collected: 12/06/16 10:03 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 22:03	JXL	TAL PLS

Client Sample ID: S-14 @ 6-12" — **Lab Sample ID: 720-76209-10**
Date Collected: 12/06/16 10:12 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 22:27	JXL	TAL PLS

Client Sample ID: S-15 @ 6-12" — **Lab Sample ID: 720-76209-11**
Date Collected: 12/06/16 10:18 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 22:51	JXL	TAL PLS

Client Sample ID: S-16 @ 6-12" — **Lab Sample ID: 720-76209-12**
Date Collected: 12/06/16 10:23 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214528	12/09/16 18:48	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214545	12/10/16 23:15	JXL	TAL PLS

Client Sample ID: S-17 @ 6-12" — **Lab Sample ID: 720-76209-13**
Date Collected: 12/06/16 10:31 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214715	12/14/16 22:24	JXL	TAL PLS

Client Sample ID: S-18 @ 6-12" — **Lab Sample ID: 720-76209-14**
Date Collected: 12/06/16 10:37 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214715	12/14/16 20:56	JXL	TAL PLS

Client Sample ID: S-19 @ 6-12" — **Lab Sample ID: 720-76209-15**
Date Collected: 12/06/16 10:42 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214715	12/14/16 21:25	JXL	TAL PLS

Client Sample ID: S-20 @ 6-12" — **Lab Sample ID: 720-76209-16**
Date Collected: 12/06/16 10:46 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214715	12/14/16 20:26	JXL	TAL PLS

Client Sample ID: S-21 @ 6-12" — **Lab Sample ID: 720-76209-17**
Date Collected: 12/06/16 10:50 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214714	12/14/16 20:56	JXL	TAL PLS

Client Sample ID: S-22 @ 6-12" — **Lab Sample ID: 720-76209-18**
Date Collected: 12/06/16 10:57 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214714	12/14/16 21:25	JXL	TAL PLS

Client Sample ID: S-23 @ 6-12" — **Lab Sample ID: 720-76209-19**
Date Collected: 12/06/16 11:05 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214714	12/14/16 21:55	JXL	TAL PLS

Client Sample ID: S-24 @ 6-12" — **Lab Sample ID: 720-76209-20**
Date Collected: 12/06/16 11:09 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214797	12/15/16 14:03	JXL	TAL PLS

Client Sample ID: S-25 @ 6-12" — **Lab Sample ID: 720-76209-21**
Date Collected: 12/06/16 11:21 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214796	12/15/16 14:03	JXL	TAL PLS

Client Sample ID: S-26 @ 6-12" — **Lab Sample ID: 720-76209-22**
Date Collected: 12/06/16 11:25 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214793	12/15/16 14:28	JXL	TAL PLS

Client Sample ID: S-27 @ 6-12" — **Lab Sample ID: 720-76209-23**
Date Collected: 12/06/16 11:30 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214793	12/15/16 13:53	JXL	TAL PLS

Client Sample ID: S-28 @ 6-12" — **Lab Sample ID: 720-76209-24**
Date Collected: 12/06/16 11:35 — **Matrix: Solid**
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214715	12/14/16 21:55	JXL	TAL PLS

Client Sample ID: S-29 @ 6-12"

Lab Sample ID: 720-76209-25

Date Collected: 12/06/16 11:44
Matrix: Solid
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 08:56	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214797	12/15/16 13:39	JXL	TAL PLS

Client Sample ID: S-30 @ 6-12"

Lab Sample ID: 720-76209-26

Date Collected: 12/06/16 11:51
Matrix: Solid
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 09:14	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214792	12/15/16 13:53	JXL	TAL PLS

Client Sample ID: S-31 @ 6-12"

Lab Sample ID: 720-76209-27

Date Collected: 12/06/16 11:56
Matrix: Solid
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 09:14	JEV	TAL PLS
Total/NA	Analysis	8015B		1	214797	12/15/16 13:14	JXL	TAL PLS

Client Sample ID: S-32 @ 6-12"

Lab Sample ID: 720-76209-28

Date Collected: 12/06/16 12:01
Matrix: Solid
Date Received: 12/07/16 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			214720	12/14/16 09:14	JEV	TAL PLS
Total/NA	Analysis	8015B		2	214796	12/15/16 14:27	JXL	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Berlogar Geotechnical
Project/Site: PM 9717

TestAmerica Job ID: 720-76209-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-76209-1	S-5 @ 6-12"	Solid	12/06/16 09:05	12/07/16 14:40
720-76209-2	S-6 @ 6-12"	Solid	12/06/16 09:14	12/07/16 14:40
720-76209-3	S-7 @ 6-12"	Solid	12/06/16 09:22	12/07/16 14:40
720-76209-4	S-8 @ 6-12"	Solid	12/06/16 09:29	12/07/16 14:40
720-76209-5	S-9 @ 6-12"	Solid	12/06/16 09:35	12/07/16 14:40
720-76209-6	S-10 @ 6-12"	Solid	12/06/16 09:44	12/07/16 14:40
720-76209-7	S-11 @ 6-12"	Solid	12/06/16 09:50	12/07/16 14:40
720-76209-8	S-12 @ 6-12"	Solid	12/06/16 09:57	12/07/16 14:40
720-76209-9	S-13 @ 6-12"	Solid	12/06/16 10:03	12/07/16 14:40
720-76209-10	S-14 @ 6-12"	Solid	12/06/16 10:12	12/07/16 14:40
720-76209-11	S-15 @ 6-12"	Solid	12/06/16 10:18	12/07/16 14:40
720-76209-12	S-16 @ 6-12"	Solid	12/06/16 10:23	12/07/16 14:40
720-76209-13	S-17 @ 6-12"	Solid	12/06/16 10:31	12/07/16 14:40
720-76209-14	S-18 @ 6-12"	Solid	12/06/16 10:37	12/07/16 14:40
720-76209-15	S-19 @ 6-12"	Solid	12/06/16 10:42	12/07/16 14:40
720-76209-16	S-20 @ 6-12"	Solid	12/06/16 10:46	12/07/16 14:40
720-76209-17	S-21 @ 6-12"	Solid	12/06/16 10:50	12/07/16 14:40
720-76209-18	S-22 @ 6-12"	Solid	12/06/16 10:57	12/07/16 14:40
720-76209-19	S-23 @ 6-12"	Solid	12/06/16 11:05	12/07/16 14:40
720-76209-20	S-24 @ 6-12"	Solid	12/06/16 11:09	12/07/16 14:40
720-76209-21	S-25 @ 6-12"	Solid	12/06/16 11:21	12/07/16 14:40
720-76209-22	S-26 @ 6-12"	Solid	12/06/16 11:25	12/07/16 14:40
720-76209-23	S-27 @ 6-12"	Solid	12/06/16 11:30	12/07/16 14:40
720-76209-24	S-28 @ 6-12"	Solid	12/06/16 11:35	12/07/16 14:40
720-76209-25	S-29 @ 6-12"	Solid	12/06/16 11:44	12/07/16 14:40
720-76209-26	S-30 @ 6-12"	Solid	12/06/16 11:51	12/07/16 14:40
720-76209-27	S-31 @ 6-12"	Solid	12/06/16 11:56	12/07/16 14:40
720-76209-28	S-32 @ 6-12"	Solid	12/06/16 12:01	12/07/16 14:40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

720-76209

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 600-3002

Reference #: 172691

Date 12/7/16 Page 1 of 3

12/15/2016

Report To

Attn: Stefanie Parman
Company: Berlogar Stevens & Associates
Address: 5587 Sunol Blvd; Pleasanton 94566
Phone: 209-602-6569 Email: sparman@berlogar.com
Bill To: Berlogar Stevens
Sampled By: Stefanie Parman
Attn: Stefanie Parman
Phone: 209-602-6569

Analysis Request

Sample ID	Date	Time	Matrix	Pres erv.	TPH EPA - ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other: ___	Low Level Metals by EPA 200.8/6020 (ICP-MS): ___	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS ☐	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	X TPH Diesel Only EPA 8015B			Number of Containers
S-5 @ 6-12"	12-6-16	0905																								
S-6 @ 6-12"		0914																								
S-7 @ 6-12"		0922																								
S-8 @ 6-12"		0929																								
S-9 @ 6-12"		0935																								
S-10 @ 6-12"		0944																								
S-11 @ 6-12"		0950																								
S-12 @ 6-12"		0957																								
S-13 @ 6-12"		1003																								
S-14 @ 6-12"		1012																								

Project Info.

Project Name: PM 9717
Project#: 3831.900
PO#:
Credit Card#:

Sample Receipt

of Containers: 10
Head Space:
Temp: 2.1°C
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments: ☐ Global ID ___

(*) 8oz. jar broken, placed inside 16 oz. jar. Lab to transfer

See Terms and Conditions on reverse

*TestAmerica SF reports 8015M from C_8-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

1) Relinquished by: Signature 14:40 Time
Stefanie Parman 12-7-16 Printed Name Date
Berlogar Stevens Company

2) Relinquished by: Signature Time
Printed Date
720-76209 Chain of Custody
Company

3) Relinquished by: Time Date Company

1) Received by: Signature 14:40 Time
J Bullock 12/7/16 Printed Name Date
Company

2) Received by: Signature Time
Printed Name Date
Company

3) Received by: Signature Time
Printed Name Date
Company

Rev02/09

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane ● Pleasanton CA 94566-4756
Phone: (925) 484-1919 ● Fax: (925) 600-3002

Reference #: 172691

Date 12/7/16 Page 2 of 3

12/15/2016

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Report To

Attn: Stefanie Parman
Company: Berlogar Stevens & Associates
Address: 5587 Sunol Blvd; Pleasanton 94566
Phone: 209-602-6569 Email: sparman@berlogar.com
Bill To: Berlogar Stevens
Sampled By: Stefanie Parman
Attn: Stefanie Parman
Phone: 209-602-6569

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA - ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum ☐ Total (EPA 1664)	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	☐ W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ pH (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	* TPH Diesel 8015B			Number of Containers
S-15 @6-12"	12.6.16	1018																					X			
S-16 @6-12"	12.6.16	1023																								
S-17 @ 6-12"	12.6.16	1031																								
S-18 @ 6-12"	"	1037																								
S-19 @ 6-12"	"	1042																								
S-20 @ 6-12"	"	1046																								
S-21 @ 6-12"	"	1050																								
S-22 @ 6-12"	"	1057																								
S-23 @ 6-12"	"	1105																								
S-24 @ 6-12"	"	1109																								

Project Info.

Project Name: PM 9717
Project#: 3831.900
PO#:
Credit Card#:

Sample Receipt

of Containers: 10
Head Space:
Temp:
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF

Special Instructions / Comments: ☐ Global ID

1) Relinquished by: Signature 14:40 Time
Stefanie Parman 12.7.16 Printed Name Date
Berlogar Stevens Company

2) Relinquished by: Signature Time / Printed Name Date / Company

3) Relinquished by: Signature Time / Printed Name Date / Company

1) Received by: Signature 1440 Time
T. Bullock 12/7/16 Printed Name Date
Company

2) Received by: Signature Time / Printed Name Date / Company

3) Received by: Signature Time / Printed Name Date / Company

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_6-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

Rev02/09

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane ● Pleasanton CA 94566-4756
Phone: (925) 484-1919 ● Fax: (925) 600-3002

Reference #: 172691

Date 12/7/16 Page 3 of 3

Report To

Attn: Stefanie Parman
Company: Berlogar Stevens & Associates
Address: 5587 Sunol Blvd; Pleasanton 94566
Phone: 209-602-6569 Email: sparman@berlogar.com
Bill To: Berlogar Stevens
Sampled By: Stefanie Parman
Attn: Stefanie Parman
Phone: 209-602-6569

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA - ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	TPH Diesel Only 8015B			Number of Containers
S-25 @ 6-12"	12.6.16	1121																					X			
S-26 @ 6-12"	12.6.16	1125																								
S-27 @ 6-12"	12.6.16	1130																								
S-28 @ 6-12"		1135																								
S-29 @ 6-12"		1144																								
S-30 @ 6-12"		1151																								
S-31 @ 6-12"		1156																								
S-32 @ 6-12"		1201																								

Project Info.

Project Name: PM 9717
Project#: 3831.900
PO#:
Credit Card#:

Sample Receipt

of Containers: 8
Head Space:
Temp:
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☒ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF
Special Instructions / Comments: ☐ Global ID

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_6-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: [signature] Time: 1440	Signature: Time:	Signature: Time:
Printed Name: Stefanie Parman Date: 12.7.16	Printed Name: Date:	Printed Name: Date:
Company: Berlogar Stevens	Company:	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: [signature] Time: 1440	Signature: Time:	Signature: Time:
Printed Name: T. Bullock Date: 12/7/16	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

Rev02/09

Login Sample Receipt Checklist

Client: Berlogar Geotechnical

Job Number: 720-76209-1

Login Number: 76209

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Arauz, Dennis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX F
TRUCKING LOGS FOR IMPORTED SOILS

Economy Trucking Services, Inc.

P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

309231 ✓

OFFICE COPY

S M T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 02-05-20

TRUCK # 40 TRAILER # _____ ACCOUNT NUMBER 169

PRIME CARRIER ETS SUB HAULER A.M. Jor

CONTRACTOR PMK JOB NO. # 19.32. MATERIAL D.F.

POINT OF ORIGIN 8151 VILLAGE PKWY DESTINATION _____ MATERIAL CHARGE TO _____

CITY Dublin CITY Dublin

MATERIALS			LOADING			UNLOADING		
NO.	SCALE TAG NO.	YARDS OR WEIGHT	TIME ARRIVE	TIME LEAVE	NET STAND BY	TIME ARRIVE	TIME LEAVE	NET STAND BY
1			7.10	8.00		8.30	8.35	
2			9.05	9.15		9.35	9.40	
3			10.15	10.30		11.10	11.20	
4			11.45	12.00		12.20	12.30	
5			1.00					
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

4 Loads Left full 11.50

NO. AXLES | DISTANCE BETWEEN AXLES | CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

☐ Semi Bottom ☐ 10 Wheeler ☐ Highside
☐ Semi End ☑ Super Dump ☐ Transfers
☐ Double Bottom ☐ Flat Bed

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	5.00
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
7.10			

RECEIVED BY X Leone SIGN OUT TIME 11.50

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24% CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION

THESE CHARGES INCLUDE (1) FEES TO PAY FOR REGULATION OF TRANSPORTATION COMPANIES BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION AND (2) TAXES PAID TO CALIFORNIA CITIES INSTEAD OF EXCISE OR BUSINESS LICENSE TAXES THEY COULD OTHERWISE IMPOSE

NOTICE OUR DRIVERS WILL MAKE EVERY EFFORT TO PLACE MATERIAL WHERE CUSTOMER DESIGNATES, BUT THE COMPANY ASSUMES NO RESPONSIBILITY FOR DAMAGES INSIDE CURB OR PROPERTY LINE NO CLAIMS ALLOWED UNLESS MADE WHEN MATERIAL IS DELIVERED AND RECEIPTED FOR ECONOMY TRUCKING IS NOT RESPONSIBLE FOR OVER WEIGHT LOADS OR TICKET

Economy Trucking Services, Inc.

P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

309406 ✓

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S M T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 2/5/2020

TRUCK # 34 TRAILER # ACCOUNT NUMBER 83

PRIME CARRIER E.T.S.

SUB HAULER ALLIOT TRUCKING

CONTRACTOR PMK CONTRACTORS

JOB NO. 19032

MATERIAL DIRT

POINT OF ORIGIN 8151 VILLAGE PARKWAY

DESTINATION 3301 CARNMORE PL

MATERIAL CHARGE TO

CITY DUBLIN - CA.

CITY DUBLIN - CA

NO	MATERIALS: SCALE TAG NO.	MATERIALS: YARDS OR WEIGHT	LOADING: TIME ARRIVE	LOADING: TIME LEAVE	LOADING: NET STAND BY	UNLOADING: TIME ARRIVE	UNLOADING: TIME LEAVE	UNLOADING: NET STAND BY
1	NO DUMP TAG		7:00	7:51		8:14	8:20	
2	1	1	8:45	8:57		9:22	9:27	
3	1	1	9:50	10:25		11:00	11:05	
4	1	1	11:30	11:45		12:20	12:30	
5			1:00					
6								
7								
8								
9		4 LOADS						
10		(1/2 full)						
11		11:45						
12								
13								
14								
15								
16								
17								
18								
19								

NO. AXLES 3 DISTANCE BETWEEN AXLES CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

- ☐ Semi Bottom
- ☐ Semi End
- ☐ Double Bottom
- ☐ 10 Wheeler
- ☒ Super Dump
- ☐ Flat Bed
- ☐ Highside
- ☐ Transfers

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	low
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME	SIGN OUT TIME
✓ 7:00	1:00	0	6 HOURS	

RECEIVED BY [signature] 11:45

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION

THESE CHARGES INCLUDE (1) FEES TO PAY FOR REGULATION OF TRANSPORTATION COMPANIES BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION AND (2) TAXES PAID TO CALIFORNIA CITIES INSTEAD OF EXCISE OR BUSINESS LICENSE TAXES THEY COULD OTHERWISE IMPOSE

NOTICE OUR DRIVERS WILL MAKE EVERY EFFORT TO PLACE MATERIAL WHERE CUSTOMER DESIGNATES, BUT THE COMPANY ASSUMES NO RESPONSIBILITY FOR DAMAGES INSIDE CURB OR PROPERTY LINE. NO CLAIMS ALLOWED UNLESS MADE WHEN MATERIAL IS DELIVERED AND RECEIPTED FOR. ECONOMY TRUCKING IS NOT RESPONSIBLE FOR OVER WEIGHT LOADS OR TICKET

Economy Trucking Services, Inc.

P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

309229 ✓

OFFICE COPY

S (M) T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 02-03-20

TRUCK # 40 TRAILER # ACCOUNT NUMBER 169

PRIME CARRIER ETS SUB HAULER AMJOT

CONTRACTOR PMK JOB NO. # 19032 MATERIAL DIRT

POINT OF ORIGIN 8151 VILLAGE PKY DESTINATION DUBLIN BLVD MATERIAL CHARGE TO

CITY DUBLIN CITY DUBLIN

NO	MATERIALS: SCALE TAG NO.	MATERIALS: YARDS OR WEIGHT	LOADING: TIME ARRIVE	LOADING: TIME LEAVE	LOADING: NET STAND BY	UNLOADING: TIME ARRIVE	UNLOADING: TIME LEAVE	UNLOADING: NET STAND BY
1			7.05	7.20		7.50	7.55	
2			8.20	8.30		8.55	9.00	
3			9.20	9.25		9.50	9.55	
4			10.15	10.30		10.55	11.00	
5			11.25	11.30		11.55	12.00	
6			12.30	12.35		1.10	1.15	
7			1.45					
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

NO. AXLES | DISTANCE BETWEEN AXLES | CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

- ☐ Semi Bottom
- ☐ Semi End
- ☐ Double Bottom
- ☐ 10 Wheeler
- (☒) Super Dump
- ☐ Flat Bed
- ☐ Highside
- ☐ Transfers

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	6.74
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

Completed form must be turned in within 3 days.

START TIME 7.05 STOP TIME 1.45 DEDUCT TIME 0 NET TIME

RECEIVED BY X [signature] SIGN OUT TIME 12.35

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

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NOTICE OUR DRIVERS WILL MAKE EVERY EFFORT TO PLACE MATERIAL WHERE CUSTOMER DESIGNATES, BUT THE COMPANY ASSUMES NO RESPONSIBILITY FOR DAMAGES INSIDE CURB OR PROPERTY LINE NO CLAIMS ALLOWED UNLESS MADE WHEN MATERIAL IS DELIVERED AND RECEIPTED FOR. ECONOMY TRUCKING IS NOT RESPONSIBLE FOR OVER WEIGHT LOADS OR TICKET

CHP USE ONLY START TIME _____ FINISH TIME _____ TOTAL TIME _____

Economy Trucking Services, Inc.

P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

309403 ✓

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S (M) T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 2/3/2020

TRUCK # 34 TRAILER # ACCOUNT NUMBER 83

PRIME CARRIER ETS

SUB HAULER AMJOT TRUCKING

CONTRACTOR PMK CONTRACTORS

JOB NO. 19032

MATERIAL DIRT

POINT OF ORIGIN 8151 VILLAGE PARKWAY

DESTINATION 3301 CARLMORE PL

MATERIAL CHARGE TO

CITY DUBLIN - CA

CITY DUBLIN - CA

NO	MATERIALS: SCALE TAG NO.	MATERIALS: YARDS OR WEIGHT	LOADING: TIME ARRIVE	LOADING: TIME LEAVE	LOADING: NET STAND BY	UNLOADING: TIME ARRIVE	UNLOADING: TIME LEAVE	UNLOADING: NET STAND BY
1	NO DUMPTAG / DIRT		7:00	7:29		7:53	7:58	
2	/	/	8:20	8:27		8:52	8:59	
3	/	/	9:20	9:31		9:53	9:58	
4	/	/	10:21	10:35		10:58	11:10	
5			11:30					
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

NO AXLES 3 DISTANCE BETWEEN AXLES CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

- ☐ Semi Bottom
- ☐ Semi End
- ☐ Double Bottom
- ☐ 10 Wheeler
- ☒ Super Dump
- ☐ Flat Bed
- ☐ Highside
- ☐ Transfers

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	4 SY
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

Completed form must be turned in within 3 days.

START TIME	STOP TIME	DEDUCT TIME	NET TIME	SIGN OUT TIME
✓ 7:00	11:30	0	4 HOURS 30 MIN	

RECEIVED BY X

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

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CHP USE ONLY START TIME _____ FINISH TIME TOTAL TIME

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

Economy Trucking Services, Inc.
P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

288266 ✓

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S M T W T F S

DATE 2-27-20

TRUCK # 105 TRAILER # 105 ACCOUNT NUMBER 50398

PRIME CARRIER: ECONOMY

SUB HAULER: ALLY TRUCKING

CONTRACTOR: P. M. K. CONTRACTORS

JOB NO.

MATERIAL: DIRT

POINT OF ORIGIN: 8151 VILLAGE PKWY

DESTINATION: 8712 DUBLIN BLVD

CITY: DUBLIN, CA

CITY: DUBLIN, CA

NO	SCALE TAG NO.	MATERIALS YARDS OR WEIGHT	LOADING TIME ARRIVE	LOADING TIME LEAVE	LOADING NET STAND BY	UNLOADING TIME ARRIVE	UNLOADING TIME LEAVE	UNLOADING NET STAND BY
1		DIRT	7.00	7.20		7.43	7.50	
2		DIRT	8.10	8.20		8.40	8.45	
3		DIRT	9.10	9.20		9.40	9.50	
4		DIRT	10.08	10.20		10.40	10.50	
5		DIRT	11.12	11.23		11.43	11.53	
6		DIRT	12.10	12.25		12.45	12.50	
7		DIRT	1.10	1.20		1.40	1.50	
8			2.10	TIME BACK TO				
9				JOB SITE				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

1.20 7 loads (x) Level

NO AXLES | DISTANCE BETWEEN AXLES | CUBIC YARD CAPACITY

TYPE OF EQUIPMENT
- Semi Bottom
- Semi End
- Double Bottom
- 10 Wheeler
- Super Dump
- Flat Bed
- Highside
- Transfers

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	7.2H
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
7.00 Am	2.10 Pm	0	7.10

RECEIVED BY X [signature] 1:20

SIGN OUT TIME

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

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CHP USE ONLY START TIME FINISH TIME TOTAL TIME

Economy Trucking Services, Inc.
P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

300793 ✓

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S M T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 2.27.20

TRUCK # 09 TRAILER # ACCOUNT NUMBER 50294

PRIME CARRIER CTS. SUB HAULER 1st Family

CONTRACTOR PNK JOB NO. MATERIAL

POINT OF ORIGIN 8151 Village Pkwy. DESTINATION 3712 Dublin Blvd MATERIAL CHARGE TO

CITY Dublin CITY Dublin

NO.	MATERIALS SCALE TAG NO.	MATERIALS YARDS OR WEIGHT	LOADING TIME ARRIVE	LOADING TIME LEAVE	LOADING NET STAND BY	UNLOADING TIME ARRIVE	UNLOADING TIME LEAVE	UNLOADING NET STAND BY
1	X	X	7.05	7.10		7.30	7.40	
2	X	X	8.02	8.12		8.38	8.48	
3	X	X	9.00	9.10		9.30	9.40	
4	X	X	9.58	10.08		10.27	10.38	
5	X	X	10.55	11.05		11.25	11.35	
6	X	X	11.55	12.08		12.28	12.40	
7	✓	✓	1.00	1.10		1.50	1.40	
8			2.10					
9								
10				7 Hours				
11			1.10					
12								
13			Lunch	(1)				
14			(ext)					
15								
16								
17								
18								
19								

NO AXLES DISTANCE BETWEEN AXLES CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

☐ Semi Bottom ☐ 10 Wheeler ☐ Highside

☐ Semi End ☒ Super Dump ☐ Transfers

☐ Double Bottom ☐ Flat Bed

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	7H
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
7:00 AM	2:00 PM	0	7:00 HRS

RECEIVED BY X

SIGN OUT TIME

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

THESE CHARGES INCLUDE (1) FEES TO PAY FOR REGULATION OF TRANSPORTATION COMPANIES BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION AND (2) TAXES PAID TO CALIFORNIA CITIES INSTEAD OF EXCISE OR BUSINESS LICENSE TAXES THEY COULD OTHERWISE IMPOSE.

NOTICE OUR DRIVERS WILL MAKE EVERY EFFORT TO PLACE MATERIAL WHERE CUSTOMER DESIGNATES, BUT THE COMPANY ASSUMES NO RESPONSIBILITY FOR DAMAGES INSIDE CURB OR PROPERTY LINE. NO CLAIMS ALLOWED UNLESS MADE WHEN MATERIAL IS DELIVERED AND RECEIPTED FOR. ECONOMY TRUCKING IS NOT RESPONSIBLE FOR OVER WEIGHT LOADS OR TICKET.

CHP USE ONLY START TIME FINISH TIME TOTAL TIME

Economy Trucking Services, Inc.
P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

287752 ✓

OFFICE COPY

S M T W T F S

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

DATE 1/30/20

TRUCK # 75 TRAILER # SUPER ACCOUNT NUMBER 50470

PRIME CARRIER E.T.S SUB HAULER KSTRK

CONTRACTOR P.M.K JOB NO. MATERIAL DIRT

POINT OF ORIGIN 8151 Village Pkwy CITY DUBLIN DESTINATION Running RD CITY DUBLIN MATERIAL CHARGE TO

NO	SCALE TAG NO.	YARDS OR WEIGHT	MATERIALS	LOADING TIME ARRIVE	LOADING TIME LEAVE	LOADING NET STAND BY	UNLOADING TIME ARRIVE	UNLOADING TIME LEAVE	UNLOADING NET STAND BY
1		20 YARD		7.00	7.15		7.35	7.48	
2		20 YARD		8.05	8.12		8.32	8.41	
3		20 YARD		9.09	9.20		9.40	9.48	
4		20 YARD		10.11	10.20		10.41	10.49	
5		20 YARD		11.40	11.58		10.48	10.58	
6		20 YARD		12.20	12.35		12.55	1.05	
7		20 YARD		1.26	1.40		2.00	2.10	
8		20 YARD		2.30	2.45		3.05	3.15	
9				3.35					
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

NO AXLES | DISTANCE BETWEEN AXLES | CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

☐ Semi Bottom ☐ 10 Wheeler ☐ Highside
☐ Semi End ☐ Super Dump ☐ Transfers
☐ Double Bottom ☐ Flat Bed

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	8.41
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
7.00	7.35	0 NN	

RECEIVED BY X SIGN OUT TIME

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CHP USE ONLY START TIME _____ FINISH TIME _____ TOTAL TIME _____

Economy Trucking Services, Inc.

DBE, MBE, WBE, UDBE

P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

288051 ✓

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S M T W T F S

DATE 1-30-20

TRUCK # 25 TRAILER # SD ACCOUNT NUMBER 50401

PRIME CARRIER ETS

SUB HAULER Cheema TKG

CONTRACTOR PMK Const

JOB NO. 19032

MATERIAL DIRT

POINT OF ORIGIN 8151 Village Pkwy

DESTINATION Dublin Blvd

MATERIAL CHARGE TO

CITY Dublin

CITY Dublin

NO. AXLES 4

DISTANCE BETWEEN AXLES

CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

- ☐ Semi Bottom
- ☐ Semi End
- ☐ Double Bottom
- ☐ 10 Wheeler
- ☑ Super Dump
- ☐ Flat Bed
- ☐ Highside
- ☐ Transfers

NO.	MATERIALS: SCALE TAG NO.	MATERIALS: YARDS OR WEIGHT	LOADING: TIME ARRIVE	LOADING: TIME LEAVE	LOADING: NET STAND BY	UNLOADING: TIME ARRIVE	UNLOADING: TIME LEAVE	UNLOADING: NET STAND BY
1			7:00	7:23		7:42	7:49	
2			8:08	8:19		8:44	8:50	
3			9:08	9:28		9:48	9:54	
4			10:13	10:24		10:45	10:55	
5			11:16	11:34		11:55	12:04	
6			12:25	12:42		1:03	1:10	
7			1:30	1:45		2:06	2:13	
8			2:35	2:50		3:10	3:20	
9			3:40					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	4.71
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
7:00	3:40	(1)	8:40

RECEIVED BY X

SIGN OUT TIME 3:50

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

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CHP USE ONLY START TIME _____ FINISH TIME _____ TOTAL TIME _____

Economy Trucking Services, Inc.
P.O. Box 525
Union City, CA 94587
Phone (510) 733-9100
Fax (510) 733-9600
CA #0293659

290507 ✓

OFFICE COPY

S M T W T F S

DBE, MBE, WBE, UDBE

DATE 1-30-2020

TRUCK # 039 TRAILER # Full Unif ACCOUNT NUMBER 50237

PRIME CARRIER E-T-S

SUB HAULER Jimenez Trucking

CONTRACTOR PMK

JOB NO.

MATERIAL Dirt

POINT OF ORIGIN 8151 Village Parkway

DESTINATION Dublin Blvd

MATERIAL CHARGE TO

CITY Dublin

CITY Dublin

NO	SCALE TAG NO.	YARDS OR WEIGHT	MATERIALS	LOADING TIME ARRIVE	LOADING TIME LEAVE	LOADING NET STAND BY	UNLOADING TIME ARRIVE	UNLOADING TIME LEAVE	UNLOADING NET STAND BY
1				9:30	9:35		10:00	10:05	
2				10:30	10:40		11:00	11:05	
3				11:20	11:40		12:00	12:15	
4				12:35	12:45		1:00	1:10	
5				1:40	1:50		2:10	2:30	
6				2:40	2:55		3:15	3:30	
7				3:40					
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

NO AXLES | DISTANCE BETWEEN AXLES | CUBIC YARD CAPACITY

TYPE OF EQUIPMENT

- ☐ Semi Bottom
- ☐ Semi End
- ☐ Double Bottom
- ☐ 10 Wheeler
- ☑ Super Dump
- ☐ Flat Bed
- ☐ Highside
- ☐ Transfers

TIME STARTED LAST LOAD

TIME ARRIVED TO DUMP LAST LOAD

NET RUNNING TIME LAST LOAD

TIME FINISHED DUMP LAST LOAD

TIME ALLOWED TO RETURN SAME GROSS RUNNING TIME LAST LOAD

OFFICE USE ONLY

BILL TO

TOTAL HOURS, LOADS OR TONS	6.2
RATE PER HOUR, LOAD OR TON	$
SUBTOTAL	$
STAND BY TIME	
DUMPS	
MATERIAL	
SURCHARGE	
BRIDGE FARE	$
TOTAL CHARGES	$

START TIME	STOP TIME	DEDUCT TIME	NET TIME
9:30		0	6.10

RECEIVED BY X

SIGN OUT TIME

ALL BILLS ARE DUE AND PAYABLE BY THE 10TH OF THE MONTH. A 2% PER MONTH CHARGED ON PAST DUE ACCOUNTS. THIS IS AN ANNUAL PERCENTAGE RATE OF 24%. CUSTOMER WILL BE RESPONSIBLE FOR ALL COURT AND ATTORNEY COSTS FOR COLLECTION.

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CHP USE ONLY START TIME _____ FINISH TIME _____ TOTAL TIME _____

APPENDIX G
AERIAL PHOTO DECADE PACKAGE

Promenade

Dublin Boulevard

Dublin, CA 94568

Inquiry Number: 5579666.11

March 05, 2019

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/05/19

Site Name:

Promenade
Dublin Boulevard
Dublin, CA 94568
EDR Inquiry # 5579666.11

Client Name:

Terraphase Engineering Inc.
1404 Franklin Street Suite 600
Oakland, CA 94612-0000
Contact: Laurie Israel

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Flight Date: September 06, 1998	USDA
1993	1"=500'	Acquisition Date: June 12, 1993	USGS/DOQQ
1982	1"=500'	Flight Date: July 05, 1982	USDA
1979	1"=500'	Flight Date: August 16, 1979	USDA
1968	1"=500'	Flight Date: April 27, 1968	USGS
1966	1"=500'	Flight Date: May 15, 1966	USDA
1958	1"=500'	Flight Date: August 09, 1958	USDA
1949	1"=500'	Flight Date: October 13, 1949	USGS
1940	1"=500'	Flight Date: June 08, 1940	USDA
1939	1"=500'	Flight Date: July 25, 1939	USDA

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INQUIRY #: 5579666.11
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 5579666.11
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 5579666.11
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 5579666.11
YEAR: 2006
= 500'
N
EDR



INQUIRY #: 5579666.11

YEAR: 1998

= 500'

N

EDR


INQUIRY #: 5579666.11
YEAR: 1993
= 500'
N
EDR



INQUIRY #: 5579666.11

YEAR: 1982

= 500'

N

EDR



INQUIRY #: 5579666.11

YEAR: 1979

= 500'

N

EDR


INQUIRY #: 5579666.11
YEAR: 1968
= 500'
N
EDR


INQUIRY #: 5579666.11
YEAR: 1966
= 500'
N
EDR



INQUIRY #: 5579666.11

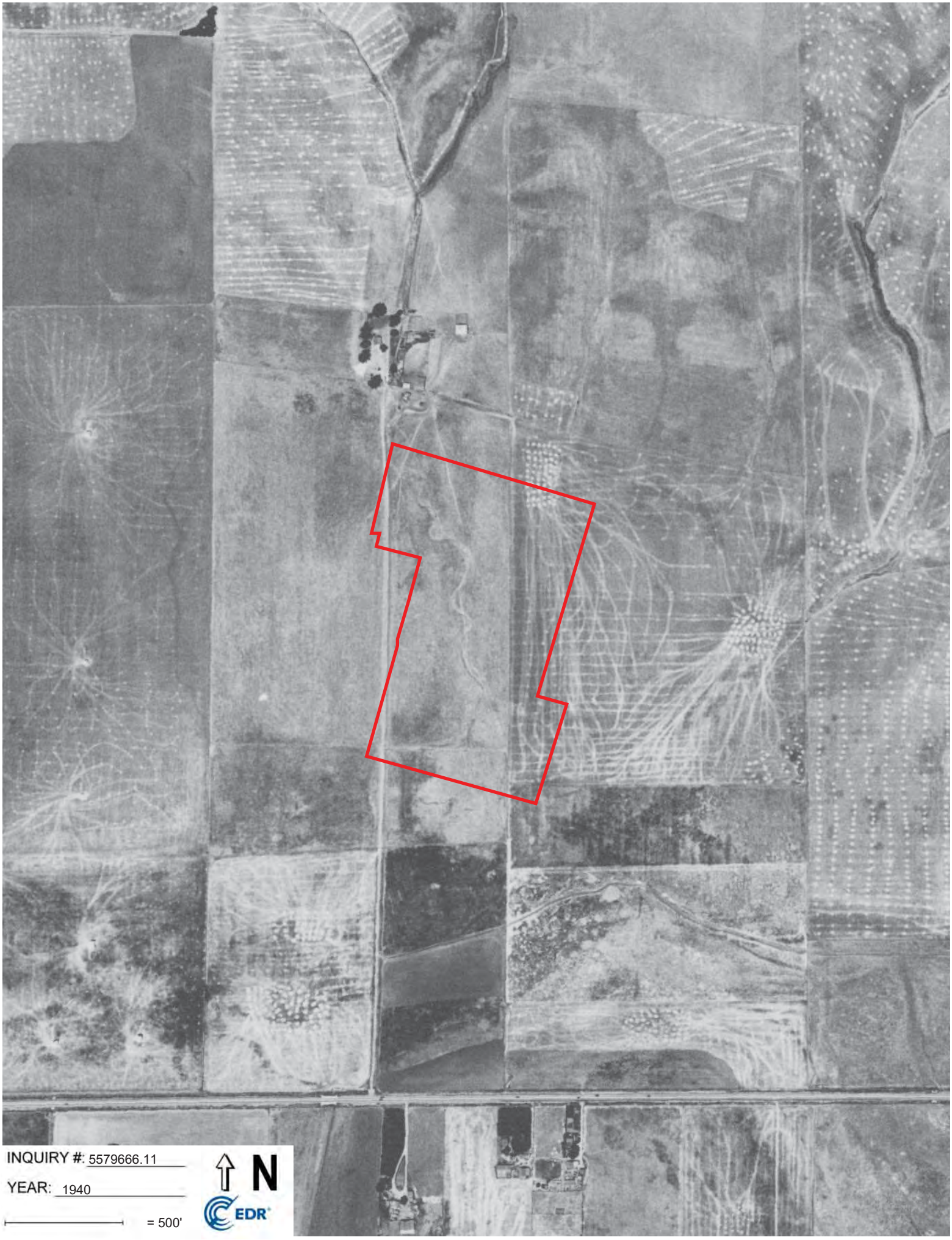
YEAR: 1958

= 500'

N

EDR


INQUIRY #: 5579666.11
YEAR: 1949
= 500'
N
EDR



INQUIRY #: 5579666.11

YEAR: 1940

= 500'

N

EDR



INQUIRY #: 5579666.11

YEAR: 1939

= 500'

N

EDR

APPENDIX H

EDR RADIUS MAP™ REPORT WITH GEOCHECK

Promenade
Dublin Boulevard
Dublin, CA 94568

Inquiry Number: 5579666.2s
March 04, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	87
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-10
Physical Setting Source Map Findings	A-12
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

DUBLIN BOULEVARD
DUBLIN, CA 94568

COORDINATES

Latitude (North):	37.7071660 - 37° 42' 25.79''
Longitude (West):	121.8647720 - 121° 51' 53.17''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	600069.2
UTM Y (Meters):	4173726.8
Elevation:	356 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640392 LIVERMORE, CA
Version Date:	2012
West Map:	5640384 DUBLIN, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
DUBLIN BOULEVARD
DUBLIN, CA 94568

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ARRIVARE	CENTRAL PARKWAY AND	NPDES, CIWQS	Higher	38, 0.007, NNE
B2	CITY WEST STRUCTURES	3553 FINNIAN WAY	HAZNET	Lower	52, 0.010, West
A3	SORRENTO EAST NEIGHB	CENTRAL PARKWAY GAFT	CIWQS	Higher	54, 0.010, NNE
B4	MATTHEW A GRIMES	3637 DUBLIN BLVD	PEST LIC	Lower	104, 0.020, SW
C5	TOLL BROS INC	3448 FINNIAN WAY	HAZNET	Lower	178, 0.034, ESE
C6	TERRACES HOME OWNER'	3448 FINNIAN WAY	EMI	Lower	178, 0.034, ESE
C7	TERRACES HOME OWNER'	3448 FINNIAN WAY	FINDS	Lower	178, 0.034, ESE
B8	DEVANY SQUARE	4405 CHANCERY LN	CIWQS	Higher	276, 0.052, West
D9	LOWE'S #2273	3750 DUBLIN BLVD	AST	Lower	283, 0.054, SW
D10	LOWE'S OF DUBLIN #22	3750 DUBLIN BOULEVAR	RCRA-SQG	Lower	283, 0.054, SW
D11	LOWE'S OF DUBLIN #22	3750 DUBLIN BLVD	FINDS, ECHO	Lower	283, 0.054, SW
D12	LOWE'S #2273	3750 DUBLIN BLVD	CERS HAZ WASTE, CERS TANKS, CERS	Lower	283, 0.054, SW
D13	LOWE'S OF DUBLIN # 2	3750 DUBLIN BLVD	HAZNET	Lower	283, 0.054, SW
14	GRAFTON PLAZA RESIDE	SE CORNER GRAFTON ST	CIWQS	Lower	306, 0.058, SSE
B15		4162 CLARENBRIDGE CI	CHMIRS	Lower	503, 0.095, West
16	CHENCHEN GU	3309 MONAGHAN ST	PEST LIC	Higher	573, 0.109, ENE
17	PROPOSED KOLB ELEMEN	PALERMO WAY	ENVIROSTOR, SCH	Higher	1746, 0.331, NE
E18	PETCO #5318	4460 TASSAJARA RD ST	CERS HAZ WASTE, CERS	Lower	1754, 0.332, WSW
E19	SAFEWAY 1932	4440 TASSAJARA RD	CERS HAZ WASTE, CERS	Lower	1781, 0.337, WSW
F20	E-2 ELEMENTARY SCHOO	PARCEL O-TRACT 6960/	ENVIROSTOR, SCH	Higher	2098, 0.397, NE
F21	M-1 MIDDLE SCHOOL	PARCEL O-TRACT 6725/	ENVIROSTOR, SCH, CERS	Higher	2100, 0.398, NE
22	CASTLE RANCH PROPERT	5020 TASSAJARA RD	CPS-SLIC, Alameda County CS, CERS	Higher	2543, 0.482, NW
23	SANTA RITA SHELL	6750 SANTA RITA RD	RCRA-SQG, LUST, Alameda County CS, FINDS, ECHO,...	Lower	2642, 0.500, SW
24	E-5 ALTERNATIVE SCHO	S OF CENTRAL PARKWAY	ENVIROSTOR, SCH	Higher	4370, 0.828, East
G25	DOUGHERTY ELEMENTARY	HACIENDA DRIVE	ENVIROSTOR, SCH	Higher	5130, 0.972, West
G26	DOUGHERTY KINDERGART	5301 HIBERNIA DRIVE	ENVIROSTOR, SCH	Higher	5516, 1.045, WNW
27	PROPOSED NEW ES, JOR	E OF FALLON RD AND N	ENVIROSTOR, SCH	Higher	5913, 1.120, ENE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

EXECUTIVE SUMMARY

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---------- Historical Calsites Database
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites

US CDL ..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ..... SWEEPS UST Listing
HIST UST ..... Hazardous Substance Storage Container Database
CA FID UST ..... Facility Inventory Database

Local Land Records

LIENS ..... Environmental Liens Listing
LIENS 2 ..... CERCLA Lien Information
DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing
SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators / No Longer Regulated
FUDS ..... Formerly Used Defense Sites
DOD ..... Department of Defense Sites
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ..... Financial Assurance Information
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
TSCA ..... Toxic Substances Control Act
TRIS ..... Toxic Chemical Release Inventory System
SSTS ..... Section 7 Tracking Systems
ROD ..... Records Of Decision
RMP ..... Risk Management Plans
RAATS ..... RCRA Administrative Action Tracking System
PRP ..... Potentially Responsible Parties
PADS ..... PCB Activity Database System
ICIS ..... Integrated Compliance Information System
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ..... Material Licensing Tracking System
COAL ASH DOE ..... Steam-Electric Plant Operation Data
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ..... PCB Transformer Registration Database
RADINFO ..... Radiation Information Database
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ..... Incident and Accident Data
CONSENT ..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV ..... Indian Reservations
FUSRAP ..... Formerly Utilized Sites Remedial Action Program
UMTRA ..... Uranium Mill Tailings Sites
LEAD SMELTERS ..... Lead Smelter Sites
US AIRS ..... Aerometric Information Retrieval System Facility Subsystem
US MINES ..... Mines Master Index File

EXECUTIVE SUMMARY

ABANDONED MINES - Abandoned Mines
DOCKET HWC - Hazardous Waste Compliance Docket Listing
UXO - Unexploded Ordnance Sites
FUELS PROGRAM - EPA Fuels Program Registered Listing
CA BOND EXP. PLAN - Bond Expenditure Plan
Cortese - "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings - CUPA Resources List
DRYCLEANERS - Cleaner Facilities
ENF - Enforcement Action Listing
Financial Assurance - Financial Assurance Information Listing
HIST CORTESE - Hazardous Waste & Substance Site List
HWP - EnviroStor Permitted Facilities Listing
HWT - Registered Hazardous Waste Transporter Database
MINES - Mines Site Location Listing
MWMP - Medical Waste Management Program Listing
PROC - Certified Processors Database
Notify 65 - Proposition 65 Records
UIC - UIC Listing
UIC GEO - UIC GEO (GEOTRACKER)
WASTEWATER PITS - Oil Wastewater Pits Listing
WDS - Waste Discharge System
MILITARY PRIV SITES - MILITARY PRIV SITES (GEOTRACKER)
PROJECT - PROJECT (GEOTRACKER)
WDR - Waste Discharge Requirements Listing
WIP - Well Investigation Program Case List
NON-CASE INFO - NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS - OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS - PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT - SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ - Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP - EDR Proprietary Manufactured Gas Plants
EDR Hist Auto - EDR Exclusive Historical Auto Stations
EDR Hist Cleaner - EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF - Recovered Government Archive Solid Waste Facilities List
RGA LUST - Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/01/2018 has revealed that there is 1 RCRA-SQG site within approximately 0.375 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S OF DUBLIN #22 EPA ID:: CAR000279620	3750 DUBLIN BOULEVAR	SW 0 - 1/8 (0.054 mi.)	D10	16

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/29/2018 has revealed that there are 7 ENVIROSTOR sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PROPOSED KOLB ELEMEN Facility Id: 60000686 Status: No Further Action	***PALERMO WAY***	***NE 1/4 - 1/2 (0.331 mi.)***	***17***	***49***
E-2 ELEMENTARY SCHOO Facility Id: 1020002 Status: No Action Required	***PARCEL O-TRACT 6960/***	***NE 1/4 - 1/2 (0.397 mi.)***	***F20***	***66***
M-1 MIDDLE SCHOOL Facility Id: 1020001 Status: No Action Required	***PARCEL O-TRACT 6725/***	***NE 1/4 - 1/2 (0.398 mi.)***	***F21***	***68***
E-5 ALTERNATIVE SCHO Facility Id: 60002169 Status: No Further Action	***S OF CENTRAL PARKWAY***	***E 1/2 - 1 (0.828 mi.)***	***24***	***77***
DOUGHERTY ELEMENTARY Facility Id: 1970011 Status: No Further Action	***HACIENDA DRIVE***	***W 1/2 - 1 (0.972 mi.)***	***G25***	***80***
DOUGHERTY KINDERGART	***5301 HIBERNIA DRIVE***	***WNW 1 - 2 (1.045 mi.)***	***G26***	***82***

Facility Id: 60002514
Status: No Action Required

PROPOSED NEW ES, JOR	***E OF FALLON RD AND N***	***ENE 1 - 2 (1.120 mi.)***	***27***	***84***

Facility Id: 60002037
Status: No Action Required

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there is 1 LUST site within approximately 0.625 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SANTA RITA SHELL	***6750 SANTA RITA RD***	***SW 1/2 - 1 (0.500 mi.)***	***23***	***71***

Database: LUST REG 2, Date of Government Version: 09/30/2004
Database: LUST, Date of Government Version: 12/10/2018
Status: Completed - Case Closed
Facility Status: Leak being confirmed
Global Id: T0600102532

CPS-SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the CPS-SLIC list, as provided by EDR, has revealed that there is 1 CPS-SLIC site within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CASTLE RANCH PROPERT	***5020 TASSAJARA RD***	***NW 1/4 - 1/2 (0.482 mi.)***	***22***	***70***

Database: CPS-SLIC, Date of Government Version: 12/10/2018
Facility Status: Completed - Case Closed
Global Id: T06019791462

Alameda County CS: A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

A review of the Alameda County CS list, as provided by EDR, and dated 10/05/2018 has revealed that there are 2 Alameda County CS sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CASTLE RANCH PROPERT	***5020 TASSAJARA RD***	***NW 1/4 - 1/2 (0.482 mi.)***	***22***	***70***

Record Id: RO0002686

Status: Case Closed

Lower Elevation	Address	Direction / Distance	Map ID	Page
SANTA RITA SHELL	***6750 SANTA RITA RD***	***SW 1/2 - 1 (0.500 mi.)***	***23***	***71***
Record Id: RO0002522				
Status: Pollution Characterization				
Status: Case Closed				

State and tribal registered storage tank lists

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, has revealed that there is 1 AST site within approximately 0.375 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S #2273	3750 DUBLIN BLVD	SW 0 - 1/8 (0.054 mi.)	D9	16
Database: AST, Date of Government Version: 07/06/2016				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

SCH: This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category. depending on the level of threat to public health and safety or the. environment they pose.

A review of the SCH list, as provided by EDR, and dated 10/29/2018 has revealed that there is 1 SCH site within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PROPOSED KOLB ELEMEN	***PALERMO WAY***	***NE 1/4 - 1/2 (0.331 mi.)***	***17***	***49***
Facility Id: 60000686				
Status: No Further Action				

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 10/22/2018 has revealed that there are 3 CERS HAZ WASTE sites within approximately 0.375 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S #2273	***3750 DUBLIN BLVD***	***SW 0 - 1/8 (0.054 mi.)***	***D12***	***19***
PETCO #5318	***4460 TASSAJARA RD ST***	***WSW 1/4 - 1/2 (0.332 mi.)***	***E18***	***51***
SAFEWAY 1932	***4440 TASSAJARA RD***	***WSW 1/4 - 1/2 (0.337 mi.)***	***E19***	***53***

EXECUTIVE SUMMARY

Local Lists of Registered Storage Tanks

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 10/22/2018 has revealed that there is 1 CERS TANKS site within approximately 0.375 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S #2273	***3750 DUBLIN BLVD***	***SW 0 - 1/8 (0.054 mi.)***	***D12***	***19***

Records of Emergency Release Reports

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 04/06/2018 has revealed that there is 1 CHMIRS site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported OES Incident Number: 10-4856	4162 CLARENBRIDGE CI	W 0 - 1/8 (0.095 mi.)	B15	47

Other Ascertainable Records

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 11/15/2018 has revealed that there are 2 FINDS sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TERRACES HOME OWNER' Registry ID:: 110058323782	3448 FINNIAN WAY	ESE 0 - 1/8 (0.034 mi.)	C7	15
LOWE'S OF DUBLIN #22 Registry ID:: 110055678850	***3750 DUBLIN BLVD***	***SW 0 - 1/8 (0.054 mi.)***	***D11***	***19***

EXECUTIVE SUMMARY

ECHO: ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

A review of the ECHO list, as provided by EDR, and dated 09/02/2018 has revealed that there is 1 ECHO site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S OF DUBLIN #22 Registry ID: 110055678850	***3750 DUBLIN BLVD***	***SW 0 - 1/8 (0.054 mi.)***	***D11***	***19***

EMI: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2017 has revealed that there is 1 EMI site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TERRACES HOME OWNER' Facility Id: 18054	3448 FINNIAN WAY	ESE 0 - 1/8 (0.034 mi.)	C6	12

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency. This database begins with calendar year 1993.

A review of the HAZNET list, as provided by EDR, and dated 12/31/2017 has revealed that there are 3 HAZNET sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CITY WEST STRUCTURES GEPAID: CAC002593436	3553 FINNIAN WAY	W 0 - 1/8 (0.010 mi.)	B2	10
TOLL BROS INC GEPAID: CAC002588982	3448 FINNIAN WAY	ESE 0 - 1/8 (0.034 mi.)	C5	12
LOWE'S OF DUBLIN # 2 GEPAID: CAL000328525	3750 DUBLIN BLVD	SW 0 - 1/8 (0.054 mi.)	D13	45

NPDES: A listing of NPDES permits, including stormwater.

A review of the NPDES list, as provided by EDR, and dated 11/12/2018 has revealed that there is 1 NPDES site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARRIVARE	***CENTRAL PARKWAY AND***	***NNE 0 - 1/8 (0.007 mi.)***	***A1***	***8***

EXECUTIVE SUMMARY

PEST LIC: A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

A review of the PEST LIC list, as provided by EDR, and dated 12/03/2018 has revealed that there are 2 PEST LIC sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CHENCHEN GU	3309 MONAGHAN ST	ENE 0 - 1/8 (0.109 mi.)	16	48
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
MATTHEW A GRIMES	3637 DUBLIN BLVD	SW 0 - 1/8 (0.020 mi.)	B4	11

CIWQS: The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

A review of the CIWQS list, as provided by EDR, and dated 12/03/2018 has revealed that there are 4 CIWQS sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARRIVARE	***CENTRAL PARKWAY AND***	***NNE 0 - 1/8 (0.007 mi.)***	***A1***	***8***
SORRENTO EAST NEIGHB	CENTRAL PARKWAY GAFT	NNE 0 - 1/8 (0.010 mi.)	A3	11
DEVANY SQUARE	4405 CHANCERY LN	W 0 - 1/8 (0.052 mi.)	B8	15
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
GRAFTON PLAZA RESIDE	SE CORNER GRAFTON ST	SSE 0 - 1/8 (0.058 mi.)	14	47

CERS: The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

A review of the CERS list, as provided by EDR, and dated 10/22/2018 has revealed that there is 1 CERS site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S #2273	***3750 DUBLIN BLVD***	***SW 0 - 1/8 (0.054 mi.)***	***D12***	***19***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
ALCO EAST COUNTY HALL OF JUSTICE	Alameda County CS CDL
SANTA RITA PROPERTY	CPS-SLIC

OVERVIEW MAP - 5579666.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/2 1 2 Miles

Indian Reservations BIA

County Boundary

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Promenade ADDRESS: Dublin Boulevard Dublin CA 94568 LAT/LONG: 37.707166 / 121.864772	CLIENT: Terraphase Engineering Inc. CONTACT: Laurie Israel INQUIRY #: 5579666.2s DATE: March 04, 2019 8:26 pm

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DETAIL MAP - 5579666.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Promenade	CLIENT:	Terraphase Engineering Inc.
ADDRESS:	Dublin Boulevard Dublin CA 94568	CONTACT:	Laurie Israel
LAT/LONG:	37.707166 / 121.864772	INQUIRY #:	5579666.2s
		DATE:	March 04, 2019 8:31 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.125		0	0	0	0	0	0
Proposed NPL	1.125		0	0	0	0	0	0
NPL LIENS	1.125		0	0	0	0	0	0
Federal Delisted NPL site list								
Delisted NPL	1.125		0	0	0	0	0	0
Federal CERCLIS list								
FEDERAL FACILITY	0.625		0	0	0	0	NR	0
SEMS	0.625		0	0	0	0	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.625		0	0	0	0	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.125		0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.625		0	0	0	0	NR	0
Federal RCRA generators list								
RCRA-LQG	0.375		0	0	0	NR	NR	0
RCRA-SQG	0.375		1	0	0	NR	NR	1
RCRA-CESQG	0.375		0	0	0	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.625		0	0	0	0	NR	0
US ENG CONTROLS	0.625		0	0	0	0	NR	0
US INST CONTROL	0.625		0	0	0	0	NR	0
Federal ERNS list								
ERNS	0.125		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.125		0	0	0	0	0	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.125		0	0	3	2	2	7
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.625		0	0	0	0	NR	0
State and tribal leaking storage tank lists								
LUST	0.625		0	0	0	1	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.625		0	0	0	0	NR	0
CPS-SLIC	0.625		0	0	1	0	NR	1
Alameda County CS	0.625		0	0	1	1	NR	2
State and tribal registered storage tank lists								
FEMA UST	0.375		0	0	0	NR	NR	0
UST	0.375		0	0	0	NR	NR	0
AST	0.375		1	0	0	NR	NR	1
INDIAN UST	0.375		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.625		0	0	0	0	NR	0
VCP	0.625		0	0	0	0	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.625		0	0	0	0	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.625		0	0	0	0	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.625		0	0	0	0	NR	0
SWRCY	0.625		0	0	0	0	NR	0
HAULERS	0.125		0	NR	NR	NR	NR	0
INDIAN ODI	0.625		0	0	0	0	NR	0
ODI	0.625		0	0	0	0	NR	0
DEBRIS REGION 9	0.625		0	0	0	0	NR	0
IHS OPEN DUMPS	0.625		0	0	0	0	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.125		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.125		0	0	0	0	0	0
SCH	0.375		0	0	1	NR	NR	1
CDL	0.125		0	NR	NR	NR	NR	0
Toxic Pits	1.125		0	0	0	0	0	0
CERS HAZ WASTE	0.375		1	0	2	NR	NR	3
US CDL	0.125		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.375		0	0	0	NR	NR	0
HIST UST	0.375		0	0	0	NR	NR	0
CERS TANKS	0.375		1	0	0	NR	NR	1
CA FID UST	0.375		0	0	0	NR	NR	0
Local Land Records								
LIENS	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.125		0	NR	NR	NR	NR	0
DEED	0.625		0	0	0	0	NR	0
Records of Emergency Release Reports								
HMIRS	0.125		0	NR	NR	NR	NR	0
CHMIRS	0.125		1	NR	NR	NR	NR	1
LDS	0.125		0	NR	NR	NR	NR	0
MCS	0.125		0	NR	NR	NR	NR	0
SPILLS 90	0.125		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.375		0	0	0	NR	NR	0
FUDS	1.125		0	0	0	0	0	0
DOD	1.125		0	0	0	0	0	0
SCRD DRYCLEANERS	0.625		0	0	0	0	NR	0
US FIN ASSUR	0.125		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.125		0	NR	NR	NR	NR	0
2020 COR ACTION	0.375		0	0	0	NR	NR	0
TSCA	0.125		0	NR	NR	NR	NR	0
TRIS	0.125		0	NR	NR	NR	NR	0
SSTS	0.125		0	NR	NR	NR	NR	0
ROD	1.125		0	0	0	0	0	0
RMP	0.125		0	NR	NR	NR	NR	0
RAATS	0.125		0	NR	NR	NR	NR	0
PRP	0.125		0	NR	NR	NR	NR	0
PADS	0.125		0	NR	NR	NR	NR	0
ICIS	0.125		0	NR	NR	NR	NR	0
FTTS	0.125		0	NR	NR	NR	NR	0
MLTS	0.125		0	NR	NR	NR	NR	0
COAL ASH DOE	0.125		0	NR	NR	NR	NR	0
COAL ASH EPA	0.625		0	0	0	0	NR	0
PCB TRANSFORMER	0.125		0	NR	NR	NR	NR	0
RADINFO	0.125		0	NR	NR	NR	NR	0
HIST FTTS	0.125		0	NR	NR	NR	NR	0
DOT OPS	0.125		0	NR	NR	NR	NR	0
CONSENT	1.125		0	0	0	0	0	0
INDIAN RESERV	1.125		0	0	0	0	0	0
FUSRAP	1.125		0	0	0	0	0	0
UMTRA	0.625		0	0	0	0	NR	0
LEAD SMELTERS	0.125		0	NR	NR	NR	NR	0
US AIRS	0.125		0	NR	NR	NR	NR	0
US MINES	0.375		0	0	0	NR	NR	0
ABANDONED MINES	0.375		0	0	0	NR	NR	0
FINDS	0.125		2	NR	NR	NR	NR	2
DOCKET HWC	0.125		0	NR	NR	NR	NR	0
UXO	1.125		0	0	0	0	0	0
ECHO	0.125		1	NR	NR	NR	NR	1
FUELS PROGRAM	0.375		0	0	0	NR	NR	0
CA BOND EXP. PLAN	1.125		0	0	0	0	0	0
Cortese	0.625		0	0	0	0	NR	0
CUPA Listings	0.375		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.375		0	0	0	NR	NR	0
EMI	0.125		1	NR	NR	NR	NR	1
ENF	0.125		0	NR	NR	NR	NR	0
Financial Assurance	0.125		0	NR	NR	NR	NR	0
HAZNET	0.125		3	NR	NR	NR	NR	3
HIST CORTESE	0.625		0	0	0	0	NR	0
HWP	1.125		0	0	0	0	0	0
HWT	0.375		0	0	0	NR	NR	0
MINES	0.375		0	0	0	NR	NR	0
MWMP	0.375		0	0	0	NR	NR	0
NPDES	0.125		1	NR	NR	NR	NR	1
PEST LIC	0.125		2	NR	NR	NR	NR	2
PROC	0.625		0	0	0	0	NR	0
Notify 65	1.125		0	0	0	0	0	0
UIC	0.125		0	NR	NR	NR	NR	0
UIC GEO	0.125		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.625		0	0	0	0	NR	0
WDS	0.125		0	NR	NR	NR	NR	0
MILITARY PRIV SITES	0.125		0	NR	NR	NR	NR	0
PROJECT	0.125		0	NR	NR	NR	NR	0
WDR	0.125		0	NR	NR	NR	NR	0
CIWQS	0.125		4	NR	NR	NR	NR	4
CERS	0.125		1	NR	NR	NR	NR	1
WIP	0.375		0	0	0	NR	NR	0
NON-CASE INFO	0.125		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.125		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.125		0	NR	NR	NR	NR	0
SAMPLING POINT	0.125		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.125		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.125		0	0	0	0	0	0
EDR Hist Auto	0.250		0	0	NR	NR	NR	0
EDR Hist Cleaner	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.125		0	NR	NR	NR	NR	0
RGA LUST	0.125		0	NR	NR	NR	NR	0
- Totals --		0	20	0	8	4	2	34

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **ARRIVARE** **NPDES** **S112141996**
NNE **CENTRAL PARKWAY AND GRAFTON STREET** **CIWQS** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.007 mi.
38 ft. **Site 1 of 2 in cluster A**

Relative:
Higher

Actual:
366 ft.

NPDES:

Facility Status:	Not reported
NPDES Number:	Not reported
Region:	Not reported
Agency Number:	Not reported
Regulatory Measure ID:	Not reported
Place ID:	Not reported
Order Number:	Not reported
WDID:	2 01C360937
Regulatory Measure Type:	Construction
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Terminated
Status Date:	04/18/2014
Operator Name:	DR Horton
Operator Address:	6683 Owens Drive
Operator City:	pleasanton
Operator State:	California
Operator Zip:	94588

NPDES as of 03/2018:

NPDES Number:	Not reported
Status:	Not reported
Agency Number:	Not reported
Region:	2
Regulatory Measure ID:	413446
Order Number:	Not reported
Regulatory Measure Type:	Construction
Place ID:	Not reported
WDID:	2 01C360937
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	01/08/2014
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Received Date:	05/05/2011
Processed Date:	05/09/2011
Status:	Terminated
Status Date:	04/18/2014
Place Size:	9.3
Place Size Unit:	Acres

ARRIVARE (Continued) **S112141996**

Contact:	Dennis Hudspeth
Contact Title:	Vice President of Land Development
Contact Phone:	925-575-4228
Contact Phone Ext:	Not reported
Contact Email:	dhudspeth@drhorton.com
Operator Name:	DR Horton
Operator Address:	6683 Owens Drive
Operator City:	pleasanton
Operator State:	California
Operator Zip:	94588
Operator Contact:	Dennis Hudspeth
Operator Contact Title:	Vice President of Land Development
Operator Contact Phone:	925-575-4228
Operator Contact Phone Ext:	Not reported
Operator Contact Email:	dhudspeth@drhorton.com
Operator Type:	Private Business
Developer:	DR Horton Western Pacific Housing
Developer Address:	6630 Owens Dr
Developer City:	Pleasanton
Developer State:	California
Developer Zip:	94588
Developer Contact:	Dennis Hudspeth
Developer Contact Title:	Vice President of Land Development
Constype Linear Utility Ind:	N
Emergency Phone:	Not reported
Emergency Phone Ext:	Not reported
Constype Above Ground Ind:	Not reported
Constype Below Ground Ind:	Not reported
Constype Cable Line Ind:	Not reported
Constype Comm Line Ind:	Not reported
Constype Commertial Ind:	Not reported
Constype Electrical Line Ind:	Not reported
Constype Gas Line Ind:	Not reported
Constype Industrial Ind:	Not reported
Constype Other Description:	Not reported
Constype Other Ind:	Not reported
Constype Recons Ind:	Not reported
Constype Residential Ind:	Y
Constype Transport Ind:	Not reported
Constype Utility Description:	Not reported
Constype Utility Ind:	Not reported
Constype Water Sewer Ind:	Not reported
Dir Discharge Uswater Ind:	N
Receiving Water Name:	Not reported
Certifier:	Dennis Hudspeth
Certifier Title:	Vice President of Land Development
Certification Date:	05-MAY-11
Primary Sic:	Not reported
Secondary Sic:	Not reported
Tertiary Sic:	Not reported

CIWQS:

Agency:	DR Horton
Agency Address:	6683 Owens Drive, Pleasanton, CA 94588
Place/Project Type:	Construction - Residential
SIC/NAICS:	Not reported

ARRIVARE (Continued) **S112141996**

Region:	2
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	2 01C360937
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	05/09/2011
Termination Date:	01/08/2014
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	37.713669
Longitude:	-121.863856

B2 **CITY WEST STRUCTURES INC** **HAZNET** **S112947377**
West **3553 FINNIAN WAY** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.010 mi.
52 ft. **Site 1 of 4 in cluster B**

Relative: **Lower**

Actual: **355 ft.**

HAZNET:

Facility Name:	CITY WEST STRUCTURES INC
envid:	S112947377
Year:	2005
GEPAID:	CAC002593436
Contact:	LANDON ALDRIGDE
Telephone:	8773351415
Mailing Name:	Not reported
Mailing Address:	114 W MAGNOLIA ST STE 404
Mailing City,St,Zip:	BELLINGHAM, WA 98225
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Unspecified solvent mixture
Disposal Method:	Transfer Station
Tons:	0.1
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid:	S112947377
Year:	2005
GEPAID:	CAC002593436
Contact:	LANDON ALDRIGDE
Telephone:	8773351415
Mailing Name:	Not reported
Mailing Address:	114 W MAGNOLIA ST STE 404
Mailing City,St,Zip:	BELLINGHAM, WA 98225
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)

CITY WEST STRUCTURES INC (Continued) **S112947377**

Disposal Method: Transfer Station
Tons: 0.54
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Alameda

A3 **SORRENTO EAST NEIGHBORHOOD 9** **CIWQS** **S121675165**
NNE **CENTRAL PARKWAY GAFTON STREET AND LEE THOMSPON STREET** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.010 mi.
54 ft. **Site 2 of 2 in cluster A**

Relative: **Higher**
Actual: **366 ft.**

CIWQS:

Agency:	Shea Homes Limited Partnership
Agency Address:	2580 Shea Center Drive, Livermore, CA 94551
Place/Project Type:	Construction - Residential
SIC/NAICS:	Not reported
Region:	2
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	2 01C364549
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	09/12/2012
Termination Date:	05/06/2015
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	37.708983
Longitude:	-121.863678

B4 **MATTHEW A GRIMES** **PEST LIC** **S122361717**
SW **3637 DUBLIN BLVD** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.020 mi.
104 ft. **Site 2 of 4 in cluster B**

Relative: **Lower**
Actual: **352 ft.**

PEST LIC:

Facility Type:	QAC
Categories:	B
License No:	146041
Issued or Renewed Date:	03/12/2018
Expiration Date:	12/31/2018

C5 **TOLL BROS INC** **HAZNET** **S112944653**
ESE **3448 FINNIAN WAY** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.034 mi.
178 ft. **Site 1 of 3 in cluster C**

Relative: **Lower**
Actual: **355 ft.**

HAZNET:

Facility Name:	TOLL BROS INC
envid:	S112944653
Year:	2005
GEPAID:	CAC002588982
Contact:	JERRY CROSBY
Telephone:	9258751954
Mailing Name:	Not reported
Mailing Address:	100 PARK PL
Mailing City,St,Zip:	SAN RAMON, CA 94583
Gen County:	Not reported
TSD EPA ID:	NVD980895338
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Disposal, Land Fill
Tons:	0.68
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid:	S112944653
Year:	2005
GEPAID:	CAC002588982
Contact:	JERRY CROSBY
Telephone:	9258751954
Mailing Name:	Not reported
Mailing Address:	100 PARK PL
Mailing City,St,Zip:	SAN RAMON, CA 94583
Gen County:	Not reported
TSD EPA ID:	NVD980895338
TSD County:	Not reported
Waste Category:	Contaminated soil from site clean-up
Disposal Method:	Treatment, Incineration
Tons:	0.07
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

C6 **TERRACES HOME OWNER'S ASSOCIAT** **EMI** **S113748027**
ESE **3448 FINNIAN WAY** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.034 mi.
178 ft. **Site 2 of 3 in cluster C**

Relative: **Lower**
Actual: **355 ft.**

EMI:

Year:	2009
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

TERRACES HOME OWNER'S ASSOCIAT (Continued) **S113748027**

Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0.002
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2010
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0.002
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2011
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.002
Reactive Organic Gases Tons/Yr:	0.0016734
Carbon Monoxide Emissions Tons/Yr:	0.006
NOX - Oxides of Nitrogen Tons/Yr:	0.027
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2012
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.002
Reactive Organic Gases Tons/Yr:	0.0016734
Carbon Monoxide Emissions Tons/Yr:	0.006
NOX - Oxides of Nitrogen Tons/Yr:	0.027
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0.0010245901639

TERRACES HOME OWNER'S ASSOCIAT (Continued) **S113748027**

Part. Matter 10 Micrometers and Smllr Tons/Yr:0.001

Year:	2013
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.001
Reactive Organic Gases Tons/Yr:	0.0008367
Carbon Monoxide Emissions Tons/Yr:	0.003
NOX - Oxides of Nitrogen Tons/Yr:	0.011
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0.001
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.001

Year:	2014
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.00064866
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0.002594962
NOX - Oxides of Nitrogen Tons/Yr:	0.0114556
SOX - Oxides of Sulphur Tons/Yr:	1.1495e-005
Particulate Matter Tons/Yr:	0.000659436
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.000633059

Year:	2015
County Code:	1
Air Basin:	SF
Facility ID:	18054
Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.000573791
Reactive Organic Gases Tons/Yr:	0.000532087
Carbon Monoxide Emissions Tons/Yr:	0.002295449
NOX - Oxides of Nitrogen Tons/Yr:	0.01013338
SOX - Oxides of Sulphur Tons/Yr:	1.0168e-005
Particulate Matter Tons/Yr:	0.000583323
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.00055999

Year:	2016
County Code:	1
Air Basin:	SF
Facility ID:	18054

TERRACES HOME OWNER'S ASSOCIAT (Continued) **S113748027**

Air District Name:	BA
SIC Code:	6531
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.000573791
Reactive Organic Gases Tons/Yr:	0.0005040753935
Carbon Monoxide Emissions Tons/Yr:	0.002295449
NOX - Oxides of Nitrogen Tons/Yr:	0.010133383
SOX - Oxides of Sulphur Tons/Yr:	1.0168e-005
Particulate Matter Tons/Yr:	0.000583323
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.00055999

C7 **TERRACES HOME OWNER'S ASSOCIATION** **FINDS** **1016788847**
ESE **3448 FINNIAN WAY** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.034 mi.
178 ft. **Site 3 of 3 in cluster C**

Relative: **Lower**

Actual: **355 ft.**

FINDS:

Registry ID: 110058323782

Environmental Interest/Information System
AIR EMISSIONS CLASSIFICATION UNKNOWN

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

B8 **DEVANY SQUARE** **CIWQS** **S121633806**
West **4405 CHANCERY LN** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.052 mi.
276 ft. **Site 3 of 4 in cluster B**

Relative: **Higher**

Actual: **357 ft.**

CIWQS:

Agency:	Dublin City
Agency Address:	100 Civic Plaza, Dublin, CA 94568
Place/Project Type:	Construction
SIC/NAICS:	Not reported
Region:	2
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	99-08DW
WDID:	2 01C349348
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	10/17/2007
Termination Date:	12/02/2008
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported

DEVANY SQUARE (Continued) **S121633806**

Enforcement Actions within 5 years: 0
Violations within 5 years: 0
Latitude: Not reported
Longitude: Not reported

D9 **LOWE'S #2273** **AST** **A100422006**
SW **3750 DUBLIN BLVD** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.054 mi.
283 ft. **Site 1 of 5 in cluster D**

Relative: AST:
Lower
Actual: Certified Unified Program Agencies: Not reported
352 ft. Owner: Lowe's Home Centers, LLC
Total Gallons: Not reported
CERSID: 10189239
Facility ID: Not reported
Business Name: Lowe's HIW, Inc.
Phone: (888) 429-6281
Fax: Not reported
Mailing Address: 1000 Lowe's Blvd., Mail Code A2ELP
Mailing Address City: Mooresville
Mailing Address State: NC
Mailing Address Zip Code: 28117
Operator Name: Lowe's Home Centers, LLC
Operator Phone: (925) 241-3082
Owner Phone: (704) 758-6033
Owner Mail Address: 1605 Curtis Bridge Rd, Mailcode A2ELP
Owner State: NC
Owner Zip Code: 28697
Owner Country: United States
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: CAL000328525

D10 **LOWE'S OF DUBLIN #2273** **RCRA-SQG** **1024089906**
SW **3750 DUBLIN BOULEVARD** **CAR000279620**
< 1/8 **DUBLIN, CA 94568**
0.054 mi.
283 ft. **Site 2 of 5 in cluster D**

Relative: RCRA-SQG:
Lower
Actual: Date form received by agency: 12/26/2017
352 ft. Facility name: LOWE'S OF DUBLIN #2273
Facility address: 3750 DUBLIN BOULEVARD
DUBLIN, CA 94568
EPA ID: CAR000279620
Mailing address: LOWES BLVD., MAIL STOP A3WLP
MOORESVILLE, NC 28117
Contact: BOBBI TENBORG
Contact address: LOWES BLVD., MAIL STOP A3WLP

LOWE'S OF DUBLIN #2273 (Continued) **1024089906**

MOORESVILLE, NC 28117
Contact country: US
Contact telephone: 704-758-2955
Contact email: BOBBI.L.TENBORG@LOWES.COM
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: LOWE'S HOME CENTERS, LLC
Owner/operator address: CURTIS BRIDGE RD
WILKESBORO, NC 28697
Owner/operator country: US
Owner/operator telephone: 704-758-2955
Owner/operator email: BOBBI.L.TENBORG@LOWES.COM
Owner/operator fax: 877-658-9885
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 12/15/2007
Owner/Op end date: Not reported

Owner/operator name: LOWE'S HOME CENTERS, LLC
Owner/operator address: CURTIS BRIDGE RD
WILKESBORO, NC 28697
Owner/operator country: US
Owner/operator telephone: 704-758-2955
Owner/operator email: BOBBI.L.TENBORG@LOWES.COM
Owner/operator fax: 877-658-9885
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 12/15/2007
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

LOWE'S OF DUBLIN #2273 (Continued) **1024089906**

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 352
. Waste name: Other organic solids

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D002
. Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D016
. Waste name: 2,4-D

. Waste code: D018
. Waste name: BENZENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: U154
. Waste name: METHANOL (I)

Violation Status: No violations found

D11 **LOWE'S OF DUBLIN #2273** **FINDS** **1016420617**
SW **3750 DUBLIN BLVD** **ECHO** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.054 mi.
283 ft. **Site 3 of 5 in cluster D**

Relative:
Lower

Actual:
352 ft.

FINDS:

Registry ID: 110055678850

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1016420617
Registry ID: 110055678850
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110055678850

D12 **LOWE'S #2273** **CERS HAZ WASTE** **S121774206**
SW **3750 DUBLIN BLVD** **CERS TANKS** **N/A**
< 1/8 **DUBLIN, CA 94568** **CERS**
0.054 mi.
283 ft. **Site 4 of 5 in cluster D**

Relative:
Lower

Actual:
352 ft.

CERS HAZ WASTE:
Site ID: 396790
CERS ID: 10189239
CERS Description: Hazardous Waste Generator

Violations:
Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 03-10-2015
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description: Failure to perform a five-year review of the SPCC plan.
Violation Notes: Returned to compliance on 03/26/2015. OBSERVATION:5 year was due 2013, but most recent signed date on SPCC Plan was on 11/4/2014 approving that plan has been implemented. Does not prove that a 5-year review was completed. Failure to perform and/or document the five-year review of the SPCC plan. CORRECTIVE ACTION: Complete and document the 5 year review and submit verification of proper completion.
Violation Division: Alameda County Environmental Health
Violation Program: APSA
Violation Source: CERS

Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 04-24-2018

LOWE'S #2273 (Continued) **S121774206**

Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Designated facility to generator copies were not found on site for uniform hazardous waste manifest #001433103PSC on 12/7/2016, and for #001775377PSC on 2/14/2018. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of the uniform manifests listed above, maintain them on site, and submit copies to Alameda County Dept. of Environmental Health (ACDEH).
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to designate a person accountable for discharge prevention and who reports to facility management.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: Failure to designate a person accountable for discharge prevention and who reports to facility management. The current person is not specifically designated and the phone number is for the general store. CORRECTIVE ACTION: Designate a person accountable for discharge prevention and who reports to facility management.
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Facility has one 55 gallon drum of waste gasoline that was missing an accumulation start date. . All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTED ONSITE: Facility entered the accumulation start date for the hazardous waste gas drum mentioned above.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS

LOWE'S #2273 (Continued) **S121774206**

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Deficiencies noted in the facility's implementation of the Hazardous Materials Business Plan (HMBP) by means of proper labeling of containers: 1. "Diesel" aboveground storage tank not labeled as to the hazard. Include label for diesel "Fill Port". 2. Three 55 gallon containers were not labeled "empty"; one metal, and two poly containers missing "date emptied". CORRECTIVE ACTION: Properly label the above containers, and provide evidence of correction to Alameda County Dept. of Environmental Health (ACDEH) such as photo.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The Emergency Response Plan has not been adequately implemented as demonstrated by the storage of their Propane cylinders in cages that are not locked. One of the cages appears to be damaged and cannot be close or locked even if it was attempted. CORRECTIVE ACTION: Submit photos/documentation to the CUPA demonstrating that the Propane cylinder cages are locked unless currently adding or removing cylinders.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The annotated site map submitted to the CUPA does not include loading areas, storm & sewer drains, access & exit points, adjacent streets, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS).
Violation Division:	Alameda County Environmental Health

LOWE'S #2273 (Continued) **S121774206**

Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Facility conducts and documents various safety and haz mat training for all applicable employees, however does not document the informal training of the Hazardous Materials Business Plan's (HMBP) emergency response/contingency plan. CORRECTIVE ACTION: Conduct HMBP training of the facility's emergency response/contingency plan including updated emergency assembly area. Submit documentation to the CUPA demonstrating that employees have received training on the Emergency Response Plan. Ensure to document all HMBP training annually.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 Multiple - California Health and Safety Code, Chapter 6.67, Section(s) Multiple
Violation Description:	APSA Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: SPCC does not contain a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage). Plan says in Appendix A that "Site Plan showing locations of Diesel AST, Electric Transformer and predicted flow diretions." No site plan attached to the SPCC Plan. CORRECTIVE ACTION: Amend the SPCC to include a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage).
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to have an adequate facility diagram, or no facility diagram included within the SPCC plan.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: Failure to have an adequate facility diagram, or no facility diagram included within the

LOWE'S #2273 (Continued) **S121774206**

	SPCC plan. CORRECTIVE ACTION: Include an adequate facility diagram in the SPCC
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 06/18/2018. OBSERVATION: The following deficiencies noted in the annotated site map submitted to the CUPA: 1. Does not include emergency equipment (two eyewash stations, spill control materials location). 2. Changes in storage for forklift propane (and extra retail sales Blue Rhino in bull pen), and retail sale location in front of store. 3. Emergency assembly area has changed. (Ensure consistent with part E. of the emergency response/contingency plan) 4. Changes in storage of fertilizer location, no storage by door to garden center, and no roof coating/masonry bagged goods in location that is now the appliances section. 5. Add Dublin Blvd. orientation. 6. Hazardous waste accumulation area has moved to outdoor bull pen area. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS) website at http://cers.calepa.ca.gov/ within 30 days..
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Copies of hazardous waste disposal records for 2012 to 2015 are missing the signed copy of manifests from the designated facility. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility and all receipts used in a consolidated manifesting procedure on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of all manifests and receipts for the last three years, maintain them on site, and submit copies to the CUPA by 4/9/2015.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)

LOWE'S #2273 (Continued) **S121774206**

Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 05/23/2018. OBSERVATION: In the facility's hazardous waste storage area, a 15 gallon metal container fitted with closed lid funnel is storing waste fuel, and is not labeled with hazardous waste label. All containers storing a hazardous waste shall be labeled as "hazardous waste" shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: Immediately label the containers noted above and ensure that all containers are marked with all the required information. Provide Alameda County Dept. of Environmental Health (ACDEH) evidence of correction such as photo.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct a Hazardous Waste Generator Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has 9 managers and employees who handle the hazardous waste. ACDEH recommended to facility to have their Empty drum storage area labeled as "Empty Storage Drums".
Eval Division: Alameda County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct a Hazardous Materials Business Plan inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility owns their own Diesel powered backup generator. Most recent CERS submittal date was 2/26/2015. CERTIFICATION OF RETURN TO COMPLIANCE I certify that the violation(s) noted the Inspection Forms have been corrected. I have personally examined any documentation attached to the certification to establish that the violations have been corrected. PRINT:_____
SIGN:_____
TITLE:_____
DATE:_____
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: Yes
Eval Type: Routine done by local agency

LOWE'S #2273 (Continued) **S121774206**

Eval Notes:	Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. HMBP is readily available during inspection electronically on the Lowe s Net , and by hard copy. Ensure current hard copy of HMBP is available. In review of the facility s business plan there are no changes in business activities as reported in the California Environmental Reporting System (CERS) and is consistent with observations during inspection. Facility maintains a diesel fueled backup emergency [Truncated]
Eval Division:	Alameda County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-24-2018
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. The facility s EPA ID# CAL000328525 is found to be inactive in the California Department of Toxic Substance Control s Hazardous Waste Tracking System as of 1/25/2018, although the facility s new Federal EPA ID# CAR000279620 is active as updated 2/1/2018 and is reflected in the California Environmental Reporting System (CERS). Update hazardous waste storage labels accordingly and ensure the inactive EPA ID# [Truncated]
Eval Division:	Alameda County Environmental Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-10-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Onsite to conduct an Aboveground Petroleum Storage Act Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has a SPCC Plan that was created May 2008, with the most recent signature by a manager on 11/4/2014. Review dates were not signed and Certification by Senior HAZMAT Integrity Specialist, Rob Gass, has not been signed either.
Eval Division:	Alameda County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection

LOWE'S #2273 (Continued) **S121774206**

Eval Date: 04-24-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. Facility maintains a diesel fueled backup emergency generator with 1500 gallon belly tank outside on the west side of building. The emergency generator services back up power. Secondary containment is equipped with sensor for leak detection and is monitored by Vector system. System runs monthly self-test for operational running and fault. At this time, Bay City provides service and maintenance. The outside [Truncated]
Eval Division: Alameda County Environmental Health
Eval Program: APSA
Eval Source: CERS

Coordinates:
Site ID: 396790
Facility Name: LOWE'S #2273
Env Int Type Code: APSA
Program ID: 10189239
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 37.705490
Longitude: -121.868810

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: APTIM
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Laurie Litwin
Entity Title: Regional Environmental Compliance Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District
Entity Name: Alameda County Env Health
Entity Title: Not reported

LOWE'S #2273 (Continued) **S121774206**

Affiliation Address:	1131 Harbor Parkway, Suite 240
Affiliation City:	Alameda
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	94502-6577
Affiliation Phone:	(510) 567-6700
Affiliation Type Desc:	Operator
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(925) 241-3082
Affiliation Type Desc:	Parent Corporation
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Laurie Litwin
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	(949) 891-9000
Affiliation Type Desc:	Legal Owner
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	1605 Curtis Bridge Rd, Mailcode A2ELP
Affiliation City:	Wilkesboro
Affiliation State:	NC
Affiliation Country:	United States
Affiliation Zip:	28697
Affiliation Phone:	(704) 758-6033
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	Not reported

LOWE'S #2273 (Continued) **S121774206**

CERS TANKS:
Site ID: 396790
CERS ID: 10189239
CERS Description: Aboveground Petroleum Storage

Violations:
Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 03-10-2015
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description: Failure to perform a five-year review of the SPCC plan.
Violation Notes: Returned to compliance on 03/26/2015. OBSERVATION:5 year was due 2013, but most recent signed date on SPCC Plan was on 11/4/2014 approving that plan has been implemented. Does not prove that a 5-year review was completed. Failure to perform and/or document the five-year review of the SPCC plan. CORRECTIVE ACTION: Complete and document the 5 year review and submit verification of proper completion.
Violation Division: Alameda County Environmental Health
Violation Program: APSA
Violation Source: CERS

Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 04-24-2018
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes: Returned to compliance on 05/23/2018. OBSERVATION: Designated facility to generator copies were not found on site for uniform hazardous waste manifest #001433103PSC on 12/7/2016, and for #001775377PSC on 2/14/2018. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of the uniform manifests listed above, maintain them on site, and submit copies to Alameda County Dept. of Environmental Health (ACDEH).
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 03-10-2015
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description: Failure to designate a person accountable for discharge prevention and who reports to facility management.
Violation Notes: Returned to compliance on 03/26/2015. OBSERVATION: Failure to designate a person accountable for discharge prevention and who reports to facility management. The current person is not specifically designated and the phone number is for the general store. CORRECTIVE ACTION: Designate a person accountable for discharge prevention and

LOWE'S #2273 (Continued) **S121774206**

	who reports to facility management.
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Facility has one 55 gallon drum of waste gasoline that was missing an accumulation start date. . All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTED ONSITE: Facility entered the accumulation start date for the hazardous waste gas drum mentioned above.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Deficiencies noted in the facility's implementation of the Hazardous Materials Business Plan (HMBP) by means of proper labeling of containers: 1. "Diesel" aboveground storage tank not labeled as to the hazard. Include label for diesel "Fill Port". 2. Three 55 gallon containers were not labeled "empty"; one metal, and two poly containers missing "date emptied". CORRECTIVE ACTION: Properly label the above containers, and provide evidence of correction to Alameda County Dept. of Environmental Health (ACDEH) such as photo.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The Emergency Response Plan has not been adequately implemented as demonstrated by

LOWE'S #2273 (Continued) **S121774206**

	the storage of their Propane cylinders in cages that are not locked. One of the cages appears to be damaged and cannot be close or locked even if it was attempted. CORRECTIVE ACTION: Submit photos/documentation to the CUPA demonstrating that the Propane cylinder cages are locked unless currently adding or removing cylinders.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The annotated site map submitted to the CUPA does not include loading areas, storm & sewer drains, access & exit points, adjacent streets, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS).
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Facility conducts and documents various safety and haz mat training for all applicable employees, however does not document the informal training of the Hazardous Materials Business Plan's (HMBP) emergency response/contingency plan. CORRECTIVE ACTION: Conduct HMBP training of the facility's emergency response/contingency plan including updated emergency assembly area. Submit documentation to the CUPA demonstrating that employees have received training on the Emergency Response Plan. Ensure to document all HMBP training annually.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 Multiple - California Health and Safety Code, Chapter 6.67, Section(s) Multiple
Violation Description:	APSA Program - Administration/Documentation - General

LOWE'S #2273 (Continued) **S121774206**

Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: SPCC does not contain a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage). Plan says in Appendix A that "Site Plan showing locations of Diesel AST, Electric Transformer and predicted flow diretions." No site plan attached to the SPCC Plan. CORRECTIVE ACTION: Amend the SPCC to include a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage).
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to have an adequate facility diagram, or no facility diagram included within the SPCC plan.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: Failure to have an adequate facility diagram, or no facility diagram included within the SPCC plan. CORRECTIVE ACTION: Include an adequate facility diagram in the SPCC
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 06/18/2018. OBSERVATION: The following deficiencies noted in the annotated site map submitted to the CUPA: 1. Does not include emergency equipment (two eyewash stations, spill control materials location). 2. Changes in storage for forklift propane (and extra retail sales Blue Rhino in bull pen), and retail sale location in front of store. 3. Emergency assembly area has changed. (Ensure consistent with part E. of the emergency response/contingency plan) 4. Changes in storage of fertilizer location, no storage by door to garden center, and no roof coating/masonry bagged goods in location that is now the appliances section. 5. Add Dublin Blvd. orientation. 6. Hazardous waste accumulation area has moved to outdoor bull pen area. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS) website at http://cers.calepa.ca.gov/ within 30 days..
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

LOWE'S #2273 (Continued) **S121774206**

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Copies of hazardous waste disposal records for 2012 to 2015 are missing the signed copy of manifests from the designated facility. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility and all receipts used in a consolidated manifesting procedure on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of all manifests and receipts for the last three years, maintain them on site, and submit copies to the CUPA by 4/9/2015.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: In the facility's hazardous waste storage area, a 15 gallon metal container fitted with closed lid funnel is storing waste fuel, and is not labeled with hazardous waste label. All containers storing a hazardous waste shall be labeled as "hazardous waste" shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: Immediately label the containers noted above and ensure that all containers are marked with all the required information. Provide Alameda County Dept. of Environmental Health (ACDEH) evidence of correction such as photo.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-10-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Onsite to conduct a Hazardous Waste Generator Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has 9 managers and employees who handle the hazardous waste. ACDEH recommended to facility to have their Empty drum storage area labeled as "Empty Storage Drums".
Eval Division:	Alameda County Environmental Health
Eval Program:	HW

LOWE'S #2273 (Continued) **S121774206**

Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct a Hazardous Materials Business Plan inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility owns their own Diesel powered backup generator. Most recent CERS submittal date was 2/26/2015. CERTIFICATION OF RETURN TO COMPLIANCE I certify that the violation(s) noted the Inspection Forms have been corrected. I have personally examined any documentation attached to the certification to establish that the violations have been corrected. PRINT:_____
SIGN:_____
TITLE:_____
DATE:_____
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. HMBP is readily available during inspection electronically on the Lowe s Net , and by hard copy. Ensure current hard copy of HMBP is available. In review of the facility s business plan there are no changes in business activities as reported in the California Environmental Reporting System (CERS) and is consistent with observations during inspection. Facility maintains a diesel fueled backup emergency [Truncated]
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. The facility s EPA ID# CAL000328525 is found to

LOWE'S #2273 (Continued) **S121774206**

	be inactive in the California Department of Toxic Substance Control s Hazardous Waste Tracking System as of 1/25/2018, although the facility s new Federal EPA ID# CAR000279620 is active as updated 2/1/2018 and is reflected in the California Environmental Reporting System (CERS). Update hazardous waste storage labels accordingly and ensure the inactive EPA ID# [Truncated]
Eval Division:	Alameda County Environmental Health
Eval Program:	HW
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-10-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Onsite to conduct an Aboveground Petroleum Storage Act Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has a SPCC Plan that was created May 2008, with the most recent signature by a manager on 11/4/2014. Review dates were not signed and Certification by Senior HAZMAT Integrity Specialist, Rob Gass, has not been signed either.
Eval Division:	Alameda County Environmental Health
Eval Program:	APSA
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-24-2018
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. Facility maintains a diesel fueled backup emergency generator with 1500 gallon belly tank outside on the west side of building. The emergency generator services back up power. Secondary containment is equipped with sensor for leak detection and is monitored by Vector system. System runs monthly self-test for operational running and fault. At this time, Bay City provides service and maintenance. The outside [Truncated]
Eval Division:	Alameda County Environmental Health
Eval Program:	APSA
Eval Source:	CERS

Coordinates:

Site ID:	396790
Facility Name:	LOWE'S #2273
Env Int Type Code:	APSA
Program ID:	10189239
Coord Name:	Not reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	37.705490
Longitude:	-121.868810

LOWE'S #2273 (Continued) **S121774206**

Affiliation:

Affiliation Type Desc:	Document Preparer
Entity Name:	APTIM
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Identification Signer
Entity Name:	Laurie Litwin
Entity Title:	Regional Environmental Compliance Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	CUPA District
Entity Name:	Alameda County Env Health
Entity Title:	Not reported
Affiliation Address:	1131 Harbor Parkway, Suite 240
Affiliation City:	Alameda
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	94502-6577
Affiliation Phone:	(510) 567-6700

Affiliation Type Desc:	Operator
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(925) 241-3082

Affiliation Type Desc:	Parent Corporation
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Environmental Contact
Entity Name:	Laurie Litwin
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA

LOWE'S #2273 (Continued) **S121774206**

Affiliation Country: Not reported
Affiliation Zip: 92614
Affiliation Phone: (949) 891-9000

Affiliation Type Desc: Legal Owner
Entity Name: LOWE'S Home Centers, LLC
Entity Title: Not reported
Affiliation Address: 1605 Curtis Bridge Rd, Mailcode A2ELP
Affiliation City: Wilkesboro
Affiliation State: NC
Affiliation Country: United States
Affiliation Zip: 28697
Affiliation Phone: (704) 758-6033

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 2603 Main St., Suite 700
Affiliation City: Irvine
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92614
Affiliation Phone: Not reported

CERS TANKS:
Site ID: 396790
CERS ID: 10189239
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 03-10-2015
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description: Failure to perform a five-year review of the SPCC plan.
Violation Notes: Returned to compliance on 03/26/2015. OBSERVATION:5 year was due 2013, but most recent signed date on SPCC Plan was on 11/4/2014 approving that plan has been implemented. Does not prove that a 5-year review was completed. Failure to perform and/or document the five-year review of the SPCC plan. CORRECTIVE ACTION: Complete and document the 5 year review and submit verification of proper completion.
Violation Division: Alameda County Environmental Health
Violation Program: APSA
Violation Source: CERS

Site ID: 396790
Site Name: LOWE'S #2273
Violation Date: 04-24-2018
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.

LOWE'S #2273 (Continued) **S121774206**

Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Designated facility to generator copies were not found on site for uniform hazardous waste manifest #001433103PSC on 12/7/2016, and for #001775377PSC on 2/14/2018. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of the uniform manifests listed above, maintain them on site, and submit copies to Alameda County Dept. of Environmental Health (ACDEH).
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to designate a person accountable for discharge prevention and who reports to facility management.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: Failure to designate a person accountable for discharge prevention and who reports to facility management. The current person is not specifically designated and the phone number is for the general store. CORRECTIVE ACTION: Designate a person accountable for discharge prevention and who reports to facility management.
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Facility has one 55 gallon drum of waste gasoline that was missing an accumulation start date. . All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTED ONSITE: Facility entered the accumulation start date for the hazardous waste gas drum mentioned above.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when

LOWE'S #2273 (Continued) **S121774206**

	storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Deficiencies noted in the facility's implementation of the Hazardous Materials Business Plan (HMBP) by means of proper labeling of containers: 1. "Diesel" aboveground storage tank not labeled as to the hazard. Include label for diesel "Fill Port". 2. Three 55 gallon containers were not labeled "empty"; one metal, and two poly containers missing "date emptied". CORRECTIVE ACTION: Properly label the above containers, and provide evidence of correction to Alameda County Dept. of Environmental Health (ACDEH) such as photo.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The Emergency Response Plan has not been adequately implemented as demonstrated by the storage of their Propane cylinders in cages that are not locked. One of the cages appears to be damaged and cannot be close or locked even if it was attempted. CORRECTIVE ACTION: Submit photos/documentation to the CUPA demonstrating that the Propane cylinder cages are locked unless currently adding or removing cylinders.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: The annotated site map submitted to the CUPA does not include loading areas, storm & sewer drains, access & exit points, adjacent streets, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS).
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018

LOWE'S #2273 (Continued) **S121774206**

Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: Facility conducts and documents various safety and haz mat training for all applicable employees, however does not document the informal training of the Hazardous Materials Business Plan's (HMBP) emergency response/contingency plan. CORRECTIVE ACTION: Conduct HMBP training of the facility's emergency response/contingency plan including updated emergency assembly area. Submit documentation to the CUPA demonstrating that employees have received training on the Emergency Response Plan. Ensure to document all HMBP training annually.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 Multiple - California Health and Safety Code, Chapter 6.67, Section(s) Multiple
Violation Description:	APSA Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: SPCC does not contain a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage). Plan says in Appendix A that "Site Plan showing locations of Diesel AST, Electric Transformer and predicted flow diretions." No site plan attached to the SPCC Plan. CORRECTIVE ACTION: Amend the SPCC to include a prediction of direction, rate of flow, and total quantity of oil potentially discharged from the facility as a result of each type of major equipment failure where experience indicates a reasonable potential (i.e.: loading or unloading equipment, tank overflow, rupture, or leakage).
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to have an adequate facility diagram, or no facility diagram included within the SPCC plan.
Violation Notes:	Returned to compliance on 03/26/2015. OBSERVATION: Failure to have an adequate facility diagram, or no facility diagram included within the SPCC plan. CORRECTIVE ACTION: Include an adequate facility diagram in the SPCC
Violation Division:	Alameda County Environmental Health
Violation Program:	APSA
Violation Source:	CERS

LOWE'S #2273 (Continued) **S121774206**

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 06/18/2018. OBSERVATION: The following deficiencies noted in the annotated site map submitted to the CUPA: 1. Does not include emergency equipment (two eyewash stations, spill control materials location). 2. Changes in storage for forklift propane (and extra retail sales Blue Rhino in bull pen), and retail sale location in front of store. 3. Emergency assembly area has changed. (Ensure consistent with part E. of the emergency response/contingency plan) 4. Changes in storage of fertilizer location, no storage by door to garden center, and no roof coating/masonry bagged goods in location that is now the appliances section. 5. Add Dublin Blvd. orientation. 6. Hazardous waste accumulation area has moved to outdoor bull pen area. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System (CERS) website at http://cers.calepa.ca.gov/ within 30 days..
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	03-10-2015
Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes:	Returned to compliance on 03/10/2015. OBSERVATION: Copies of hazardous waste disposal records for 2012 to 2015 are missing the signed copy of manifests from the designated facility. Hazardous waste generators shall retain copies of all manifests signed off by the disposal facility and all receipts used in a consolidated manifesting procedure on site for three years and have them readily available for review. CORRECTIVE ACTION: Immediately locate a copy of all manifests and receipts for the last three years, maintain them on site, and submit copies to the CUPA by 4/9/2015.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS

Site ID:	396790
Site Name:	LOWE'S #2273
Violation Date:	04-24-2018
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 05/23/2018. OBSERVATION: In the facility's

LOWE'S #2273 (Continued) **S121774206**

hazardous waste storage area, a 15 gallon metal container fitted with closed lid funnel is storing waste fuel, and is not labeled with hazardous waste label. All containers storing a hazardous waste shall be labeled as "hazardous waste" shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: Immediately label the containers noted above and ensure that all containers are marked with all the required information. Provide Alameda County Dept. of Environmental Health (ACDEH) evidence of correction such as photo.

Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct a Hazardous Waste Generator Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has 9 managers and employees who handle the hazardous waste. ACDEH recommended to facility to have their Empty drum storage area labeled as "Empty Storage Drums".
Eval Division: Alameda County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct a Hazardous Materials Business Plan inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility owns their own Diesel powered backup generator. Most recent CERS submittal date was 2/26/2015. CERTIFICATION OF RETURN TO COMPLIANCE I certify that the violation(s) noted the Inspection Forms have been corrected. I have personally examined any documentation attached to the certification to establish that the violations have been corrected. PRINT:_____
SIGN:_____
TITLE:_____
DATE:_____
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager,

LOWE'S #2273 (Continued) **S121774206**

Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. HMBP is readily available during inspection electronically on the Lowe s Net , and by hard copy. Ensure current hard copy of HMBP is available. In review of the facility s business plan there are no changes in business activities as reported in the California Environmental Reporting System (CERS) and is consistent with observations during inspection. Facility maintains a diesel fueled backup emergency [Truncated]

Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP), and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. The facility s EPA ID# CAL000328525 is found to be inactive in the California Department of Toxic Substance Control s Hazardous Waste Tracking System as of 1/25/2018, although the facility s new Federal EPA ID# CAR000279620 is active as updated 2/1/2018 and is reflected in the California Environmental Reporting System (CERS). Update hazardous waste storage labels accordingly and ensure the inactive EPA ID# [Truncated]

Eval Division: Alameda County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Onsite to conduct an Aboveground Petroleum Storage Act Inspection with RTM Clerk, Erica Bayardo and Aaron Tirapelle of Loss Prevention. Facility has a SPCC Plan that was created May 2008, with the most recent signature by a manager on 11/4/2014. Review dates were not signed and Certification by Senior HAZMAT Integrity Specialist, Rob Gass, has not been signed either.

Eval Division: Alameda County Environmental Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-24-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Alameda County Dept. of Environmental Health (ACDEH) inspector arrived on-site at Lowe s #2273 3750 Dublin Blvd. Dublin, CA 94568 to conduct an unannounced inspection of Hazardous Materials Business Plan (HMBP),

LOWE'S #2273 (Continued) **S121774206**

and Hazardous Waste Generator (HWG), and the Aboveground Petroleum Storage Act (APSA) (Spill Prevention Control and Countermeasure (SPCC) plan) programs. ACDEH met with Assistant Store Support Manager, Theresa Carey who provided consent and assisted ACDEH with this inspection. Facility operates as a retail store for home improvement and garden supplies. Facility maintains a diesel fueled backup emergency generator with 1500 gallon belly tank outside on the west side of building. The emergency generator services back up power. Secondary containment is equipped with sensor for leak detection and is monitored by Vector system. System runs monthly self-test for operational running and fault. At this time, Bay City provides service and maintenance. The outside [Truncated]

Eval Division: Alameda County Environmental Health
Eval Program: APSA
Eval Source: CERS

Coordinates:
Site ID: 396790
Facility Name: LOWE'S #2273
Env Int Type Code: APSA
Program ID: 10189239
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 37.705490
Longitude: -121.868810

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: APTIM
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Laurie Litwin
Entity Title: Regional Environmental Compliance Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District
Entity Name: Alameda County Env Health
Entity Title: Not reported
Affiliation Address: 1131 Harbor Parkway, Suite 240
Affiliation City: Alameda
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 94502-6577
Affiliation Phone: (510) 567-6700

LOWE'S #2273 (Continued) **S121774206**

Affiliation Type Desc:	Operator
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(925) 241-3082

Affiliation Type Desc:	Parent Corporation
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Environmental Contact
Entity Name:	Laurie Litwin
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	(949) 891-9000

Affiliation Type Desc:	Legal Owner
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	1605 Curtis Bridge Rd, Mailcode A2ELP
Affiliation City:	Wilkesboro
Affiliation State:	NC
Affiliation Country:	United States
Affiliation Zip:	28697
Affiliation Phone:	(704) 758-6033

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	Not reported

D13 **LOWE'S OF DUBLIN # 2273** **HAZNET** **S113151192**
SW **3750 DUBLIN BLVD** **N/A**
< 1/8 **DUBLIN, CA 94568**
0.054 mi.
283 ft. **Site 5 of 5 in cluster D**

Relative: HAZNET:
Lower

Actual: Facility Name: LOWE'S OF DUBLIN # 2273
352 ft. envid: S113151192
Year: 2017
GEPAID: CAL000328525
Contact: BOBBI TENBORG
Telephone: 7047586033
Mailing Name: Not reported
Mailing Address: 1000 LOWE'S BLVD
Mailing City,St,Zip: MOORESVILLE, NC 281170000
Gen County: Alameda
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.297
Cat Decode: Off-specification, aged or surplus organics
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Alameda

envid: S113151192
Year: 2017
GEPAID: CAL000328525
Contact: BOBBI TENBORG
Telephone: 7047586033
Mailing Name: Not reported
Mailing Address: 1000 LOWE'S BLVD
Mailing City,St,Zip: MOORESVILLE, NC 281170000
Gen County: Alameda
TSD EPA ID: NVD980895338
TSD County: 99
Waste Category: Alkaline solution without metals pH >= 12.5
Disposal Method: Neutralization Only
Tons: 0.015
Cat Decode: Not reported
Method Decode: Neutralization Only
Facility County: Alameda

envid: S113151192
Year: 2017
GEPAID: CAL000328525
Contact: BOBBI TENBORG
Telephone: 7047586033
Mailing Name: Not reported
Mailing Address: 1000 LOWE'S BLVD
Mailing City,St,Zip: MOORESVILLE, NC 281170000
Gen County: Alameda
TSD EPA ID: NVD980895338
TSD County: 99
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery

LOWE'S OF DUBLIN # 2273 (Continued) **S113151192**

	(H010-H129) Or (H131-H135)
Tons:	0.059
Cat Decode:	Not reported
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Alameda
envid:	S113151192
Year:	2017
GEPAID:	CAL000328525
Contact:	BOBBI TENBORG
Telephone:	7047586033
Mailing Name:	Not reported
Mailing Address:	1000 LOWE'S BLVD
Mailing City,St,Zip:	MOORESVILLE, NC 281170000
Gen County:	Alameda
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.4035
Cat Decode:	Off-specification, aged or surplus organics
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Alameda
envid:	S113151192
Year:	2017
GEPAID:	CAL000328525
Contact:	BOBBI TENBORG
Telephone:	7047586033
Mailing Name:	Not reported
Mailing Address:	1000 LOWE'S BLVD
Mailing City,St,Zip:	MOORESVILLE, NC 281170000
Gen County:	Alameda
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Liquids with pH <= 2
Disposal Method:	Evaporation
Tons:	0.0095
Cat Decode:	Liquids with pH <= 2
Method Decode:	Evaporation
Facility County:	Alameda

Click this hyperlink while viewing on your computer to access
41 additional CA_HAZNET: record(s) in the EDR Site Report.

14
SSE
< 1/8
0.058 mi.
306 ft.

GRAFTON PLAZA RESIDENTIAL — **CIWQS** — **S120029488**
SE CORNER GRAFTON STREET AT DUBLIN BOULEVARD — **N/A**
DUBLIN, CA 94568

Relative:
Lower

Actual:
351 ft.

CIWQS:

Agency:	Taylor Morrison of CA LLC
Agency Address:	81 Blue Ravine Road Ste 220, Folsom, CA 95630
Place/Project Type:	Construction - Residential
SIC/NAICS:	Not reported
Region:	2
Program:	CONSTW
Regulatory Measure Status:	Active
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	2 01C378854
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	02/02/2017
Termination Date:	Not reported
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	37.704286
Longitude:	-121.863523

B15
West
< 1/8
0.095 mi.
503 ft.

4162 CLARENBRIDGE CIRCLE — **CHMIRS** — **S110980995**
DUBLIN, CA — **N/A**

Site 4 of 4 in cluster B

Relative:
Lower

Actual:
354 ft.

CHMIRS:

OES Incident Number:	10-4856
OES notification:	08/13/2010
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported

(Continued) **S110980995**

Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Other
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Unknown
Other:	Not reported
Date/Time:	1653
Year:	2010
Agency:	Pacific Gas and Electric
Incident Date:	8/13/2010
Admin Agency:	Alameda County Environmental Health
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral Oil
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	A transformer experienced equipment failure resulting in a release of mineral oil. The oil is confined to a vault.

16
ENE
< 1/8
0.109 mi.
573 ft.

CHENCHEN GU
3309 MONAGHAN ST
DUBLIN, CA 94568

PEST LIC **S120766474**
N/A

Relative:
Higher

Actual:
362 ft.

PEST LIC:

Facility Type:	QAC
Categories:	B
License No:	141978
Issued or Renewed Date:	01/04/2017
Expiration Date:	12/31/2018

17
NE
1/4-1/2
0.331 mi.
1746 ft.

PROPOSED KOLB ELEMENTARY SCHOOL
PALERMO WAY
DUBLIN, CA 94568

ENVIROSTOR SCH

S108649782
N/A

Relative:
Higher

Actual:
412 ft.

ENVIROSTOR:

Facility ID:	60000686
Status:	No Further Action
Status Date:	09/28/2007
Site Code:	204207
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Harold (Bud) Duke
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	16
Senate:	07
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	37.7115
Longitude:	-121.8581
APN:	8
Past Use:	NONE
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	NMA
Alias Name:	Lockhart Street and Palermo Way, Dublin, CA, 94568
Alias Type:	Alternate Name
Alias Name:	8
Alias Type:	APN
Alias Name:	204207
Alias Type:	Project Code (Site Code)
Alias Name:	60000686
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	11/05/2007
Comments:	A Cost Recovery Memorandum was sent to Accounting and the project is considered complete.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	09/28/2007
Comments:	Following a review of the Phase 1 and a site visit, DTSC determined no action is necessary for the site.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported

PROPOSED KOLB ELEMENTARY SCHOOL (Continued) **S108649782**

Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	60000686
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	10
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Harold (Bud) Duke
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	204207
Assembly:	16
Senate:	07
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	09/28/2007
Restricted Use:	NO
Funding:	School District
Latitude:	37.7115
Longitude:	-121.8581
APN:	8
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	NMA
Alias Name:	Lockhart Street and Palermo Way, Dublin, CA, 94568
Alias Type:	Alternate Name
Alias Name:	8
Alias Type:	APN
Alias Name:	204207
Alias Type:	Project Code (Site Code)
Alias Name:	60000686
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	11/05/2007
Comments:	A Cost Recovery Memorandum was sent to Accounting and the project is considered complete.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	09/28/2007

PROPOSED KOLB ELEMENTARY SCHOOL (Continued) **S108649782**

Comments: Following a review of the Phase 1 and a site visit, DTSC determined no action is necessary for the site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

E18
WSW
1/4-1/2
0.332 mi.
1754 ft.

PETCO #5318 **CERS HAZ WASTE** **S121744890**
4460 TASSAJARA RD STE A **CERS** **N/A**
DUBLIN, CA 94568

Site 1 of 2 in cluster E

Relative:
Lower

Actual:
352 ft.

CERS HAZ WASTE:
Site ID: 142712
CERS ID: 10616074
CERS Description: Hazardous Waste Generator

Affiliation:
Affiliation Type Desc: Identification Signer
Entity Name: Amy Ebersole-Martinez
Entity Title: Mgr, Envrnmtl, Safety & Health
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District
Entity Name: Alameda County Env Health
Entity Title: Not reported
Affiliation Address: 1131 Harbor Parkway, Suite 240
Affiliation City: Alameda
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 94502-6577
Affiliation Phone: (510) 567-6700

Affiliation Type Desc: Environmental Contact
Entity Name: Daniel Landeros
Entity Title: Not reported
Affiliation Address: 654 Richland Hills Drive
Affiliation City: San Antonio
Affiliation State: TX
Affiliation Country: Not reported
Affiliation Zip: 78245
Affiliation Phone: (858) 716-6959

Affiliation Type Desc: Legal Owner
Entity Name: Petco Animal Supplies, Inc.
Entity Title: Not reported

PETCO #5318 (Continued) **S121744890**

Affiliation Address:	654 Richland Hills Drive
Affiliation City:	San Antonio
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	78245
Affiliation Phone:	(210) 201-9217
Affiliation Type Desc:	Operator
Entity Name:	Petco #5318
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(210) 201-9217
Affiliation Type Desc:	Parent Corporation
Entity Name:	Petco Animal Supplies, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Document Preparer
Entity Name:	Daniel Landeros
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	654 Richland Hills Drive
Affiliation City:	San Antonio
Affiliation State:	TX
Affiliation Country:	Not reported
Affiliation Zip:	78245
Affiliation Phone:	Not reported

E19
WSW
1/4-1/2
0.337 mi.
1781 ft.

SAFEWAY 1932
4440 TASSAJARA RD
DUBLIN, CA 94568

Site 2 of 2 in cluster E

CERS HAZ WASTE
CERS

S121789599
N/A

Relative:
Lower

Actual:
352 ft.

CERS HAZ WASTE:
Site ID: 63983
CERS ID: 10156511
CERS Description: Hazardous Waste Generator

Violations:
Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: MULTIPLE STRONG PAK HAZARDOUS WASTE BINS CONTAINING HAZARDOUS WASTE IS MISSING HAZARDOUS WASTE LABELS. All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: Immediately label these containers and ensure that all containers are marked with all the required information.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: HSC 6.95 25505.1 - California Health and Safety Code, Chapter 6.95, Section(s) 25505.1
Violation Description: Failure to provide a copy of the business plan to the owner or the owner’s agent within five working days after receiving a request for a copy from the owner or the owner’s agent.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: Store Manager is unsure if the property owner (Colliers International) has been notified in writing that a HMBP is required for the business and complies with all of its provisions. CORRECTIVE ACTION: Submit documentation to the CUPA demonstrating that you have complied with the requirement. ACDEH provided contact example letter.
Violation Division: Alameda County Environmental Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 22 CCR 12 66262.23(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.23(a)
Violation Description: Failure to properly complete the Hazardous Waste manifest.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: The facility is missing 2014 uniform hazardous waste manifests for 007302631FLE, and 007302632FLE. TSDF copies of manifests 006215811FLE, 006230430FLE, and

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006444827FLE. LDR copies missing for 006215811FLE. 2013 LDR for manifest 005801657FLE, and TSDF copy for manifest 006324294FLE. CORRECTIVE ACTION: Facility is to locate missing hazardous waste manifests/documents listed above, and provide copy of these to ACDEH for review.

Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: The facility has not submitted Site Map with all required contents electronically to the CUPA. CORRECTIVE ACTION: Complete and submit the Site Map with all required contents electronically in the California Environmental Reporting System (CERS). (Evacuation staging areas, Loading area, Adjacent Streets, Storm Drains, Sewer Drains, access points, emergency shutoffs, hazardous waste storage area, emergency response equipment (update fire extinguishers, spill kits, and location of helium and CO2 storage).
Violation Division: Alameda County Environmental Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description: Failure to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: Facility failed to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers. CORRECTIVE ACTION: Owner/Operator shall immediately post, next to the telephone, emergency information that contains the required information in accordance with Title 22. Provide compliance information to the CUPA within 30 days. ACDEH provided example form to Facility representative.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training

SAFEWAY 1932 (Continued) **S121789599**

records for a minimum of three years.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: ANNUAL training documentation for all applicable employees was not available. CORRECTIVE ACTION: Conduct and submit documentation to the CUPA demonstrating that employees have received training on safe handling of hazardous materials and the Emergency Response Plan (refer to employee training requirements in the facility business plan / Emergency Response Plan submitted in CERS).
Violation Division: Alameda County Environmental Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 40 CFR 1 265.172 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.172
Violation Description: Failure to accumulate or store hazardous waste in a lined/compatible container.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: TWO CARDBOARD BOXES CONTAINING MULTIPLE RETAIL SIZED DAMAGED CONSUMER GOODS / MIXED HAZARDOUS WASTE CONTAINERS IN UNLINED INCOMPATIBLE CONTAINERS. CORRECTIVE ACTION: FACILITY IS TO IMMEDIATELY PROCESS AND TRANSFER THESE CONTAINERS OF HAZARDOUS WASTE INTO LINED COMPATIBLE CONTAINERS. DAMAGED CONSUMER GOODS FOR HAZARDOUS WASTE ARE TO BE PROCESSED DAILY. PROVIDE PHOTO EVIDENCE THAT THE HAZARDOUS WASTE HAS BEEN PROCESSED AND PLACED IN PROPER CONTAINERS FOR HAZARDOUS WASTE. SINCE THERE ARE NOT SUFFICIENT STRONG PAK CONTAINERS TO PROCESS THE EXCESS OF RETAIL HAZARDOUS WASTE, FACILITY IS TO IMMEDIATELY CALL HAZARDOUS WASTE VENDOR AND SCHEDULE A HAZARDOUS WASTE PICK UP THIS WEEK. PROVIDE ACDEH EVIDENCE OF HAZARDOUS WASTE DISPOSAL.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173
Violation Description: Failure to properly close hazardous waste containers when not in active use.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: ONE STRONG PACK CONTAINER CONTAINING RETAIL HAZARDOUS WASTE IS NOT LABELED AND IS FOUND OPEN DURING INSPECTION. CORRECTIVE ACTION: IMMEDIATELY CLOSE AND LABEL THIS CONTAINER. CONTAINERS OF HAZARDOUS WASTE ARE TO BE MAINTAINED CLOSED UNLESS ADDING OR REMOVING WASTE. PROVIDE PHOTO EVIDENCE THAT THIS STRONG PAK HAZARDOUS WASTE CONTAINER IS PROPERLY CLOSED.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 03-25-2014
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95,

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	Section(s) 25505(a)
Violation Description:	Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.
Violation Notes:	Returned to compliance on 04/04/2014.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: The facility is missing 2014 TSDF copies of hazardous waste manifests for 006215811FLE, 006230430FLE, and 006444827FLE. LDR copies missing for 006215811FLE. 2013 LDR missing for manifest 005801657FLE, and TSDF copy for manifest 006324294FLE. CORRECTIVE ACTION: Facility is to locate missing TSDF and LDR copies of hazardous waste manifests/documents listed above, and provide copy of these to ACDEH for review.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174
Violation Description:	Failure to inspect hazardous waste storage areas at least weekly.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: FACILITY REPRESENTATIVE STATES SHE PROCESSES RETAIL HAZARDOUS REGULARLY. BASED ON ACDEH'S OBSERVATION OF OPEN HAZARDOUS WASTE CONTAINERS, MULTIPLE HAZARDOUS WASTE CONTAINERS NOT PROPERLY LABELED AND MISSING HAZARDOUS WASTE LABELS THAT WEEKLY INSPECTIONS FOR HAZARDOUS WASTE MANAGEMENT ARE NOT BEING CONDUCTED. CORRECTIVE ACTION: FACILITY IS TO CONDUCT WEEKLY INSPECTIONS OF THE HAZARDOUS WASTE AREA. ACDEH PROVIDED EXAMPLE HAZARDOUS WASTE AREA WEEKLY INSPECTION FORM TO FACILITY REPRESENTATIVE. FACILITY IS TO ENSURE WEEKLY INSPECTIONS OF HAZARDOUS WASTE AREA(S).
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	HSC 6.5 25186.2 - California Health and Safety Code, Chapter 6.5, Section(s) 25186.2
Violation Description:	Failure to properly handle, store, or treat hazardous waste or provided false information submitted on the permit application and other documents.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: TWO CARDBOARD BOXES

SAFEWAY 1932 (Continued) **S121789599**

CONTAINING MULTIPLE RETAIL SIZED OF DAMAGED CONSUMER GOODS / INCOMPATIBLE HAZARDOUS WASTE IN UNLINED INCOMPATIBLE CONTAINERS. VARIOUS RETAIL HAZARDOUS WASTE CONTAINERS PLACED ON TOP OF FILLED STRONG PAK HAZARDOUS WASTE CONTAINERS REQUIRES PROPER PROCESSING AND CONTAINMENT. CORRECTIVE ACTION: FACILITY IS TO IMMEDIATELY PROCESS AND TRANSFER THESE CONTAINERS OF RETAIL HAZARDOUS WASTE DAILY INTO LINED COMPATIBLE CONTAINERS. PROVIDE PHOTO EVIDENCE THAT THE EXCESS HAZARDOUS WASTE HAS BEEN PROCESSED AND PLACED IN APPROPRIATE HAZARDOUS WASTE CONTAINERS. SINCE THERE ARE NOT SUFFICIENT AVAILABLE STRONG PAK CONTAINERS TO PROCESS THE EXCESS OF RETAIL HAZARDOUS WASTE, FACILITY IS TO IMMEDIATELY CALL HAZARDOUS WASTE VENDOR AND SCHEDULE A HAZARDOUS WASTE PICK. PROVIDE DOCUMENTATION EVIDENCE OF HAZARDOUS WASTE PICK UP. IT IS HIGHLY RECOMMENDED THAT FACILITY INCREASE FREQUENCY OF HAZARDOUS WASTE PICK-UPS AND/OR HAVE INFRASTRUCTURE IN PLACE FOR STORE [Truncated]

Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 03-25-2014
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: ENTER HMBP NOV LETTER
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-27-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: 7-27-2015. ONSITE TO PERFORM AN UNANNOUNCED INSPECTION FOR THE HAZARDOUS WASTE GENERATOR PROGRAM AT SAFEWAY STORE #1932, 4440 TASSAJARA RD, DUBLIN, CA 94568 AND MEET WITH STORE MANAGER CLAUDETTE WRIGHT, AND MICHELLE WILLIAMS INVENTORY CONTROL CLERK WHO GRANTED PERMISSION FOR THIS INSPECTION. SAFEWAY STORE #1932 OPERATES AS A RETAIL GROCERY STORE. HAZARDOUS WASTES ARE FROM DAMAGED CONSUMER PRODUCTS. HAZARDOUS WASTE GENERATED INCLUDES ACIDS, BASES, UNIVERSAL WASTE AND CONTAMINATED ABSORBENTS. THE FACILITY'S HAZARDOUS WASTE VENDOR IS STERICYCLE AND UTILIZES THE STRONG PAK HAZARDOUS WASTE SYSTEM FOR RETAIL HAZARDOUS WASTE. OF 20 TOTES CONTAINING HAZARDOUS WASTE, ONE TOTE DID NOT HAVE A LID, AND 10 TOTES WERE NOT LABELED WITH A HAZARDOUS WASTE LABEL. HOUSEKEEPING ISSUES NOTED IN THE HAZARDOUS WASTE AND PROCESSING AREA REQUIRES IMMEDIATE ATTENTION. MY OBSERVATION IS THIS FACILITY IS GENERATING MORE HAZARDOUS WASTE THAN THE FACILITY HAS CAPACITY/ STORAGE. IT IS HIGHLY [Truncated]
Eval Division: Alameda County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-27-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: 7-27-2015. ONSITE TO PERFORM AN UNANNOUNCED INSPECTION FOR THE

SAFEWAY 1932 (Continued) **S121789599**

HAZARDOUS MATERIALS BUSINESS PLAN (HMBP) AT SAFEWAY STORE #1932, 4440 TASSAJARA RD, DUBLIN, CA 94568 AND MEET WITH STORE MANAGER CLAUDETTE WRIGHT, AND MICHELLE WILLIAMS INVENTORY CONTROL CLERK WHO GRANTED PERMISSION FOR THIS INSPECTION. SAFEWAY STORE #1932 OPERATES AS A RETAIL GROCERY STORE. OBSERVATION OF HAZARDOUS MATERIALS STORED ONSITE OF HELIUM, CO2 AND REFRIGERANTS CONSISTENT WITH HMBP REPORTING. ALL CYLINDERS PROPERLY SECURED AT THE TIME OF INSPECTION. ELECTRONIC AND HARD COPY HMBP AVAILABLE ONSITE DURING INSPECTION. FACILITY IS TO ENSURE ACCESSIBILITY OF MOST CURRENT HMBP (1-27-2015 MOST RECENT SUBMISSION AT TIME OF INSPECTION). EXAMPLE SITE MAP LEFT WITH FACILITY. CERTIFICATION OF RETURN TO COMPLIANCE I certify that the minor violation(s) noted on the HMBP inspection page(s) have been corrected. I have personally examined any documentation attached to the certification to establish that the [Truncated]

Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Coordinates:
Site ID: 63983
Facility Name: Safeway 1932
Env Int Type Code: HWG
Program ID: 10156511
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 37.706240
Longitude: -121.872250

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Ron Lee
Entity Title: Not reported
Affiliation Address: 5918 Stoneridge Mall Rd.
Affiliation City: Pleasanton
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 94588
Affiliation Phone: (925) 469-7513

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: PO Box 29096, MS 6516
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85038
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Safeway, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported

SAFEWAY 1932 (Continued) **S121789599**

Affiliation Zip: Not reported
Affiliation Phone: (925) 469-7000

Affiliation Type Desc: CUPA District
Entity Name: Alameda County Env Health
Entity Title: Not reported
Affiliation Address: 1131 Harbor Parkway, Suite 240
Affiliation City: Alameda
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 94502-6577
Affiliation Phone: (510) 567-6700

Affiliation Type Desc: Parent Corporation
Entity Name: Safeway, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer
Entity Name: Ron Lee
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Ron Lee
Entity Title: Environmental Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Safeway, Inc.
Entity Title: Not reported
Affiliation Address: 5918 Stoneridge Mall Rd.
Affiliation City: Pleasanton
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 94588
Affiliation Phone: (925) 469-7000

CERS TANKS:
Site ID: 63983
CERS ID: 10156511

SAFEWAY 1932 (Continued) **S121789599**

CERS Description: Chemical Storage Facilities

Violations:

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: MULTIPLE STRONG PAK HAZARDOUS WASTE BINS CONTAINING HAZARDOUS WASTE IS MISSING HAZARDOUS WASTE LABELS. All hazardous waste containers shall be marked with the following information: 1) the words Hazardous Waste ; 2) name and address of generator; 3) hazardous properties; 4) physical state; 5) composition (contents); 6) accumulation start date. CORRECTIVE ACTION: Immediately label these containers and ensure that all containers are marked with all the required information.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: HSC 6.95 25505.1 - California Health and Safety Code, Chapter 6.95, Section(s) 25505.1
Violation Description: Failure to provide a copy of the business plan to the owner or the owner’s agent within five working days after receiving a request for a copy from the owner or the owner’s agent.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: Store Manager is unsure if the property owner (Colliers International) has been notified in writing that a HMBP is required for the business and complies with all of its provisions. CORRECTIVE ACTION: Submit documentation to the CUPA demonstrating that you have complied with the requirement. ACDEH provided contact example letter.
Violation Division: Alameda County Environmental Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 22 CCR 12 66262.23(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.23(a)
Violation Description: Failure to properly complete the Hazardous Waste manifest.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: The facility is missing 2014 uniform hazardous waste manifests for 007302631FLE, and 007302632FLE. TSDF copies of manifests 006215811FLE, 006230430FLE, and 006444827FLE. LDR copies missing for 006215811FLE. 2013 LDR for manifest 005801657FLE, and TSDF copy for manifest 006324294FLE. CORRECTIVE ACTION: Facility is to locate missing hazardous waste manifests/documents listed above, and provide copy of these to ACDEH for review.
Violation Division: Alameda County Environmental Health
Violation Program: HW

SAFEWAY 1932 (Continued) **S121789599**

Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: The facility has not submitted Site Map with all required contents electronically to the CUPA. CORRECTIVE ACTION: Complete and submit the Site Map with all required contents electronically in the California Environmental Reporting System (CERS). (Evacuation staging areas, Loading area, Adjacent Streets, Storm Drains, Sewer Drains, access points, emergency shutoffs, hazardous waste storage area, emergency response equipment (update fire extinguishers, spill kits, and location of helium and CO2 storage).
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description:	Failure to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: Facility failed to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers. CORRECTIVE ACTION: Owner/Operator shall immediately post, next to the telephone, emergency information that contains the required information in accordance with Title 22. Provide compliance information to the CUPA within 30 days. ACDEH provided example form to Facility representative.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: ANNUAL training documentation for all applicable employees was not available. CORRECTIVE ACTION: Conduct and submit documentation to the CUPA demonstrating that employees have received training on safe handling of hazardous materials and the Emergency Response Plan (refer to employee training requirements in the facility business plan /

SAFEWAY 1932 (Continued) **S121789599**

	Emergency Response Plan submitted in CERS).
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	40 CFR 1 265.172 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.172
Violation Description:	Failure to accumulate or store hazardous waste in a lined/compatible container.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: TWO CARDBOARD BOXES CONTAINING MULTIPLE RETAIL SIZED DAMAGED CONSUMER GOODS / MIXED HAZARDOUS WASTE CONTAINERS IN UNLINED INCOMPATIBLE CONTAINERS. CORRECTIVE ACTION: FACILITY IS TO IMMEDIATELY PROCESS AND TRANSFER THESE CONTAINERS OF HAZARDOUS WASTE INTO LINED COMPATIBLE CONTAINERS. DAMAGED CONSUMER GOODS FOR HAZARDOUS WASTE ARE TO BE PROCESSED DAILY. PROVIDE PHOTO EVIDENCE THAT THE HAZARDOUS WASTE HAS BEEN PROCESSED AND PLACED IN PROPER CONTAINERS FOR HAZARDOUS WASTE. SINCE THERE ARE NOT SUFFICIENT STRONG PAK CONTAINERS TO PROCESS THE EXCESS OF RETAIL HAZARDOUS WASTE, FACILITY IS TO IMMEDIATELY CALL HAZARDOUS WASTE VENDOR AND SCHEDULE A HAZARDOUS WASTE PICK UP THIS WEEK. PROVIDE ACDEH EVIDENCE OF HAZARDOUS WASTE DISPOSAL.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	07-27-2015
Citation:	40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173
Violation Description:	Failure to properly close hazardous waste containers when not in active use.
Violation Notes:	Returned to compliance on 08/27/2015. OBSERVATION: ONE STRONG PACK CONTAINER CONTAINING RETAIL HAZARDOUS WASTE IS NOT LABELED AND IS FOUND OPEN DURING INSPECTION. CORRECTIVE ACTION: IMMEDIATELY CLOSE AND LABEL THIS CONTAINER. CONTAINERS OF HAZARDOUS WASTE ARE TO BE MAINTAINED CLOSED UNLESS ADDING OR REMOVING WASTE. PROVIDE PHOTO EVIDENCE THAT THIS STRONG PAK HAZARDOUS WASTE CONTAINER IS PROPERLY CLOSED.
Violation Division:	Alameda County Environmental Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	63983
Site Name:	Safeway 1932
Violation Date:	03-25-2014
Citation:	HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)
Violation Description:	Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.
Violation Notes:	Returned to compliance on 04/04/2014.
Violation Division:	Alameda County Environmental Health
Violation Program:	HMRRP

SAFEWAY 1932 (Continued) **S121789599**

Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: The facility is missing 2014 TSDF copies of hazardous waste manifests for 006215811FLE, 006230430FLE, and 006444827FLE. LDR copies missing for 006215811FLE. 2013 LDR missing for manifest 005801657FLE, and TSDF copy for manifest 006324294FLE. CORRECTIVE ACTION: Facility is to locate missing TSDF and LDR copies of hazardous waste manifests/documents listed above, and provide copy of these to ACDEH for review.
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174
Violation Description: Failure to inspect hazardous waste storage areas at least weekly.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: FACILITY REPRESENTATIVE STATES SHE PROCESSES RETAIL HAZARDOUS REGULARLY. BASED ON ACDEH'S OBSERVATION OF OPEN HAZARDOUS WASTE CONTAINERS, MULTIPLE HAZARDOUS WASTE CONTAINERS NOT PROPERLY LABELED AND MISSING HAZARDOUS WASTE LABELS THAT WEEKLY INSPECTIONS FOR HAZARDOUS WASTE MANAGEMENT ARE NOT BEING CONDUCTED. CORRECTIVE ACTION: FACILITY IS TO CONDUCT WEEKLY INSPECTIONS OF THE HAZARDOUS WASTE AREA. ACDEH PROVIDED EXAMPLE HAZARDOUS WASTE AREA WEEKLY INSPECTION FORM TO FACILITY REPRESENTATIVE. FACILITY IS TO ENSURE WEEKLY INSPECTIONS OF HAZARDOUS WASTE AREA(S).
Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Site ID: 63983
Site Name: Safeway 1932
Violation Date: 07-27-2015
Citation: HSC 6.5 25186.2 - California Health and Safety Code, Chapter 6.5, Section(s) 25186.2
Violation Description: Failure to properly handle, store, or treat hazardous waste or provided false information submitted on the permit application and other documents.
Violation Notes: Returned to compliance on 08/27/2015. OBSERVATION: TWO CARDBOARD BOXES CONTAINING MULTIPLE RETAIL SIZED OF DAMAGED CONSUMER GOODS / INCOMPATIBLE HAZARDOUS WASTE IN UNLINED INCOMPATIBLE CONTAINERS. VARIOUS RETAIL HAZARDOUS WASTE CONTAINERS PLACED ON TOP OF FILLED STRONG PAK HAZARDOUS WASTE CONTAINERS REQUIRES PROPER PROCESSING AND CONTAINMENT. CORRECTIVE ACTION: FACILITY IS TO IMMEDIATELY PROCESS AND TRANSFER THESE CONTAINERS OF RETAIL HAZARDOUS WASTE DAILY INTO LINED COMPATIBLE CONTAINERS. PROVIDE PHOTO EVIDENCE THAT THE EXCESS

SAFEWAY 1932 (Continued) **S121789599**

HAZARDOUS WASTE HAS BEEN PROCESSED AND PLACED IN APPROPRIATE HAZARDOUS WASTE CONTAINERS. SINCE THERE ARE NOT SUFFICIENT AVAILABLE STRONG PAK CONTAINERS TO PROCESS THE EXCESS OF RETAIL HAZARDOUS WASTE, FACILITY IS TO IMMEDIATELY CALL HAZARDOUS WASTE VENDOR AND SCHEDULE A HAZARDOUS WASTE PICK. PROVIDE DOCUMENTATION EVIDENCE OF HAZARDOUS WASTE PICK UP. IT IS HIGHLY RECOMMENDED THAT FACILITY INCREASE FREQUENCY OF HAZARDOUS WASTE PICK-UPS AND/OR HAVE INFRASTRUCTURE IN PLACE FOR STORE [Truncated]

Violation Division: Alameda County Environmental Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 03-25-2014
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: ENTER HMBP NOV LETTER
Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-27-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: 7-27-2015. ONSITE TO PERFORM AN UNANNOUNCED INSPECTION FOR THE HAZARDOUS WASTE GENERATOR PROGRAM AT SAFEWAY STORE #1932, 4440 TASSAJARA RD, DUBLIN, CA 94568 AND MEET WITH STORE MANAGER CLAUDETTE WRIGHT, AND MICHELLE WILLIAMS INVENTORY CONTROL CLERK WHO GRANTED PERMISSION FOR THIS INSPECTION. SAFEWAY STORE #1932 OPERATES AS A RETAIL GROCERY STORE. HAZARDOUS WASTES ARE FROM DAMAGED CONSUMER PRODUCTS. HAZARDOUS WASTE GENERATED INCLUDES ACIDS, BASES, UNIVERSAL WASTE AND CONTAMINATED ABSORBENTS. THE FACILITY'S HAZARDOUS WASTE VENDOR IS STERICYCLE AND UTILIZES THE STRONG PAK HAZARDOUS WASTE SYSTEM FOR RETAIL HAZARDOUS WASTE. OF 20 TOTES CONTAINING HAZARDOUS WASTE, ONE TOTE DID NOT HAVE A LID, AND 10 TOTES WERE NOT LABELED WITH A HAZARDOUS WASTE LABEL. HOUSEKEEPING ISSUES NOTED IN THE HAZARDOUS WASTE AND PROCESSING AREA REQUIRES IMMEDIATE ATTENTION. MY OBSERVATION IS THIS FACILITY IS GENERATING MORE HAZARDOUS WASTE THAN THE FACILITY HAS CAPACITY/ STORAGE. IT IS HIGHLY [Truncated]
Eval Division: Alameda County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-27-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: 7-27-2015. ONSITE TO PERFORM AN UNANNOUNCED INSPECTION FOR THE HAZARDOUS MATERIALS BUSINESS PLAN (HMBP) AT SAFEWAY STORE #1932, 4440 TASSAJARA RD, DUBLIN, CA 94568 AND MEET WITH STORE MANAGER CLAUDETTE WRIGHT, AND MICHELLE WILLIAMS INVENTORY CONTROL CLERK WHO GRANTED PERMISSION FOR THIS INSPECTION. SAFEWAY STORE #1932 OPERATES AS A RETAIL GROCERY STORE. OBSERVATION OF HAZARDOUS MATERIALS STORED ONSITE OF HELIUM, CO2 AND REFRIGERANTS CONSISTENT WITH HMBP REPORTING. ALL CYLINDERS PROPERLY SECURED AT THE TIME OF INSPECTION. ELECTRONIC AND

SAFEWAY 1932 (Continued) **S121789599**

HARD COPY HMBP AVAILABLE ONSITE DURING INSPECTION. FACILITY IS TO ENSURE ACCESSIBILITY OF MOST CURRENT HMBP (1-27-2015 MOST RECENT SUBMISSION AT TIME OF INSPECTION). EXAMPLE SITE MAP LEFT WITH FACILITY. CERTIFICATION OF RETURN TO COMPLIANCE I certify that the minor violation(s) noted on the HMBP inspection page(s) have been corrected. I have personally examined any documentation attached to the certification to establish that the [Truncated]

Eval Division: Alameda County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Coordinates:
Site ID: 63983
Facility Name: Safeway 1932
Env Int Type Code: HWG
Program ID: 10156511
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 37.706240
Longitude: -121.872250

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Ron Lee
Entity Title: Not reported
Affiliation Address: 5918 Stoneridge Mall Rd.
Affiliation City: Pleasanton
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 94588
Affiliation Phone: (925) 469-7513

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: PO Box 29096, MS 6516
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85038
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Safeway, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (925) 469-7000

Affiliation Type Desc: CUPA District
Entity Name: Alameda County Env Health
Entity Title: Not reported
Affiliation Address: 1131 Harbor Parkway, Suite 240

SAFEWAY 1932 (Continued) **S121789599**

Affiliation City:	Alameda
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	94502-6577
Affiliation Phone:	(510) 567-6700
Affiliation Type Desc:	Parent Corporation
Entity Name:	Safeway, Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Document Preparer
Entity Name:	Ron Lee
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Ron Lee
Entity Title:	Environmental Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Safeway, Inc.
Entity Title:	Not reported
Affiliation Address:	5918 Stoneridge Mall Rd.
Affiliation City:	Pleasanton
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	94588
Affiliation Phone:	(925) 469-7000

F20 **E-2 ELEMENTARY SCHOOL** **ENVIROSTOR** **S118756454**
NE **PARCEL O-TRACT 6960/ANTONE WAY** **SCH** **N/A**
1/4-1/2 **DUBLIN, CA 94588**
0.397 mi.
2098 ft. **Site 1 of 2 in cluster F**

Relative: **Higher**
Actual: **435 ft.**

ENVIROSTOR:

Facility ID:	1020002
Status:	No Action Required
Status Date:	04/18/2001
Site Code:	204048

E-2 ELEMENTARY SCHOOL (Continued) **S118756454**

Site Type: School Investigation
Site Type Detailed: School
Acres: 14
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Assembly: 16
Senate: 07
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 37.71338
Longitude: -121.8588
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - LIVESTOCK
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 1020002
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 14
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Site Code: 204048

E-2 ELEMENTARY SCHOOL (Continued) **S118756454**

Assembly:	16
Senate:	07
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	04/18/2001
Restricted Use:	NO
Funding:	School District
Latitude:	37.71338
Longitude:	-121.8588
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

F21 **M-1 MIDDLE SCHOOL** **ENVIROSTOR** **S118756453**
NE **PARCEL O-TRACT 6725/S. DUBLIN RANCH DRIVE** **SCH** **N/A**
1/4-1/2 **DUBLIN, CA 94588** **CERS**
0.398 mi.
2100 ft. **Site 2 of 2 in cluster F**

Relative:
Higher

Actual:
435 ft.

ENVIROSTOR:

Facility ID:	1020001
Status:	No Action Required
Status Date:	10/15/2001
Site Code:	204049
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	44
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	DTSC
Program Manager:	Not reported
Supervisor:	Charles Ridenour
Division Branch:	Northern California Schools & Santa Susana
Assembly:	16
Senate:	07
Special Program:	Not reported
Restricted Use:	NO

M-1 MIDDLE SCHOOL (Continued) **S118756453**

Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 37.71338
Longitude: -121.8588
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - LIVESTOCK
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 1020001
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 44
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Not reported
Supervisor: Charles Ridenour
Division Branch: Northern California Schools & Santa Susana
Site Code: 204049
Assembly: 16
Senate: 07
Special Program Status: Not reported
Status: No Action Required
Status Date: 10/15/2001
Restricted Use: NO
Funding: School District
Latitude: 37.71338
Longitude: -121.8588
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - LIVESTOCK
Potential COC: NONE SPECIFIED, No Contaminants found
Confirmed COC: NONE SPECIFIED

M-1 MIDDLE SCHOOL (Continued) **S118756453**

Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CERS TANKS:
Site ID: 371298
CERS ID: 01020001
CERS Description: School Investigation

Affiliation:
Affiliation Type Desc: Supervisor
Entity Name: Charles Ridenour
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

22
NW
1/4-1/2
0.482 mi.
2543 ft.

CASTLE RANCH PROPERTY **CPS-SLIC** **S108245927**
5020 TASSAJARA RD **Alameda County CS** **N/A**
DUBLIN, CA 94568 **CERS**

Relative:
Higher

Actual:
397 ft.

CPS-SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 10/01/1998
Global Id: T06019791462
Lead Agency: ALAMEDA COUNTY LOP
Lead Agency Case Number: RO0002686
Latitude: 37.713158
Longitude: -121.872097
Case Type: Cleanup Program Site
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: NA
File Location: All Files are on GeoTracker or in the Local Agency Database

CASTLE RANCH PROPERTY (Continued) **S108245927**

Potential Media Affected: Under Investigation
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Alameda County CS:
Status: Case Closed
Record Id: RO0002686
PE: 5502
Facility Status: Case Closed
Latitude: 37.710419295
Longitude: -121.87228611

CERS TANKS:
Site ID: 189617
CERS ID: T06019791462
CERS Description: Cleanup Program Site

23
SW
1/2-1
0.500 mi.
2642 ft.

Relative: Lower

Actual: 347 ft.

SANTA RITA SHELL
6750 SANTA RITA RD
PLEASANTON, CA 94588

RCRA-SQG **1001967342**
LUST **CAR000067884**
Alameda County CS
FINDS
ECHO
HAZNET
CERS

RCRA-SQG:
Date form received by agency: 03/14/2000
Facility name: SHELL SERVICE STATION
Facility address: 6750 SANTA RITA RD
204 6138 1004
PLEASANTON, CA 94566
EPA ID: CAR000067884
Mailing address: P O BOX 2099
HOUSTON, TX 77252-2099
Contact: SONDRA BIENVENU
Contact address: P O BOX 2099
HOUSTON, TX 77252-2099
Contact country: US
Contact telephone: 713-241-2258
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: EQUILON ENTERPRISES
Owner/operator address: P O BOX 2099
HOUSTON, TX 77252
Owner/operator country: Not reported
Owner/operator telephone: 713-241-2258

SANTA RITA SHELL (Continued) **1001967342**

Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D018
. Waste name: BENZENE

Historical Generators:
Date form received by agency: 03/14/2000
Site name: SHELL SERVICE STATION
Classification: Small Quantity Generator

Violation Status: No violations found

LUST:
Lead Agency: ALAMEDA COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0600102532
Global Id: T0600102532
Latitude: 37.6997881
Longitude: -121.871646236
Status: Completed - Case Closed
Status Date: 07/01/2010
Case Worker: Not reported
RB Case Number: NA
Local Agency: Not reported
File Location: All Files are on GeoTracker or in the Local Agency Database

SANTA RITA SHELL (Continued) **1001967342**

Local Case Number: RO0002522
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Case closed on 7/1/2010.

LUST:
Global Id: T0600102532
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

LUST:
Global Id: T0600102532
Action Type: Other
Date: 01/06/2003
Action: Leak Reported

Global Id: T0600102532
Action Type: ENFORCEMENT
Date: 07/14/2009
Action: Staff Letter - #20090714

Global Id: T0600102532
Action Type: ENFORCEMENT
Date: 03/12/2009
Action: Meeting

Global Id: T0600102532
Action Type: ENFORCEMENT
Date: 07/01/2010
Action: Closure/No Further Action Letter - #20100701

Global Id: T0600102532
Action Type: Other
Date: 01/02/2003
Action: Leak Discovery

LUST:
Global Id: T0600102532
Status: Completed - Case Closed
Status Date: 07/01/2010

Global Id: T0600102532
Status: Open - Case Begin Date
Status Date: 01/02/2003

Global Id: T0600102532
Status: Open - Site Assessment
Status Date: 03/24/2003

LUST REG 2:

SANTA RITA SHELL (Continued) **1001967342**

Region: 2
Facility Id: Not reported
Facility Status: Leak being confirmed
Case Number: RO0002522
How Discovered: Subsurface Monitoring
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 3/24/2003
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Alameda County CS:
Status: Pollution Characterization
Record Id: RO0002522
PE: 5602
Facility Status: Pollution Charaterization
Latitude: Not reported
Longitude: Not reported

Status: Case Closed
Record Id: RO0002522
PE: 5602
Facility Status: Case Closed
Latitude: Not reported
Longitude: Not reported

FINDS:

Registry ID: 110057089591

Environmental Interest/Information System
STATE MASTER

Registry ID: 110002933666

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1001967342
Registry ID: 110002933666
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002933666

SANTA RITA SHELL (Continued) **1001967342**

HAZNET:

Facility Name:	SHELL SERVICE STATION
envid:	1001967342
Year:	2003
GEPAID:	CAR000067884
Contact:	N CORTEZ/ENVT'L DATA ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR MFT240G
Mailing City,St,Zip:	HOUSTON, TX 770672508
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Recycler
Tons:	0.06
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid:	1001967342
Year:	2002
GEPAID:	CAR000067884
Contact:	N CORTEZ/ENVT'L DATA ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR MFT240G
Mailing City,St,Zip:	HOUSTON, TX 770672508
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Not reported
Disposal Method:	Recycler
Tons:	5.42
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid:	1001967342
Year:	2002
GEPAID:	CAR000067884
Contact:	N CORTEZ/ENVT'L DATA ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR MFT240G
Mailing City,St,Zip:	HOUSTON, TX 770672508
Gen County:	Not reported
TSD EPA ID:	CAD009466392
TSD County:	Not reported
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Not reported
Tons:	5
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid: 1001967342

SANTA RITA SHELL (Continued) **1001967342**

Year:	2002
GEPAID:	CAR000067884
Contact:	N CORTEZ/ENVT'L DATA ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR MFT240G
Mailing City,St,Zip:	HOUSTON, TX 770672508
Gen County:	Not reported
TSD EPA ID:	CAD009466392
TSD County:	Not reported
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Disposal, Other
Tons:	4.7
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

envid:	1001967342
Year:	2002
GEPAID:	CAR000067884
Contact:	N CORTEZ/ENVT'L DATA ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR MFT240G
Mailing City,St,Zip:	HOUSTON, TX 770672508
Gen County:	Not reported
TSD EPA ID:	CAD009466392
TSD County:	Not reported
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Recycler
Tons:	1
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Alameda

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

CERS TANKS:

Site ID:	240862
CERS ID:	T0600102532
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	Regional Water Board - SAN FRANCISCO BAY RWQCB (REGION 2)
Entity Title:	Not reported
Affiliation Address:	1515 CLAY ST SUITE 1400
Affiliation City:	OAKLAND
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

24 East 1/2-1 0.828 mi. 4370 ft. **E-5 ALTERNATIVE SCHOOL SITE**
S OF CENTRAL PARKWAY & E OF FALLON ROAD
DUBLIN, CA 94588

ENVIROSTOR SCH **S117731556 N/A**

Relative: Higher

Actual: 406 ft.

ENVIROSTOR:

Facility ID:	60002169
Status:	No Further Action
Status Date:	06/14/2016
Site Code:	204274
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	16
Senate:	07
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	37.70954
Longitude:	-121.8479
APN:	985-98-2
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC:	Polynuclear aromatic hydrocarbons (PAHs
Potential Description:	SOIL
Alias Name:	985-98-2
Alias Type:	APN
Alias Name:	204274
Alias Type:	Project Code (Site Code)
Alias Name:	60002169
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/17/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement Application
Completed Date:	07/02/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	12/04/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE

E-5 ALTERNATIVE SCHOOL SITE (Continued) **S117731556**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/14/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 07/13/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Pre-HARP Form
Completed Date: 06/02/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Pre-HARP Form
Completed Date: 07/07/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/30/2017
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 60002169
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Jose Salcedo
Division Branch: Northern California Schools & Santa Susana
Site Code: 204274
Assembly: 16
Senate: 07
Special Program Status: Not reported

E-5 ALTERNATIVE SCHOOL SITE (Continued) **S117731556**

Status:	No Further Action
Status Date:	06/14/2016
Restricted Use:	NO
Funding:	School District
Latitude:	37.70954
Longitude:	-121.8479
APN:	985-98-2
Past Use:	AGRICULTURAL - LIVESTOCK
Potential COC:	Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC:	Polynuclear aromatic hydrocarbons (PAHs
Potential Description:	SOIL
Alias Name:	985-98-2
Alias Type:	APN
Alias Name:	204274
Alias Type:	Project Code (Site Code)
Alias Name:	60002169
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/17/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement Application
Completed Date:	07/02/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	12/04/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/14/2016
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	07/13/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Pre-HARP Form
Completed Date:	06/02/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Pre-HARP Form

E-5 ALTERNATIVE SCHOOL SITE (Continued) **S117731556**

Completed Date:	07/07/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	10/30/2017
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

G25 **DOUGHERTY ELEMENTARY SCHOOL** **ENVIROSTOR** **S116165255**
West **HACIENDA DRIVE** **SCH** **N/A**
1/2-1 **DUBLIN, CA 94588**
0.972 mi.
5130 ft. **Site 1 of 2 in cluster G**

Relative:
Higher

Actual:
367 ft.

ENVIROSTOR:

Facility ID:	1970011
Status:	No Further Action
Status Date:	05/11/1999
Site Code:	201226
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	16
Senate:	07
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	37.70977
Longitude:	-121.8840
APN:	NONE SPECIFIED
Past Use:	* NATIONAL SECURITY/INTERNATIONAL AFFAIRS
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported

DOUGHERTY ELEMENTARY SCHOOL (Continued) **S116165255**

Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 1970011
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Northern California Schools & Santa Susana
Site Code: 201226
Assembly: 16
Senate: 07
Special Program Status: Not reported
Status: No Further Action
Status Date: 05/11/1999
Restricted Use: NO
Funding: School District
Latitude: 37.70977
Longitude: -121.8840
APN: NONE SPECIFIED
Past Use: * NATIONAL SECURITY/INTERNATIONAL AFFAIRS
Potential COC: NONE SPECIFIED, No Contaminants found
Confirmed COC: No Contaminants found
Potential Description: SOIL
Alias Name: Not reported
Alias Type: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported

DOUGHERTY ELEMENTARY SCHOOL (Continued) **S116165255**

Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

G26 **DOUGHERTY KINDERGARTEN CLASSROOM PROJECT** **ENVIROSTOR** **S120714355**
WNW **5301 HIBERNIA DRIVE** **SCH** **N/A**
> 1 **DUBLIN, CA 94568**
1.045 mi.
5516 ft. **Site 2 of 2 in cluster G**

Relative: **Higher**

Actual: **368 ft.**

ENVIROSTOR:
Facility ID: 60002514
Status: No Action Required
Status Date: 07/10/2017
Site Code: 204292
Site Type: School Investigation
Site Type Detailed: School
Acres: 9.91
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Jose Luevano
Supervisor: Jose Salcedo
Division Branch: Northern California Schools & Santa Susana
Assembly: , 16
Senate: , 07
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 37.70987
Longitude: -121.8846
APN: 986 000900200
Past Use: SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS
Potential COC: Arsenic Chlordane DDD DDE DDT Lead Polychlorinated biphenyls (PCBs Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas TPH-JET FUEL TPH-MOTOR OIL
Confirmed COC: 30001-NO 30004-NO 30006-NO 30007-NO 30008-NO 30013-NO 30018-NO 30019-NO 30024-NO 30025-NO 3002501-NO 3002502-NO No Contaminants found Not reported
Potential Description: SOIL, SV
Alias Name: 986 000900200
Alias Type: APN
Alias Name: 204292
Alias Type: Project Code (Site Code)
Alias Name: 01970011
Alias Type: Envirostor ID Number
Alias Name: 60002514
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 07/10/2017
Comments: Not reported

DOUGHERTY KINDERGARTEN CLASSROOM PROJECT (Continued) **S120714355**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/18/2018
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	60002514
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	9.91
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Jose Luevano
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Site Code:	204292
Assembly:	, 16
Senate:	, 07
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	07/10/2017
Restricted Use:	NO
Funding:	School District
Latitude:	37.70987
Longitude:	-121.8846
APN:	986 000900200
Past Use:	SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS
Potential COC:	Arsenic, Arsenic, Chlordane, DDD, DDE, DDT, Lead, Polychlorinated biphenyls (PCBs, Polynuclear aromatic hydrocarbons (PAHs, TPH-diesel, TPH-gas, TPH-JET FUEL, TPH-MOTOR OIL
Confirmed COC:	30001-NO, 30004-NO, 30006-NO, 30007-NO, 30008-NO, 30013-NO, 30018-NO, 30019-NO, 30024-NO, 30025-NO, 3002501-NO, 3002502-NO, No Contaminants found
Potential Description:	SOIL, SV
Alias Name:	986 000900200
Alias Type:	APN
Alias Name:	204292
Alias Type:	Project Code (Site Code)
Alias Name:	01970011
Alias Type:	Envirostor ID Number
Alias Name:	60002514
Alias Type:	Envirostor ID Number

DOUGHERTY KINDERGARTEN CLASSROOM PROJECT (Continued) **S120714355**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	07/10/2017
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/18/2018
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

27
ENE
> 1
1.120 mi.
5913 ft.

PROPOSED NEW ES, JORDAN RANCH E-5 SITE **ENVIROSTOR** **S118757283**
E OF FALLON RD AND N OF INTERSTATE HWY 580 **SCH** **N/A**
DUBLIN, CA 94588

Relative:
Higher

Actual:
470 ft.

ENVIROSTOR:

Facility ID:	60002037
Status:	No Action Required
Status Date:	12/15/2014
Site Code:	204266
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	11
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Jose Luevano
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	16
Senate:	07
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	37.71177
Longitude:	-121.8429
APN:	985-98-9
Past Use:	NONE, UNKNOWN
Potential COC:	Naturally Occurring Asbestos (NOA
Confirmed COC:	No Contaminants found 40002-NO
Potential Description:	NMA, SOIL
Alias Name:	985-98-9

PROPOSED NEW ES, JORDAN RANCH E-5 SITE (Continued) **S118757283**

Alias Type: APN
Alias Name: 204266
Alias Type: Project Code (Site Code)
Alias Name: 60002037
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1 Addendum
Completed Date: 12/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/19/2015
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 60002037
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 11
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Jose Luevano
Supervisor: Jose Salcedo
Division Branch: Northern California Schools & Santa Susana
Site Code: 204266
Assembly: 16
Senate: 07
Special Program Status: Not reported
Status: No Action Required
Status Date: 12/15/2014
Restricted Use: NO
Funding: School District
Latitude: 37.71177
Longitude: -121.8429
APN: 985-98-9
Past Use: NONE, UNKNOWN
Potential COC: Naturally Occurring Asbestos (NOA
Confirmed COC: No Contaminants found, 40002-NO

PROPOSED NEW ES, JORDAN RANCH E-5 SITE (Continued) **S118757283**

Potential Description: NMA, SOIL
Alias Name: 985-98-9
Alias Type: APN
Alias Name: 204266
Alias Type: Project Code (Site Code)
Alias Name: 60002037
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1 Addendum
Completed Date: 12/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/19/2015
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ALAMEDA COUNTY	S106235193	SANTA RITA PROPERTY	PARCEL 15 DUBLIN BLVD & HACIEN		CPS-SLIC
DUBLIN	S107535644		660 DONLON WAY (CROSS - DUBLIN	94568	CDL
DUBLIN	S112186433	ALCO EAST COUNTY HALL OF JUSTICE	0 GLEASON DR/HACIENDA AVE	94568	Alameda County CS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 43

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/07/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 02/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/20/2018
Date Data Arrived at EDR: 12/21/2018
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/18/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 09/28/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/13/2019
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 05/13/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 02/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/22/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 08/31/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/26/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 36

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/14/2018
Date Data Arrived at EDR: 10/11/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 57

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/03/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/03/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 56

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/22/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2018
Date Data Arrived at EDR: 08/29/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 37

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 08/22/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 44

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/20/2018
Date Data Arrived at EDR: 12/21/2018
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 69

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 08/28/2018
Date Data Arrived at EDR: 08/30/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 63

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/26/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 7

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/30/2018
Date Data Arrived at EDR: 09/27/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/13/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 42

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 27

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/07/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/19/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/18/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/11/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/09/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/09/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/19/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/19/2018
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region’s active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)

Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 37

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/04/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 22

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 23

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/24/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 27

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 10/31/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 08/16/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 8

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 10/18/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 27

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List

CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List

Cupa facility list.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 11/02/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/21/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 22

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/20/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 35

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 28

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/29/2018
Date Data Arrived at EDR: 08/31/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 19

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 12/07/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/24/2019
Number of Days to Update: 44

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 11/01/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 15

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/27/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/06/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 07/19/2018
Date Data Arrived at EDR: 07/25/2018
Date Made Active in Reports: 09/05/2018
Number of Days to Update: 42

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 10/16/2018
Number of Days to Update: 4

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/05/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/03/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 30

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/23/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 31

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 42

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/19/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38
Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO. SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/14/2018
Date Data Arrived at EDR: 11/15/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/23/2019
Number of Days to Update: 36

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/10/2018
Next Scheduled EDR Contact: 12/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/16/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90
Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51
Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 10
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/21/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 35

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 35

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/07/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/25/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 36
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 7
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/04/2018
Number of Days to Update: 20
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/01/2018
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/30/2019
Date Made Active in Reports: 02/14/2019
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/30/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/19/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/07/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PROMENADE
DUBLIN BOULEVARD
DUBLIN, CA 94568

TARGET PROPERTY COORDINATES

Latitude (North):	37.707166 - 37° 42' 25.80''
Longitude (West):	121.864772 - 121° 51' 53.18''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	600069.2
UTM Y (Meters):	4173726.8
Elevation:	356 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640392 LIVERMORE, CA
Version Date:	2012
West Map:	5640384 DUBLIN, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

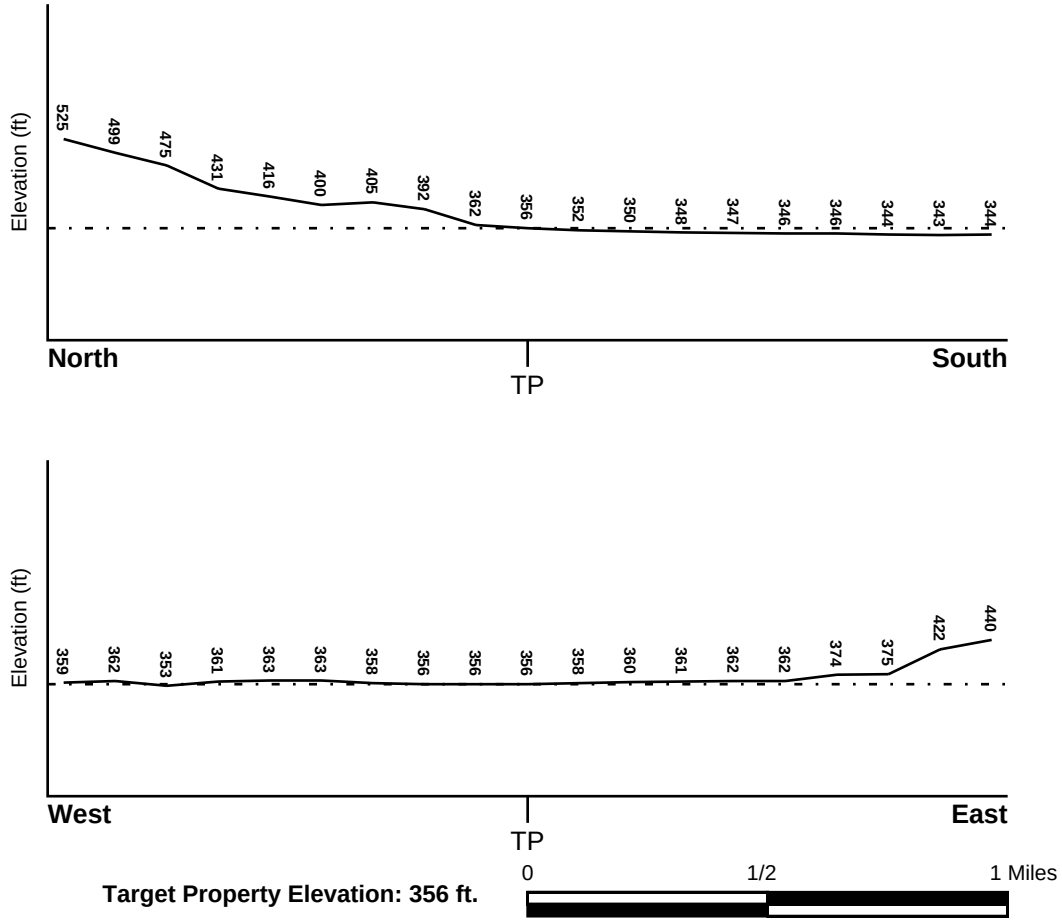
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06001C0328G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06013C0582F	FEMA FIRM Flood data
06013C0601F	FEMA FIRM Flood data
06001C0309G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
LIVERMORE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

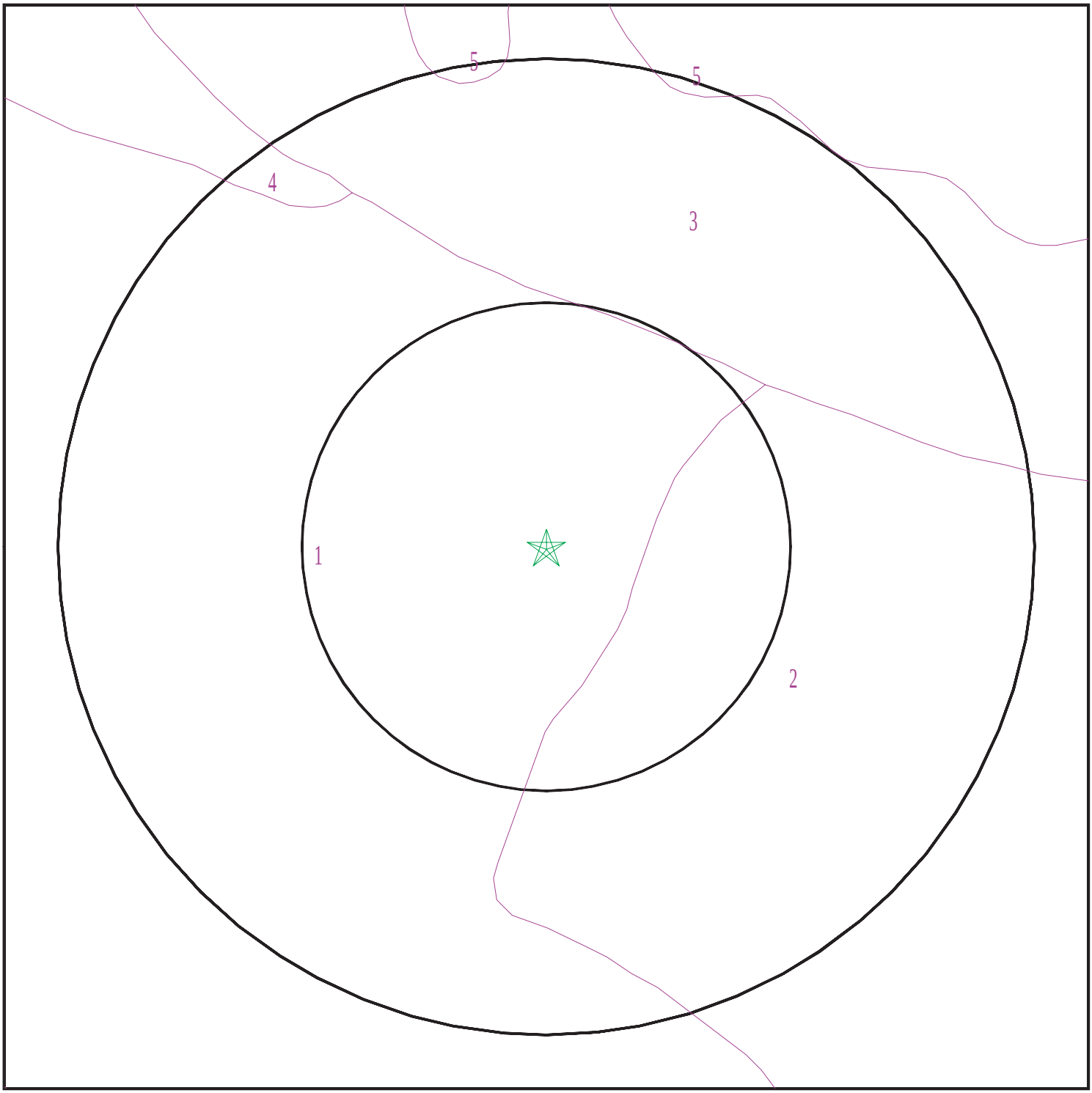
Era:	Cenozoic
System:	Tertiary
Series:	Pliocene
Code:	Tpc *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Continental Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5579666.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Promenade	CLIENT:	Terraphase Engineering Inc.
ADDRESS:	Dublin Boulevard Dublin CA 94568	CONTACT:	Laurie Israel
LAT/LONG:	37.707166 / 121.864772	INQUIRY #:	5579666.2s
		DATE:	March 04, 2019 8:33 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Clear Lake

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	35 inches	64 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Rincon

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	16 inches	51 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
3	51 inches	59 inches	stratified sandy loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: Linne

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0 Min: 0	Max: Min:
2	35 inches	40 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0 Min: 0	Max: Min:

Soil Map ID: 4

Soil Component Name: Clear Lake

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	35 inches	64 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 5

Soil Component Name: Linne

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0 Min: 0	Max: Min:
2	35 inches	40 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0 Min: 0	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
3	USGS40000185029	1/4 - 1/2 Mile South
4	USGS40000185032	1/4 - 1/2 Mile SSW
B10	USGS40000184963	1/2 - 1 Mile South
C11	USGS40000185046	1/2 - 1 Mile ESE
B13	USGS40000184960	1/2 - 1 Mile South
14	USGS40000185026	1/2 - 1 Mile WSW
15	USGS40000185018	1/2 - 1 Mile SW
16	USGS40000185107	1/2 - 1 Mile ENE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

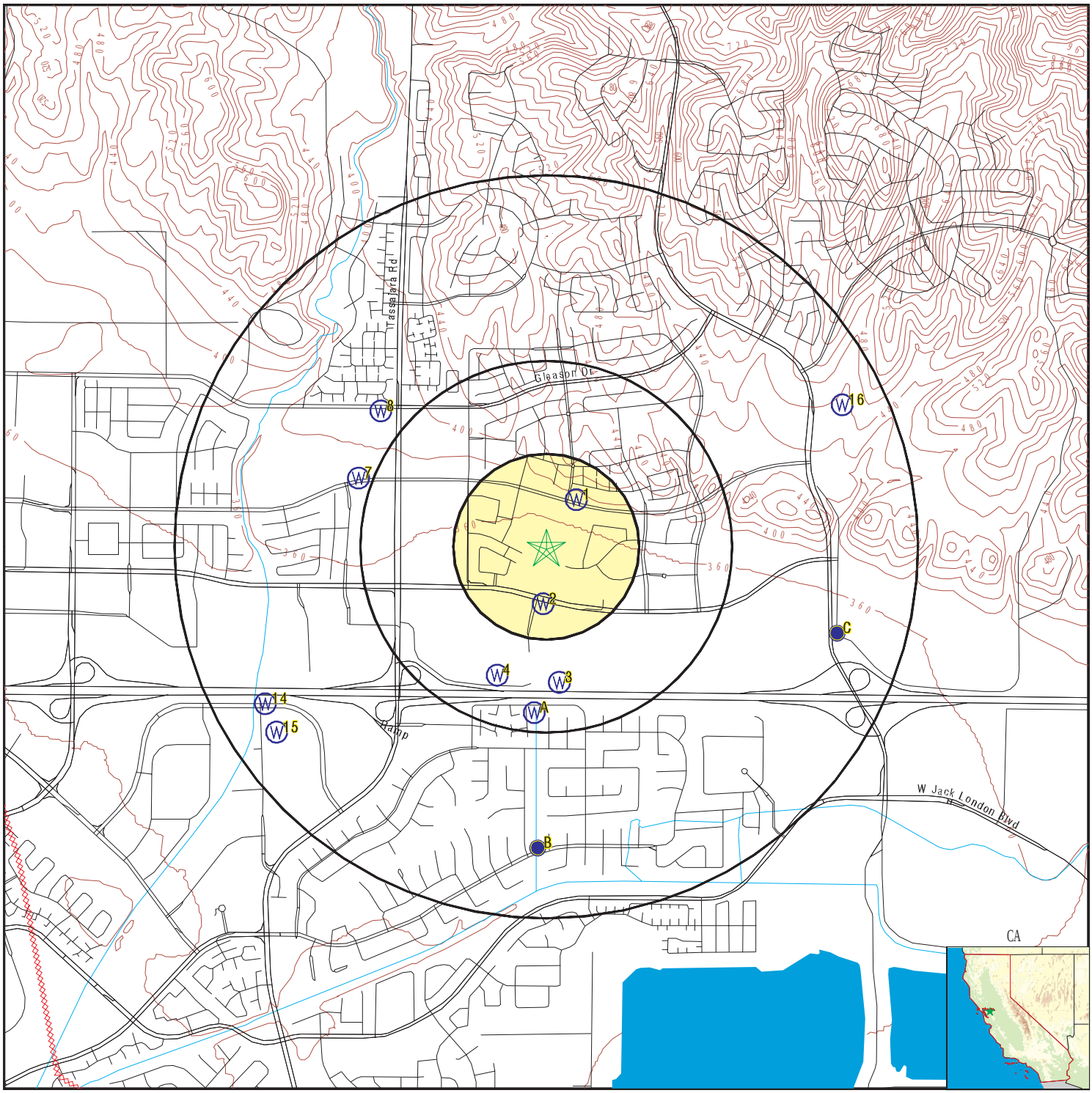
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADW60000003632	1/8 - 1/4 Mile NNE
2	CADW60000003655	1/8 - 1/4 Mile South
A5	CADW60000003656	1/4 - 1/2 Mile South
A6	CADW60000003657	1/4 - 1/2 Mile South
7	CADW60000003631	1/2 - 1 Mile WNW
8	CADW60000003630	1/2 - 1 Mile NW
B9	CADW60000003658	1/2 - 1 Mile South
C12	CADW60000003654	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 5579666.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Promenade	CLIENT:	Terraphase Engineering Inc.
ADDRESS:	Dublin Boulevard Dublin CA 94568	CONTACT:	Laurie Israel
LAT/LONG:	37.707166 / 121.864772	INQUIRY #:	5579666.2s
		DATE:	March 04, 2019 8:33 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NNE
1/8 - 1/4 Mile
Higher

CA WELLS **CADW60000003632**

Objectid:	3632	Latitude:	37.709006
Longitude:	-121.863291	Site code:	377090N1218633W001
State well numbe:	02S01E33R001M	Local well name:	'2S/1E 33R 1'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003632		

2
South
1/8 - 1/4 Mile
Lower

CA WELLS **CADW60000003655**

Objectid:	3655	Latitude:	37.704942
Longitude:	-121.864918	Site code:	377049N1218649W001
State well numbe:	03S01E04A001M	Local well name:	'3S/1E 4A 1'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003655		

3
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000185029**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E04G001M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Alluvium	Aquifer Type:	Not Reported
Construction Date:	19760520	Well Depth:	52
Well Depth Units:	ft	Well Hole Depth:	52
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	12	Level reading date:	1979-06-04
Feet below surface:	31.3	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1979-01-30	Feet below surface:	32.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-10-25	Feet below surface:	32.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-07-28	Feet below surface:	31.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1978-05-19	Feet below surface:	30.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-04-04	Feet below surface:	30.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-10-28	Feet below surface:	34.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-09-26	Feet below surface:	34.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-05-19	Feet below surface:	33.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-01-24	Feet below surface:	33.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-12-03	Feet below surface:	32.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-10-08	Feet below surface:	32.7
Feet to sea level:	Not Reported	Note:	Not Reported

4
SSW **FED USGS** **USGS40000185032**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E04J004M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19790501	Well Depth:	107
Well Depth Units:	ft	Well Hole Depth:	112
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	20	Level reading date:	1980-02-26
Feet below surface:	34.9	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1980-01-22	Feet below surface:	36.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-10	Feet below surface:	35.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-07	Feet below surface:	36.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-24	Feet below surface:	36.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-10	Feet below surface:	36.3
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-11-26	Feet below surface:	36.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-19	Feet below surface:	36.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-13	Feet below surface:	36.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-29	Feet below surface:	36.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-15	Feet below surface:	36.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-01	Feet below surface:	36.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-17	Feet below surface:	36.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-27	Feet below surface:	36.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-13	Feet below surface:	36.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-30	Feet below surface:	36.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-09	Feet below surface:	36.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-25	Feet below surface:	36.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-12	Feet below surface:	36.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-31	Feet below surface:	36.3
Feet to sea level:	Not Reported	Note:	Not Reported

A5
South **CA WELLS** **CADW60000003656**
1/4 - 1/2 Mile
Lower

Objectid:	3656	Latitude:	37.700721
Longitude:	-121.865363	Site code:	377007N1218654W001
State well numbe:	03S01E04J005M	Local well name:	'3S/1E 4J 5'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003656		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A6
South
1/4 - 1/2 Mile
Lower

CA WELLS **CADW60000003657**

Objectid:	3657	Latitude:	37.70066
Longitude:	-121.865353	Site code:	377007N1218654W002
State well numbe:	03S01E04J006M	Local well name:	'3S/1E 4J 6'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003657		

7
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000003631**

Objectid:	3631	Latitude:	37.709844
Longitude:	-121.873987	Site code:	377098N1218740W001
State well numbe:	02S01E33P002M	Local well name:	'2S/1E 33P 2'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003631		

8
NW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000003630**

Objectid:	3630	Latitude:	37.712469
Longitude:	-121.872891	Site code:	377125N1218729W001
State well numbe:	02S01E33L001M	Local well name:	'2S/1E 33L 1'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003630		

B9
South
1/2 - 1 Mile
Lower

CA WELLS **CADW60000003658**

Objectid:	3658	Latitude:	37.695541
Longitude:	-121.865095	Site code:	376955N1218651W001
State well numbe:	03S01E04Q002M	Local well name:	'3S/1E 4Q 2'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003658		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B10
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000184963**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E04Q001M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Holocene Alluvium	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C11
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000185046**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E03G002M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Quaternary Alluvium	Aquifer Type:	Not Reported
Construction Date:	19771205	Well Depth:	50
Well Depth Units:	ft	Well Hole Depth:	50
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	42	Level reading date:	1981-09-08
Feet below surface:	27.8	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1981-08-10	Feet below surface:	27.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-03	Feet below surface:	27.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-13	Feet below surface:	27.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-08	Feet below surface:	26.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-20	Feet below surface:	25.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-19	Feet below surface:	25.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-22	Feet below surface:	24.9

Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-25	Feet below surface:	24.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-26	Feet below surface:	25.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-28	Feet below surface:	26.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-27	Feet below surface:	26.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-30	Feet below surface:	27.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-03	Feet below surface:	27.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-12	Feet below surface:	27.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-08	Feet below surface:	26.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-17	Feet below surface:	25.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-17	Feet below surface:	23.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-14	Feet below surface:	22.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-27	Feet below surface:	23.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-19	Feet below surface:	27.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-17	Feet below surface:	26.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-12	Feet below surface:	25.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-04	Feet below surface:	25.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-21	Feet below surface:	25.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-14	Feet below surface:	25.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-30	Feet below surface:	24.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-26	Feet below surface:	24.6
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1979-04-09	Feet below surface:	24.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-06	Feet below surface:	23.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-02	Feet below surface:	23.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-27	Feet below surface:	23.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-19	Feet below surface:	24.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-12	Feet below surface:	23.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-07	Feet below surface:	25.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-18	Feet below surface:	25.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-10-25	Feet below surface:	27.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-07-28	Feet below surface:	26.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-06-19	Feet below surface:	25.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-05-19	Feet below surface:	25.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-18	Feet below surface:	28.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-13	Feet below surface:	29.7
Feet to sea level:	Not Reported	Note:	Not Reported

C12
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADW60000003654**

Objectid:	3654	Latitude:	37.703778
Longitude:	-121.850453	Site code:	377038N1218505W001
State well numbe:	03S01E03G002M	Local well name:	'3S/1E 3G 2'
Well use id:	1	Well use descrip:	Observation
County id:	1	County name:	Alameda
Basin code:	'2-10'	Basin desc:	Livermore Valley
Dwr region id:	80236	Dwr region:	North Central Region Office
Site id:	CADW60000003654		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B13
South
1/2 - 1 Mile
Lower | **FED USGS** | **USGS40000184960**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E04Q002M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Continental Rocks	Aquifer Type:	Not Reported
Construction Date:	19771102	Well Depth:	90
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	51	Level reading date:	1981-11-18
Feet below surface:	49.4	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1981-09-21	Feet below surface:	49.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-14	Feet below surface:	49.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-12	Feet below surface:	46.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-05	Feet below surface:	46.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-28	Feet below surface:	46.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-21	Feet below surface:	46.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-14	Feet below surface:	46.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-07	Feet below surface:	46.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-31	Feet below surface:	47.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-24	Feet below surface:	47.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-17	Feet below surface:	47.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-10	Feet below surface:	46.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-03	Feet below surface:	47.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-02-25	Feet below surface:	47.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-17	Feet below surface:	47.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-10	Feet below surface:	48.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-03	Feet below surface:	48.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-27	Feet below surface:	48.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-20	Feet below surface:	48.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-19	Feet below surface:	48.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-12	Feet below surface:	48.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-05	Feet below surface:	48.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-29	Feet below surface:	48.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-22	Feet below surface:	48.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-16	Feet below surface:	48.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-09	Feet below surface:	49.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-02	Feet below surface:	49.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-25	Feet below surface:	49.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-18	Feet below surface:	49.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-10	Feet below surface:	49.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-04	Feet below surface:	48.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-08	Feet below surface:	49.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-01	Feet below surface:	49.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-29	Feet below surface:	49.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1980-06-10	Feet below surface:	50.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-21	Feet below surface:	50.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-09	Feet below surface:	54.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-10-16	Feet below surface:	56.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-24	Feet below surface:	55.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-04	Feet below surface:	54.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-05	Feet below surface:	56.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-02	Feet below surface:	61.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-16	Feet below surface:	63.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-08	Feet below surface:	64.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-10-13	Feet below surface:	68.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-07-27	Feet below surface:	67.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-06-14	Feet below surface:	64.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-01-06	Feet below surface:	71.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-19	Feet below surface:	71.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-12-13	Feet below surface:	71.4
Feet to sea level:	Not Reported	Note:	Not Reported

14
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000185026**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E05J002M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Alluvium	Aquifer Type:	Not Reported

Construction Date:	Not Reported	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	57	Level reading date:	1981-12-01
Feet below surface:	22.0	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1981-11-20	Feet below surface:	22.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-26	Feet below surface:	22.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-01	Feet below surface:	23.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-14	Feet below surface:	23.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-17	Feet below surface:	23.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-14	Feet below surface:	23.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-05	Feet below surface:	22.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-20	Feet below surface:	24.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-08	Feet below surface:	21.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-26	Feet below surface:	21.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-19	Feet below surface:	20.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-05	Feet below surface:	19.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-28	Feet below surface:	18.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-21	Feet below surface:	17.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-07	Feet below surface:	18.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-31	Feet below surface:	17.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-24	Feet below surface:	18.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-19	Feet below surface:	20.4
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1981-03-17	Feet below surface:	19.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-12	Feet below surface:	20.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-10	Feet below surface:	19.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-03	Feet below surface:	20.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-25	Feet below surface:	20.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-17	Feet below surface:	19.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-10	Feet below surface:	20.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-03	Feet below surface:	20.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-27	Feet below surface:	23.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-20	Feet below surface:	23.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-19	Feet below surface:	23.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-12	Feet below surface:	23.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-05	Feet below surface:	23.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-29	Feet below surface:	23.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-22	Feet below surface:	23.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-16	Feet below surface:	23.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-09	Feet below surface:	23.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-02	Feet below surface:	23.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-25	Feet below surface:	28.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-18	Feet below surface:	29.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-10	Feet below surface:	23.5
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1980-11-03	Feet below surface:	22.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-08	Feet below surface:	23.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-01	Feet below surface:	25.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-09	Feet below surface:	15.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-21	Feet below surface:	14.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-01	Feet below surface:	19.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-05	Feet below surface:	25.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-17	Feet below surface:	24.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-15	Feet below surface:	19.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-02	Feet below surface:	17.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-02	Feet below surface:	24.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-05	Feet below surface:	27.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-11-17	Feet below surface:	26.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-07-28	Feet below surface:	24.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-06-16	Feet below surface:	22.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1977-10-06	Feet below surface:	29.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-02	Feet below surface:	30.9
Feet to sea level:	Not Reported	Note:	Not Reported

15
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000185018**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	003S001E05J005M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

16
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000185107**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S001E34Q001M	Type:	Well
Description:	Not Reported	HUC:	18050004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Livermore Gravel	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	104
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

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RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
94568	17	0

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 94568

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX I
EDR PROPERTY TAX MAP REPORT

Promenade
Dublin Boulevard
Dublin, CA 94568

Inquiry Number: 5579666.6
March 04, 2019

The EDR Property Tax Map Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

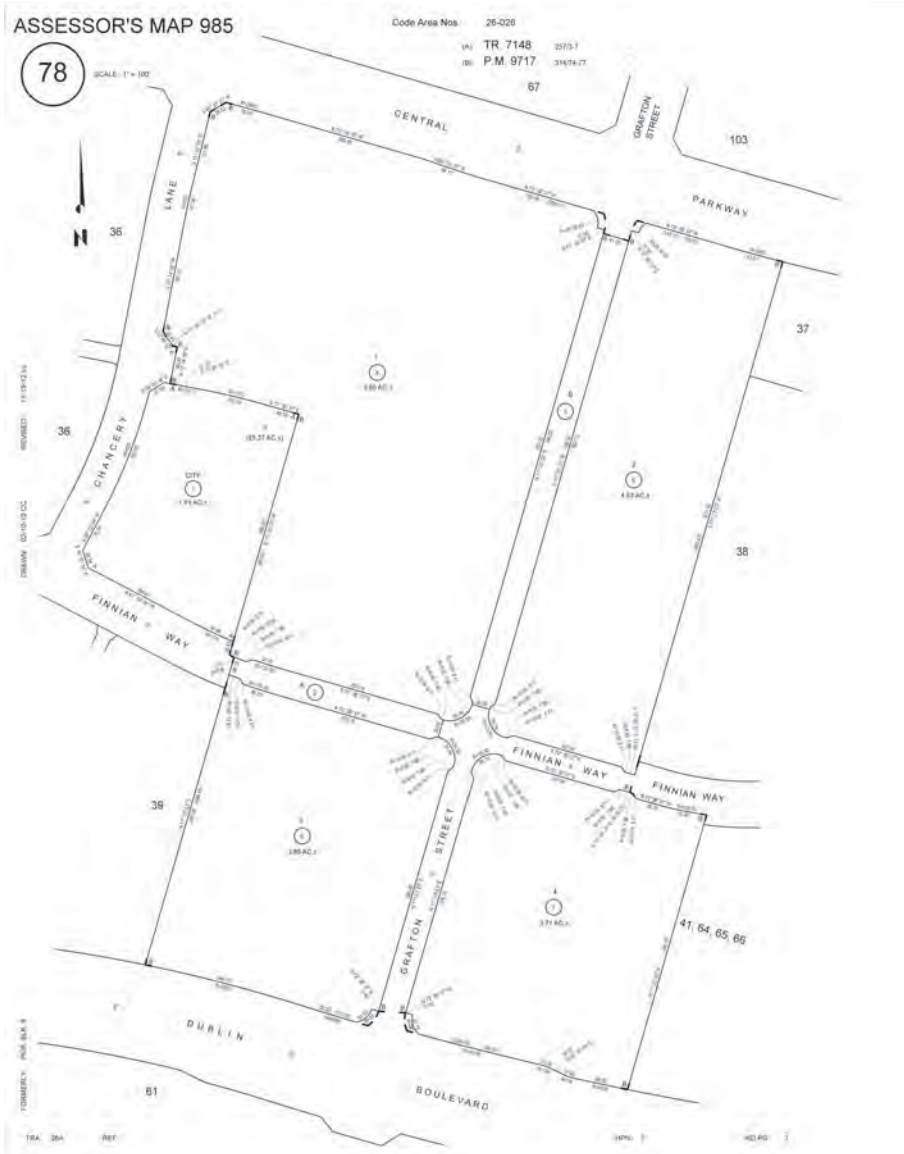
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

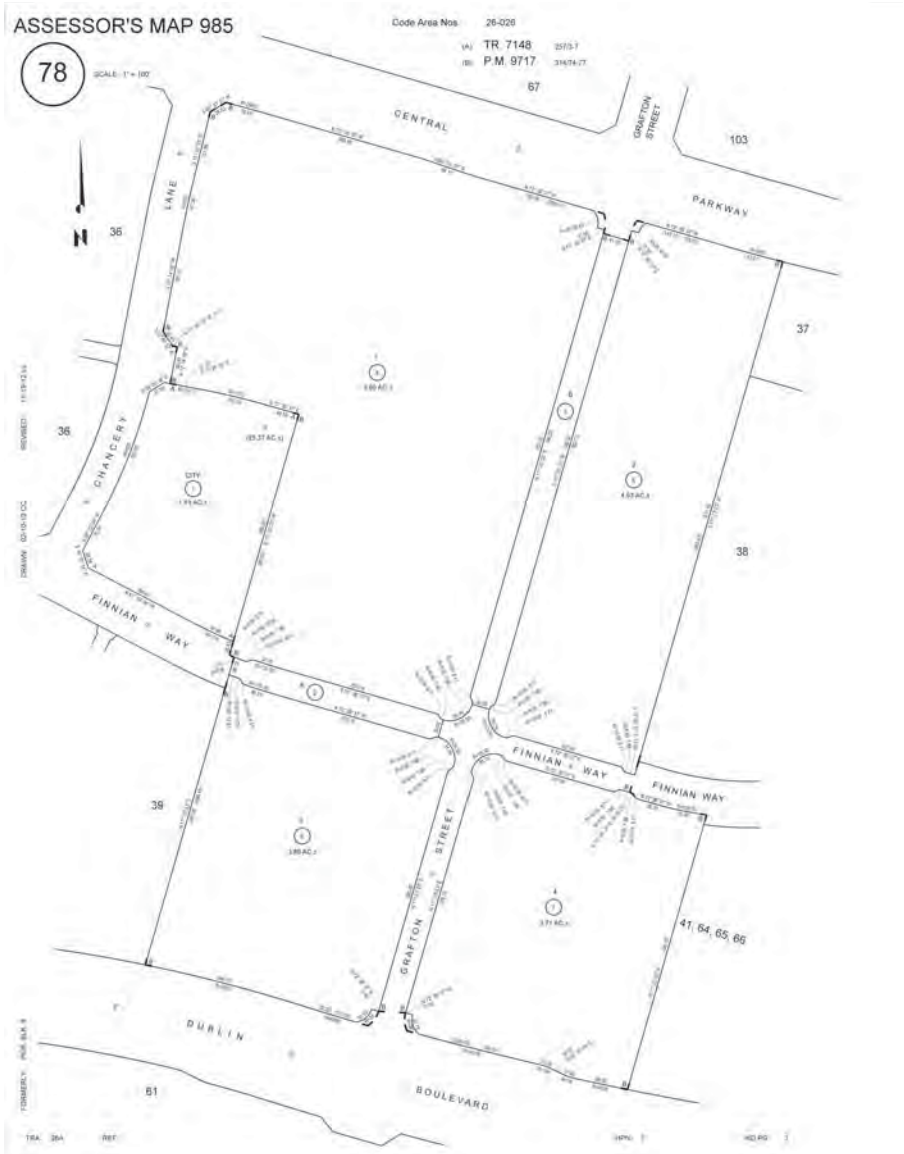
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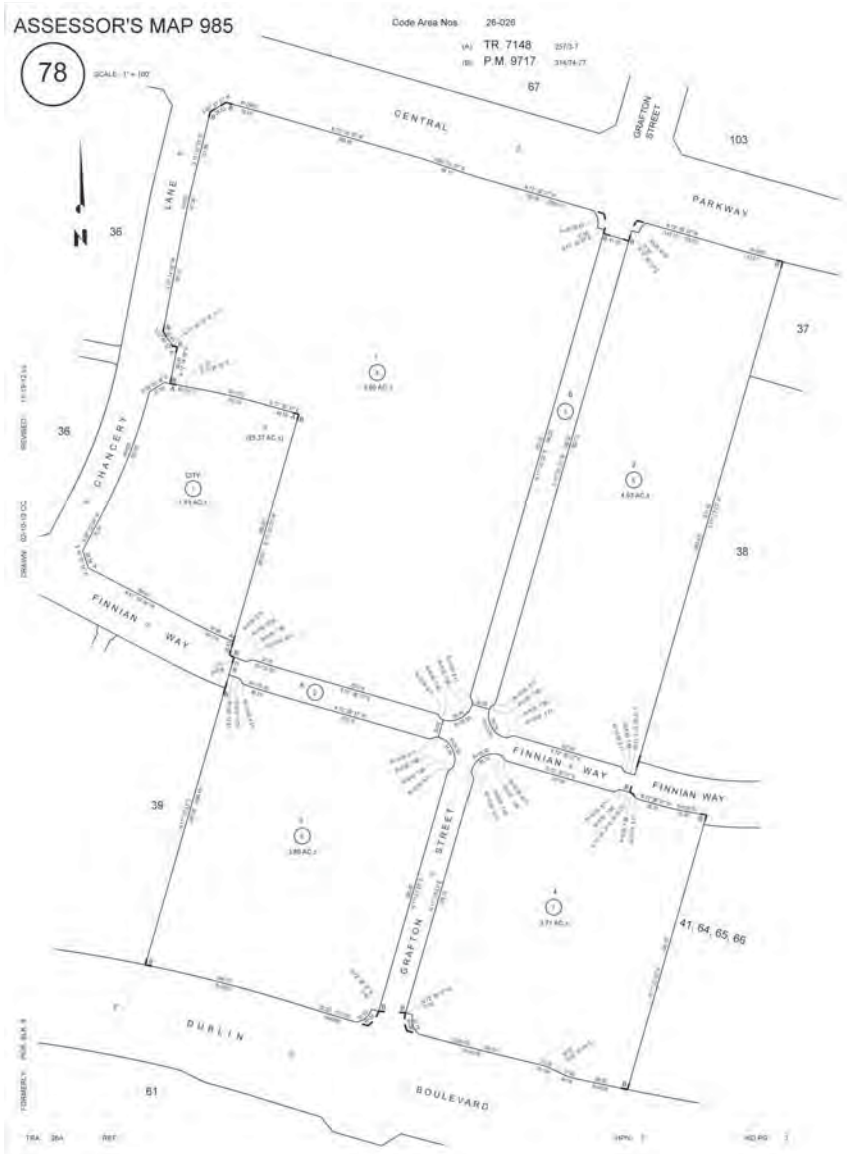
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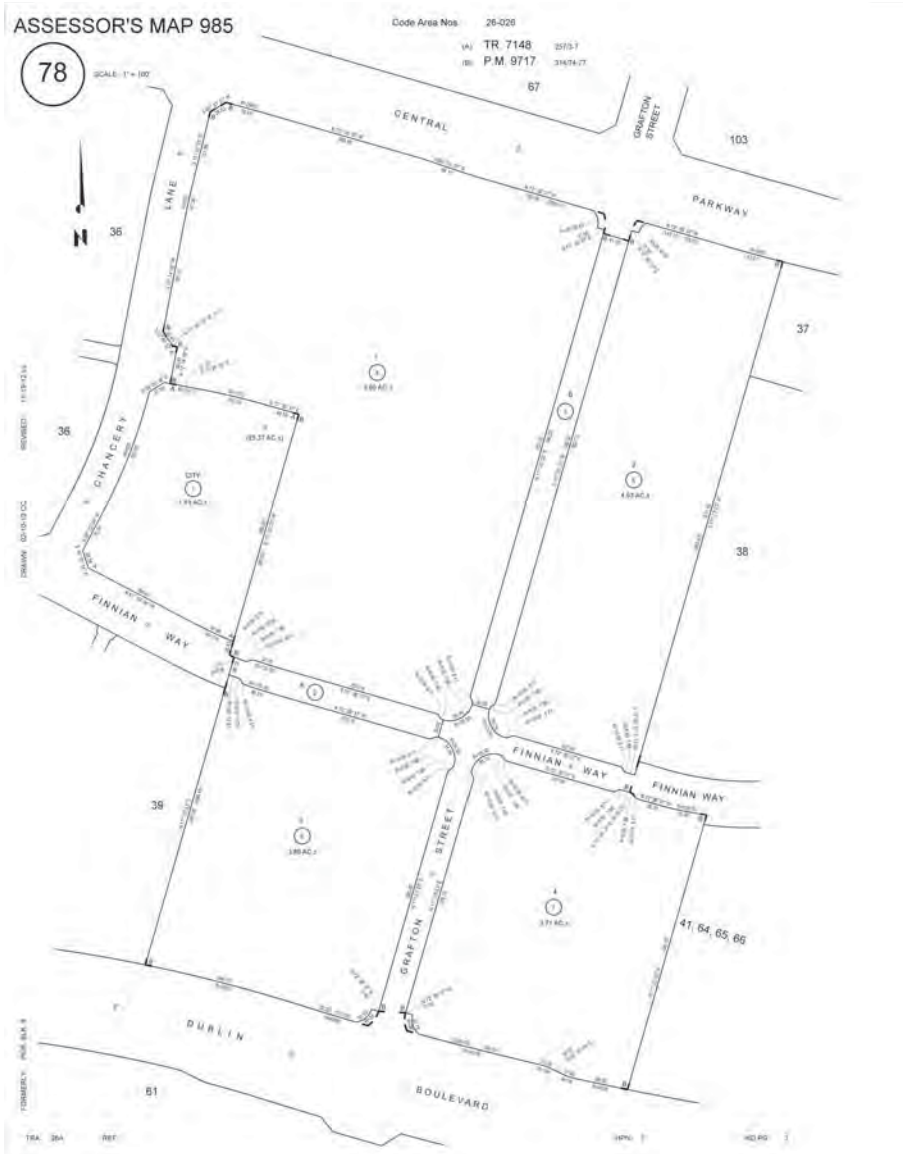
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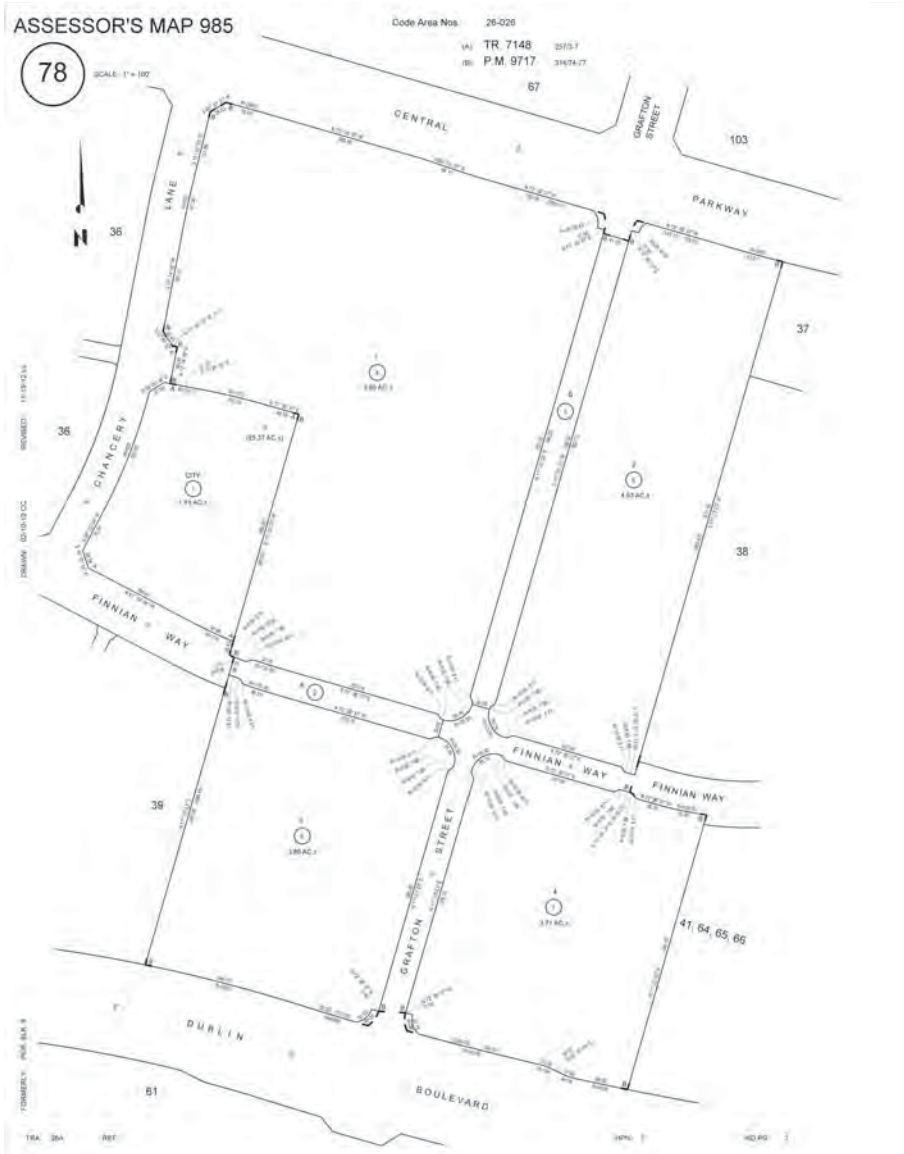
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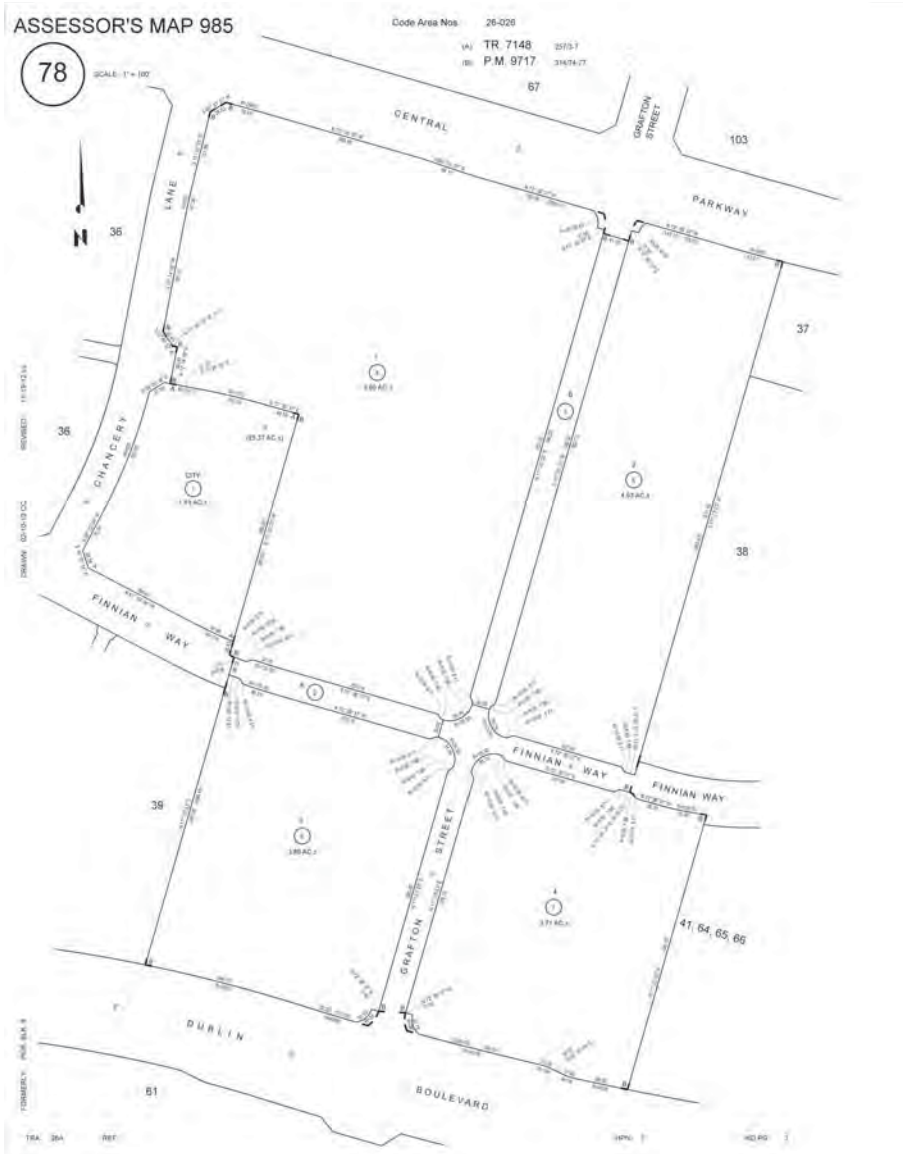

ASSESSOR'S MAP 985
78
Code Area Nos. 26-026
(A) TR. 7148
(B) P.M. 9717
67
CENTRAL
GRAFTON STREET
103
PARKWAY
LANE
36
37
CHANCERY
38
FINNIAN WAY
39
GRAFTON STREET
41, 64, 65, 66
DUBLIN
61
BOULEVARD


ASSESSOR'S MAP 985
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GRAFTON STREET
41, 64, 65, 66
DUBLIN
61
BOULEVARD

APPENDIX J
EDR HISTORICAL TOPO MAP REPORT

Promenade

Dublin Boulevard

Dublin, CA 94568

Inquiry Number: 5579666.4

March 04, 2019

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

03/04/19

Site Name:

Promenade
Dublin Boulevard
Dublin, CA 94568
EDR Inquiry # 5579666.4

Client Name:

Terraphase Engineering Inc.
1404 Franklin Street Suite 600
Oakland, CA 94612-0000
Contact: Laurie Israel

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Terraphase Engineering Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 0098.003.002
Project: NA

Coordinates:

Latitude:	37.707166 37° 42' 26" North
Longitude:	-121.864772 -121° 51' 53" West
UTM Zone:	Zone 10 North
UTM X Meters:	600066.68
UTM Y Meters:	4173931.66
Elevation:	355.61' above sea level

Maps Provided:

2012	1906
1980	
1973	
1968	
1961	
1953	
1947	
1941	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Dublin

7.5-minute, 24000



Livermore

7.5-minute, 24000

1980 Source Sheets



Livermore

7.5-minute, 24000
Aerial Photo Revised 1978



Dublin

7.5-minute, 24000
Aerial Photo Revised 1979

1973 Source Sheets



Livermore

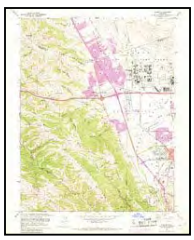
7.5-minute, 24000
Aerial Photo Revised 1973



Dublin

7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets



Dublin

7.5-minute, 24000
Aerial Photo Revised 1968



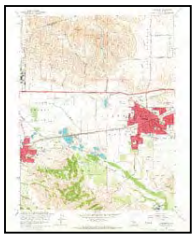
Livermore

7.5-minute, 24000
Aerial Photo Revised 1968

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1961 Source Sheets



Livermore

7.5-minute, 24000
Aerial Photo Revised 1960



Dublin

7.5-minute, 24000
Aerial Photo Revised 1960

1953 Source Sheets



Dublin

7.5-minute, 24000
Aerial Photo Revised 1949



Livermore

7.5-minute, 24000
Aerial Photo Revised 1949

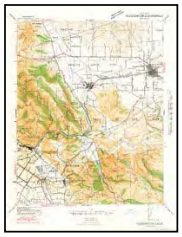
1947 Source Sheets



PLEASANTON

15-minute, 50000

1941 Source Sheets



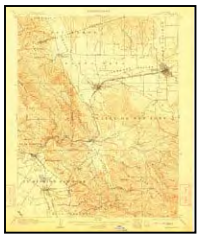
Pleasanton

15-minute, 62500
Aerial Photo Revised 1937

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1906 Source Sheets

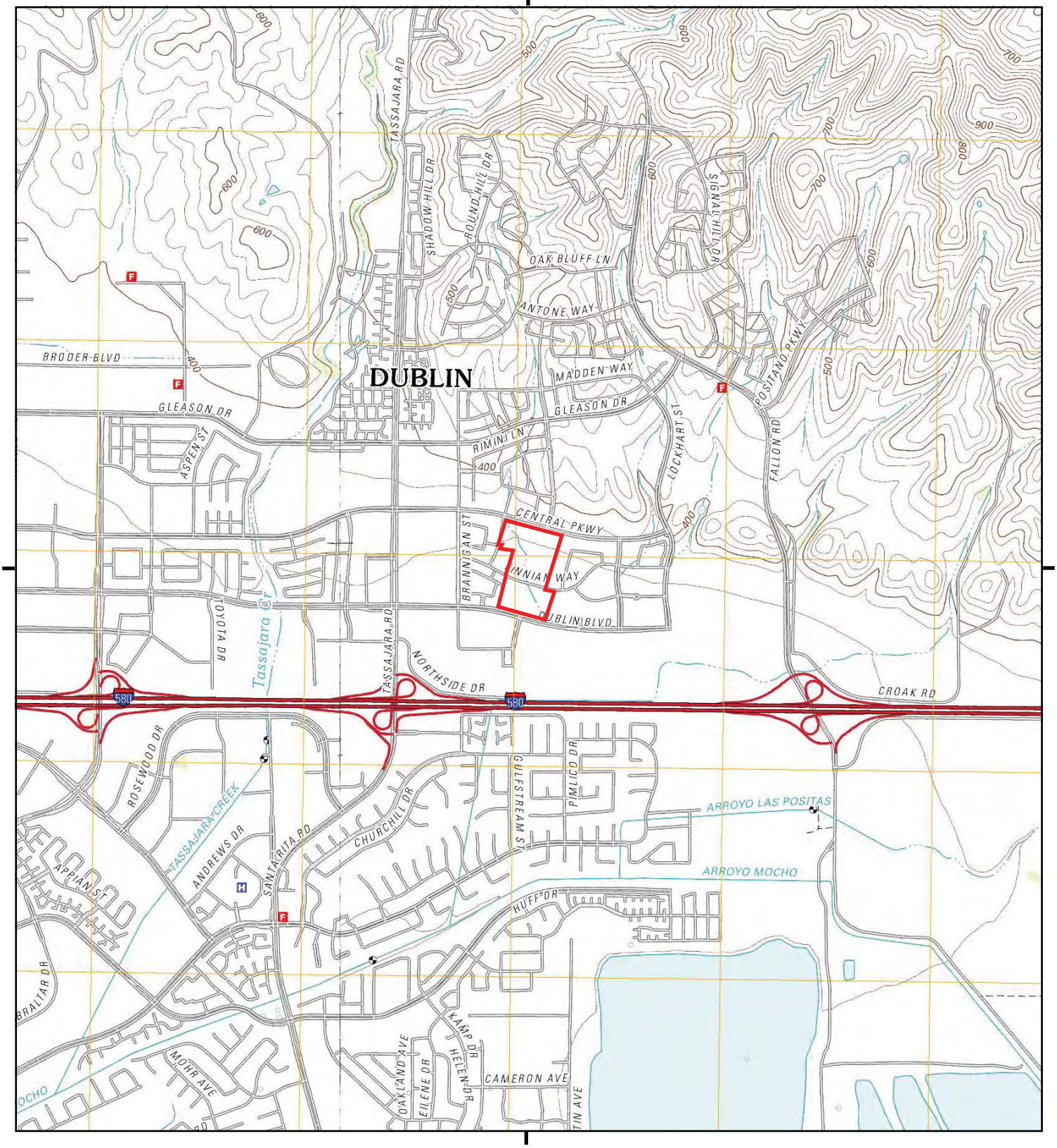


Pleasanton

15-minute, 62500

Historical Topo Map

2012



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

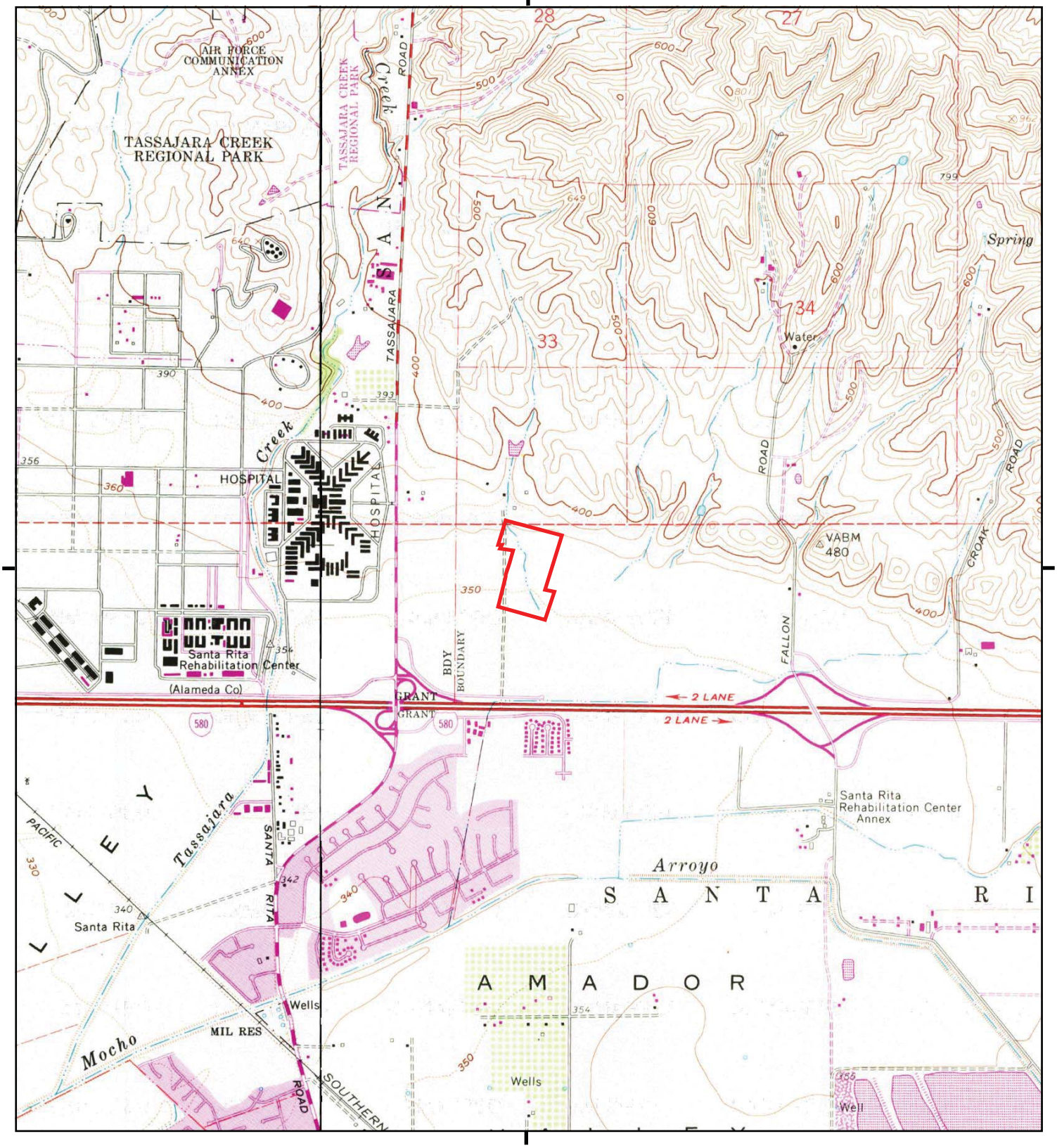
TP, Livermore, 2012, 7.5-minute
W, Dublin, 2012, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N

Historical Topo Map

1980



This report includes information from the following map sheet(s).

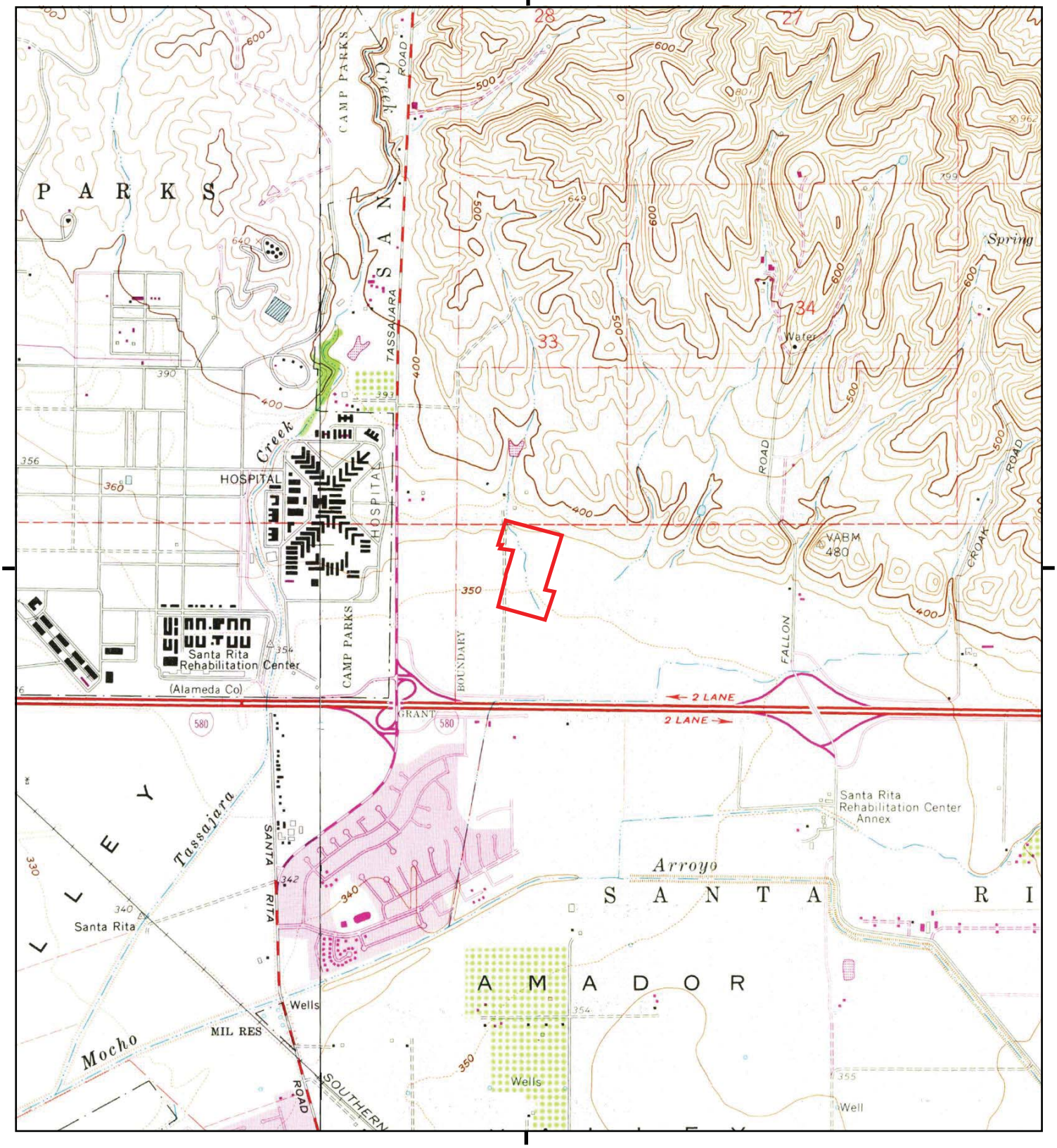
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Livermore, 1980, 7.5-minute
W, Dublin, 1980, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



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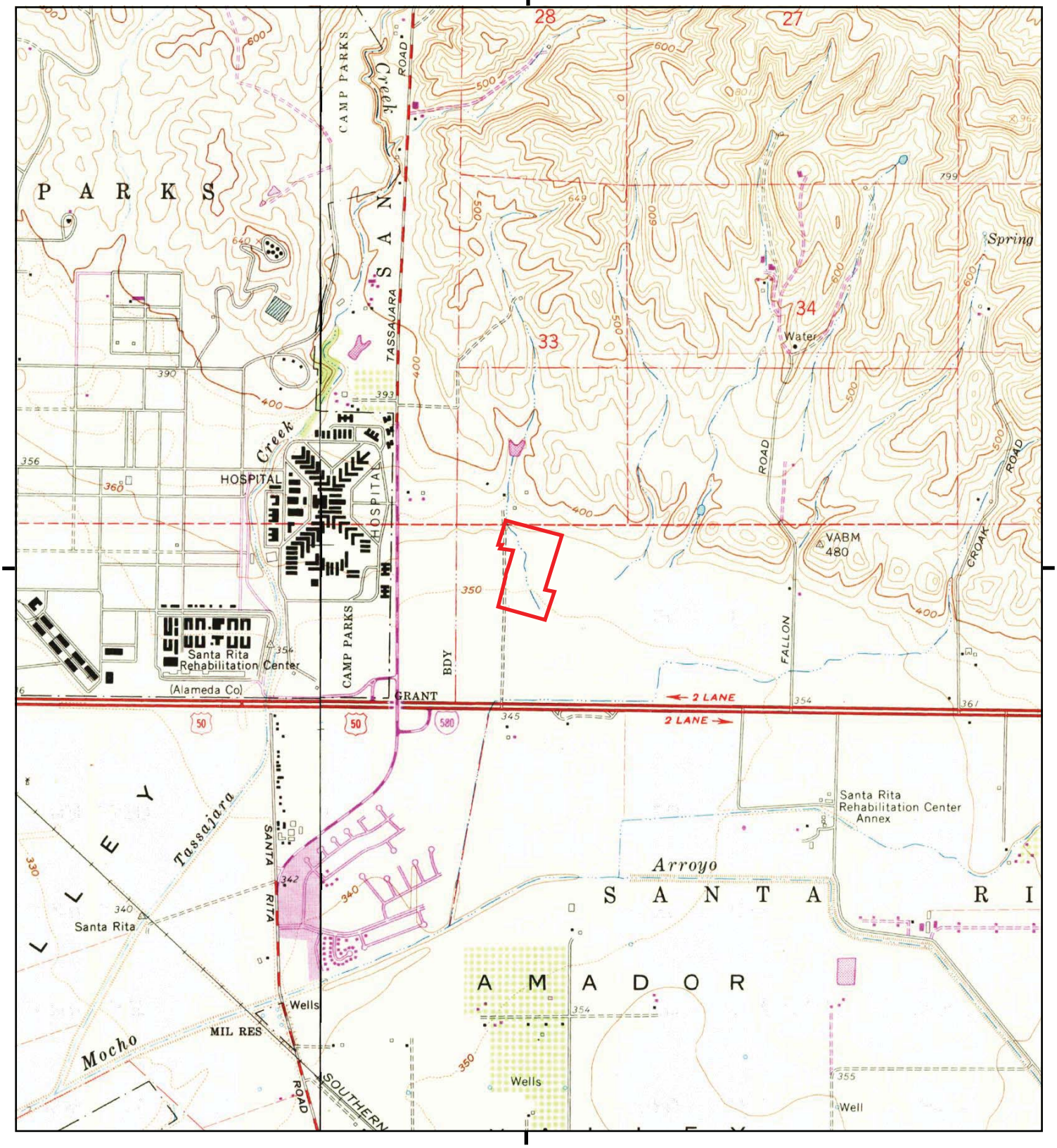
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Livermore, 1973, 7.5-minute
W, Dublin, 1973, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

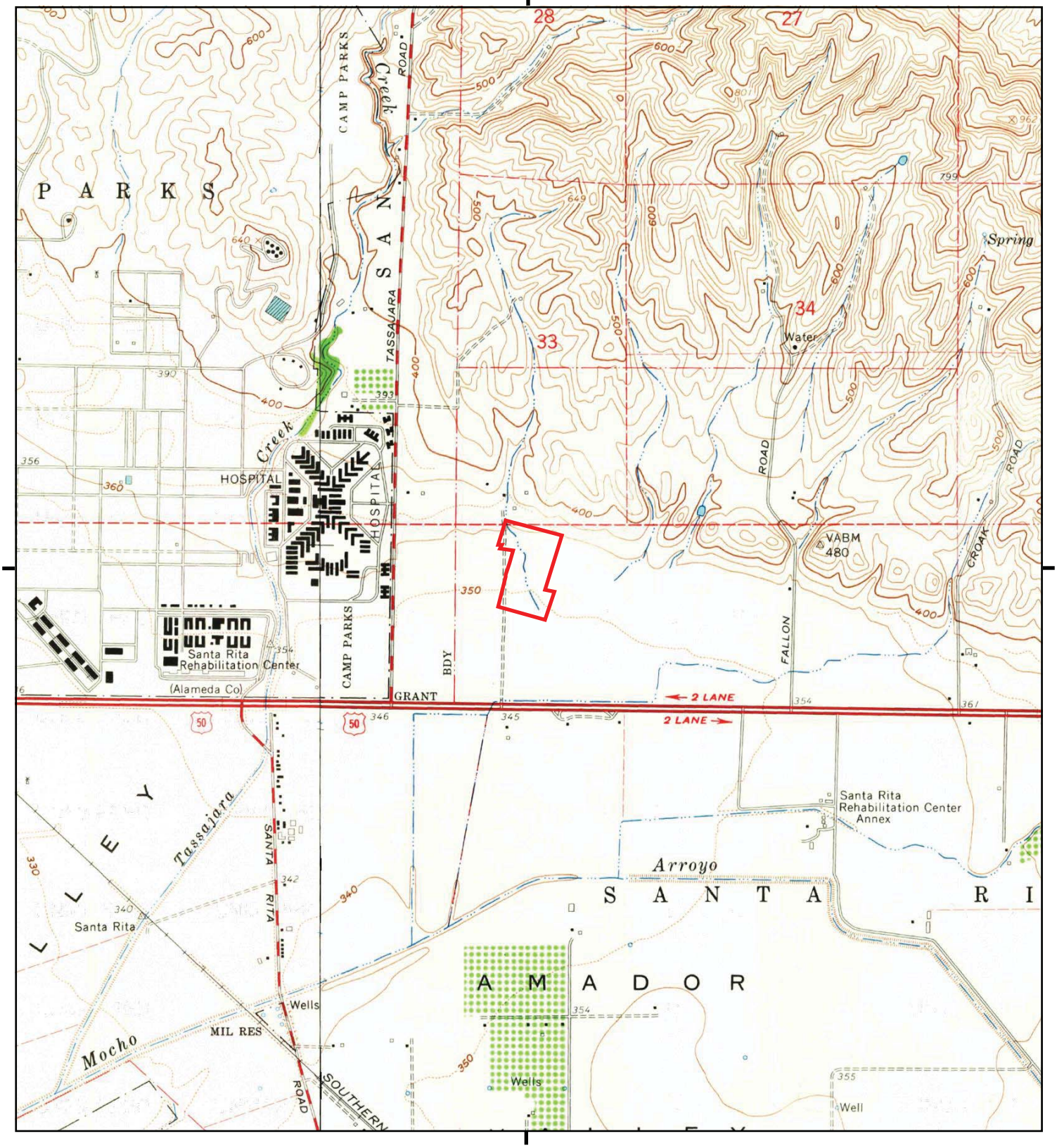
TP, Livermore, 1968, 7.5-minute
W, Dublin, 1968, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N

Historical Topo Map

1961



This report includes information from the following map sheet(s).

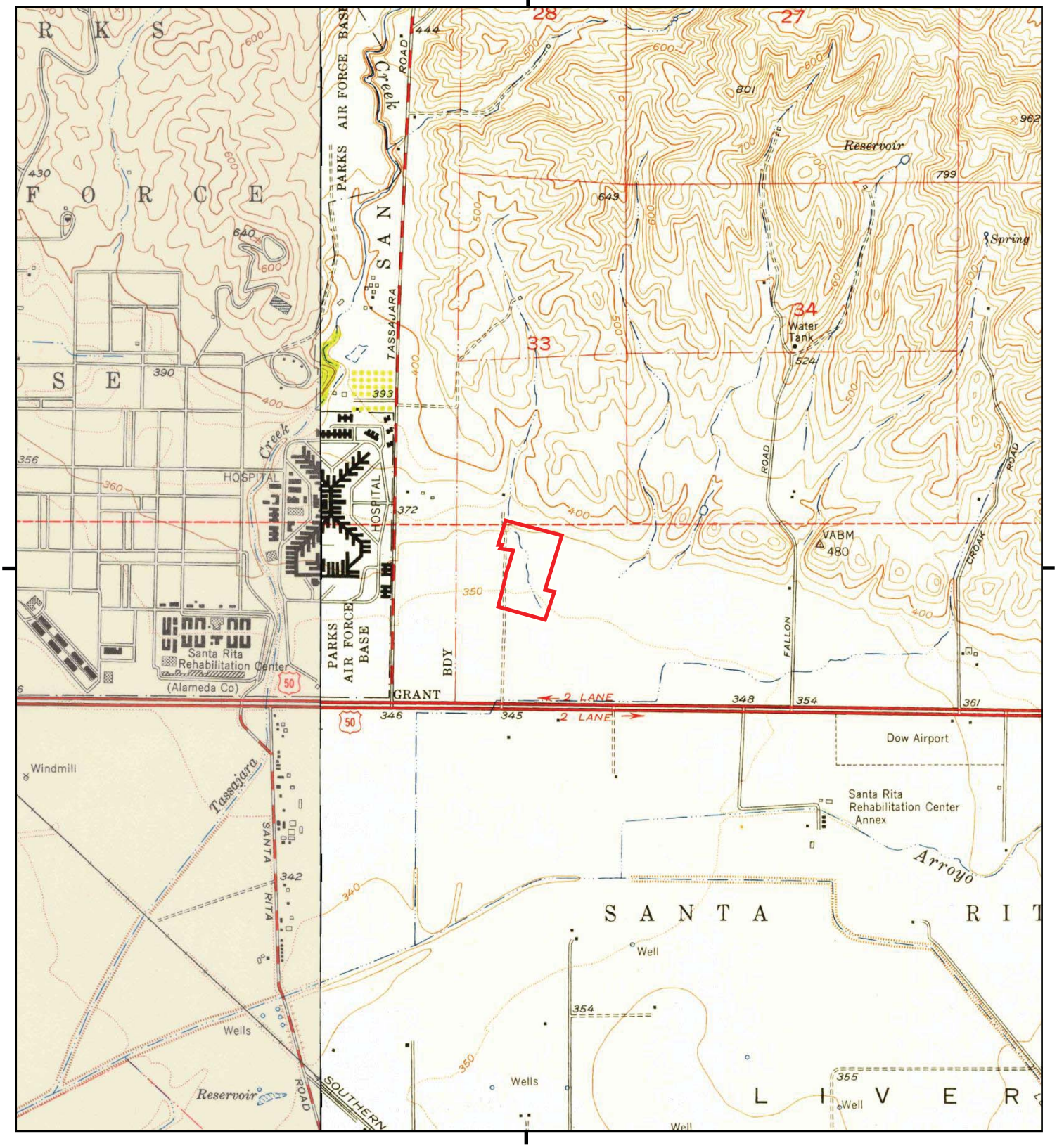
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Livermore, 1961, 7.5-minute
W, Dublin, 1961, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



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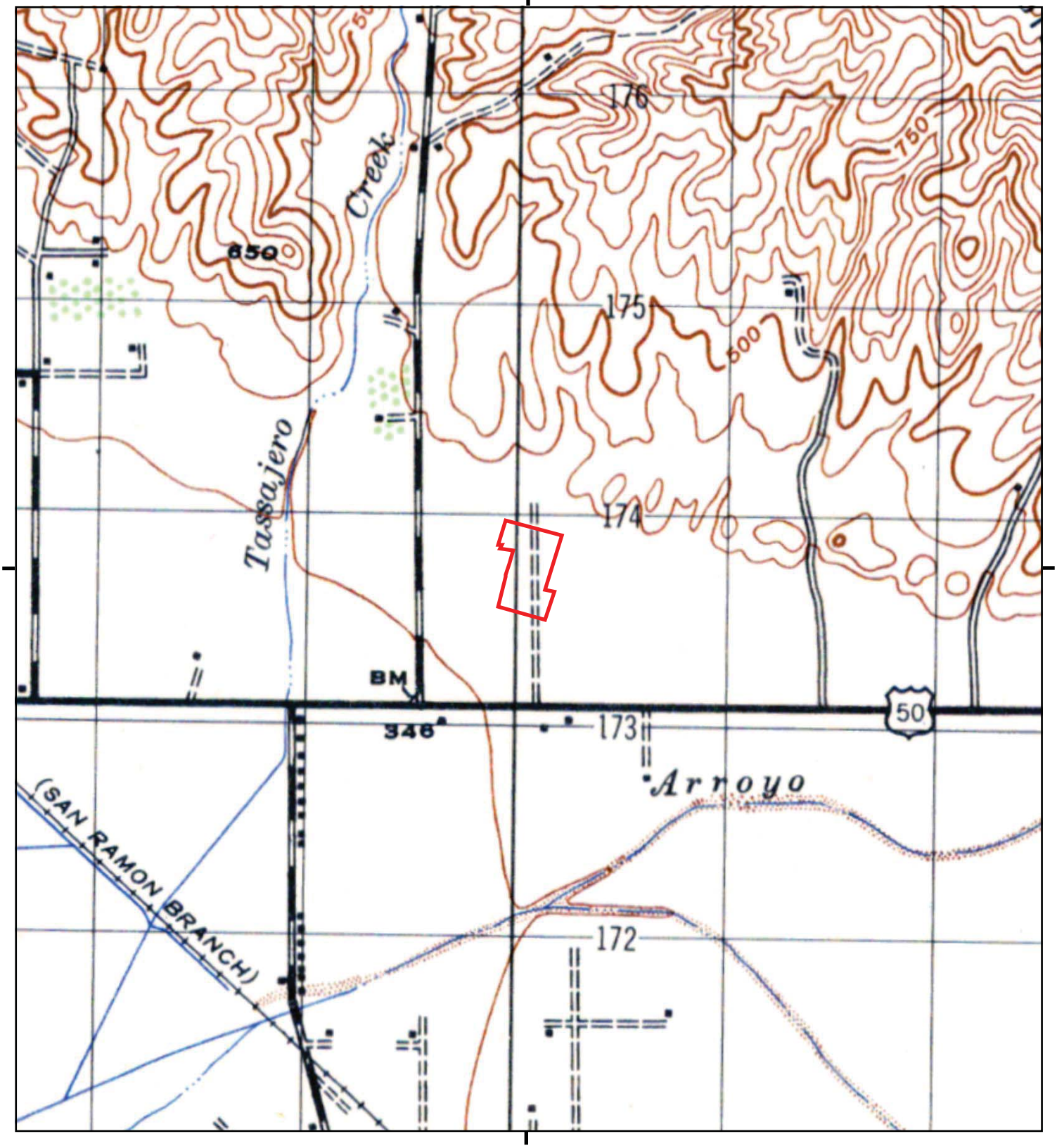
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Livermore, 1953, 7.5-minute
W, Dublin, 1953, 7.5-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



This report includes information from the following map sheet(s).

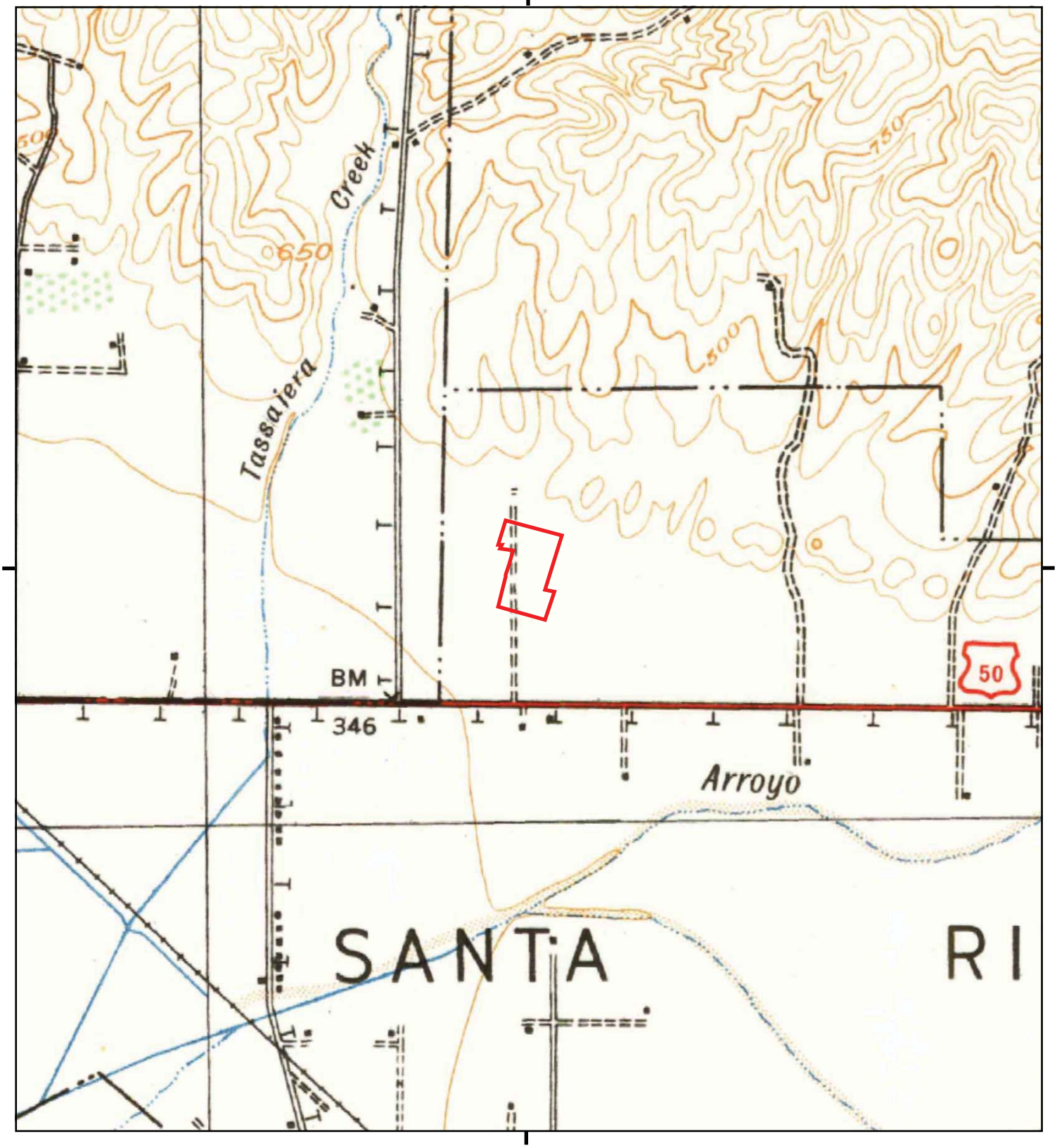
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, PLEASANTON, 1947, 15-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



This report includes information from the following map sheet(s).

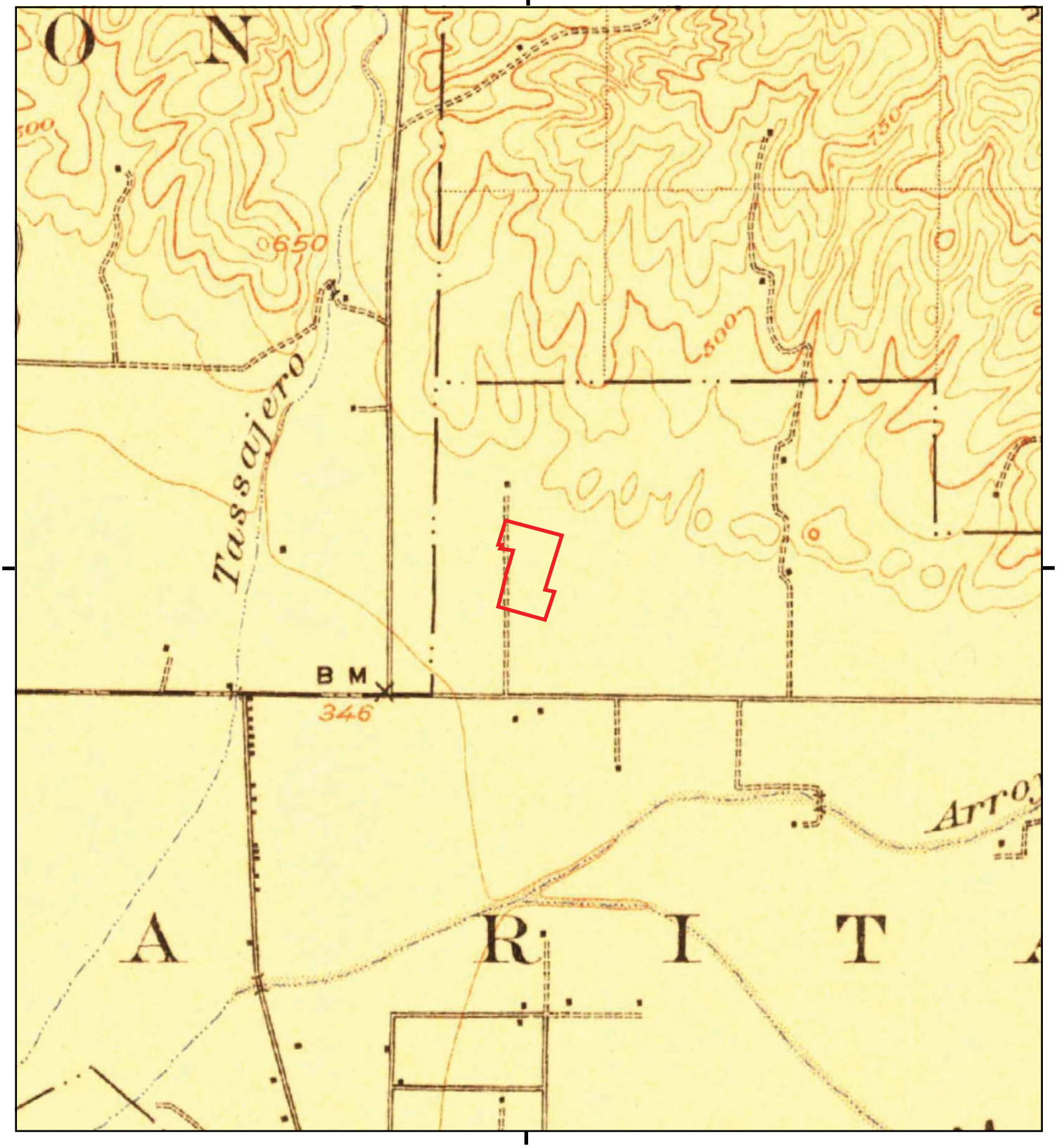
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pleasanton, 1941, 15-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pleasanton, 1906, 15-minute

SITE NAME: Promenade
ADDRESS: Dublin Boulevard
Dublin, CA 94568
CLIENT: Terraphase Engineering Inc.

N

APPENDIX K
EDR-CITY DIRECTORY ABSTRACT

Promenade
Dublin Boulevard
Dublin, CA 94568

Inquiry Number: 5579666.5
March 05, 2019

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

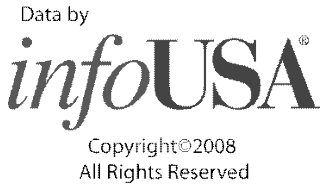
DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☑	EDR Digital Archive
2010	☑	☑	EDR Digital Archive
2006	☑	☐	Haines Criss-Cross Directory
2001	☐	☐	Haines Criss-Cross Directory
1994	☐	☐	Haines Criss-Cross Directory
1989	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1980	☐	☐	Haines Criss-Cross Directory
1975	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Dublin Boulevard
Dublin, CA 94568

Year	*CD Image*	*Source*	
DUBLIN BLVD			
2014	pg A2	EDR Digital Archive	
2010	pg A20	EDR Digital Archive	
2006	pg A37	Haines Criss-Cross Directory	
2001	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1994	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1989	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1985	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1980	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1975	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
GRAFTON ST			
2014	pg. A19	EDR Digital Archive	
2010	pg. A36	EDR Digital Archive	
2006	-	Haines Criss-Cross Directory	Street not listed in Source
2001	-	Haines Criss-Cross Directory	Street not listed in Source
1994	-	Haines Criss-Cross Directory	Street not listed in Source
1989	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014

2800	TARGET STORES INC
2820	DICKS SPORTING GOODS INC
3245	ALCALA, ROMEO C
	ARCINIAGA, GENE M
	AVOLICINO, SAM J
	BALKUS, GINGER
	BALL, CONNIE R
	BANH, ANDREW
	BURKE, BRIAN J
	CAMBRA, JENNIFER M
	CERRATO, DELMY S
	CHEN, PAUL
	CHEUNG, CHI C
	CLARK, JONATHAN D
	DEGUZMAN, JOSEPHSON C
	DETIEGE, RE
	EGBEYEMI, TK K
	ELISES, JOEL A
	ETEMAD, NEDA
	FRANKLIN, RHONDA Y
	GADI, PRAVEEN K
	GRAEF, SONDRA S
	GUPTA, MUNISH K
	HARRIS, CARMEN K
	JASIMAN, STEFFEN
	KALAGA, NAGA N
	KHAN, RIZWAN
	KYROLLOS, JENNIFER
	LAGMAN, LIGAYA J
	LAU, CANDY W
	LAYE, ROBERT M
	LEE, GREGORY
	LIU, NAICHEN S
	MAGANA, ENRIQUE
	MAK, JOHN
	MAURER, JOEL J
	MCGRATH, ELIZABETH A
	MCINTOSH, KHATTAB
	MCINTYRE, DEJON A
	MUNOZ-CARRASCO, MONICA M
	NARAGHI-ARANI, ENAYAT N
	NG, JONATHAN H
	NGUYEN, ANNABEL
	OCHOA, TYLER T
	PHASON, DOUGLAS A
	PINEDA, MARIA E
	RANNOW, RANDY K
	RECEIPT STREAM
	RODRIGUEZ, HEATHER N
	ROMANO, DANIEL

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

3245 RYBAK, PETER T
STEFFEN, JASIMAN
TABLAC, MARIDEHL S
TANUMIHARDJA, STEVE S
VERNOTZY-PACK, MARLI
WILLIAMS, PETER A
WOLFE, STANLEY R
YU, AIRONG
YU, KAREN S

3275 BAFILE, DANIELLE
BARCLAY, LISA M
BELL, MORGAN K
BISWAS, SABYA
BIXLER, JEFFREY A
CAPASSO, MATT P
CASTANHA, JOHN
CHENG, BETTY S
CORREA, VICTOR M
CRAIG, MARSHA L
DACQUISTO, ROBERT M
DALMACIO, MELISA T
DUOSS, ERIC B
EARLEY, RONALD G
FAN, LAWRENCE C
FARFAGLIA, MARK
FATIMA, SHAMAIL
FMLY, COOKE
FRUEND, THEODORE F
GARCIA, ENRIQUE B
GYANI, SHABAD
HADDOX, MATTHEW C
HEARNS, GWENDOLYN D
HOGLUND, JUSTIN
JENKINS, JESSE H
KIM, HEE J
KOU, JIANPING
LARKIN, SHIRLEY D
LAU, YVONNE Y
LEE, SEONG S
LEONARD, ALAN R
LEVESQUE, THOMAS J
LEWIS, JILL M
LIAO, JIM C
LICHTHART, EVELYN F
LIU, RYAN K
MARKHAM, CELESTE
MARLEAU, PETER A
MILNE, DONALD W
MOHAMED, NADIA
MOUAT, DANNA M

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

3275 NERI, JACOB G
PANGILINAN, ROLANDO D
PARSLEY, MARIA
PERRY, SANDRA K
POYA, LOTFI
QUACH, JOHN
ROBERTS, MICHAEL
SAUD, AWAIS
SCOTT, SANDRA Y
SERRANO, MANUEL V
SILVA, ROBERT L
SUICO, LONNA M
SULGER, ADRIENNE
TERRACES AT DBLIN RNCH VLLAGES
THOMPSON, DENISE A
TORRES, GEORGE T
TURNER, MARK J
WONG, ANGEL O

3385 ABLAZA, MELANIE L
ARREOLA, CRISTINA
AUGUSTA, BRIAN G
BALISALISA, RANDY S
BOSTIC, OMAR M
BRANCO, JAMES R
BRANN, LYLE M
BRANTNER, NANCY A
BRATTEBO, JON S
BURTON, EDMUND H
CARSON, KENDRICK J
CHEN, CINDY Y
CHUNG, PAE
CORBETT, CHERITA L
DEA, JAMES
DELEON, FRANCISCO J
DHARMARAJ, VINAYAGA S
DUEY, TEOFILO L
DUNCAN, LANCE R
EDHARA, MAYURI
EMIGH, LANCE S
ENG, CALVIN G
EVANS, KEITH A
FANNING, HERBERT K
FAZELI, NAHID
FEENEY, KIMBERLY
FRITZIC, V A
GROZA, GEORGE H
GUPTA, ABE
HAYS, LESLIE
HEO, KYUNG E
HIGGINS, SCOTT P

DUBLIN BLVD 2014 (Cont'd)

3385	HOFFMAN, PAULA L
	HUBBARD, RONALD A
	HUNG, JUI
	INICO, JUAN O
	IVIE, PATTY S
	JONES, ALLEN J
	JUI, GEORGINA
	KANG, JENNIFER
	KAO, TIM J
	KWAN, KENNETH W
	LAGORIO, JULIE S
	LAI, ERIC T
	LEROUX, MONICA Z
	LEWERENZ, BEN M
	LEYVAS, DIANE E
	LI, KEVIN
	LIM, GIBSON
	MATHIEU, CHARLES A
	MATZKE, BRENDA L
	MCELHANY, CHERYL
	PARKER, C
	PONGCHAROEN, JADE
	POOL, DEREK
	RAJAMAHANTHI, SAI P
	REZEIK, HAYSSAM S
	ROY, BRANDON
	ROY, RICHARD S
	RUTLEDGE, DUANE L
	SCHABERT, JON D
	SIEUX, LIANE K
	SIM, BHUNG C
	SMITH, KARA L
	SOMBERG, MERLE G
	STARR, MICHAEL W
	SUN, JOHNSON S
	TAYLOR, PENNY A
	TOVAR, KRISTI M
	TUGULEA, OVIDIU O
	WENGELER, ALEXANDER
	WIGHT, PAULETTE V
	WILSON, TOM
	ZHOU, WEN W
	ZUCKERMAN, DINAH
3465	ADIVI, SAI K
	AGRAWAL, RITESH
	ATRY, SONALI
	BILLING, GEORGE R
	BOARDMAN, RAYMOND M
	BROWN, CHRISTOPHER S
	BSEIKRI, MUSTAFA R

DUBLIN BLVD 2014 (Cont'd)

3465	CASTILLO, IRENE J
	CHAN, YEE Y
	CHANG, JULIE
	CHENG, HUIYONG
	CHEW, SANDRA
	CHUNG, CHEUK Y
	CLARK, JAY K
	DEUTSCH, STEVEN E
	DOSHI, HIMANSHU D
	FARRINGTON, CARL C
	FERNANDEZ, DON V
	FEW, VAKIYA R
	FORTE, RHEA E
	GONZALES, ETELVINA B
	HAO, LON C
	HELLEY, GEOFFREY D
	HEWES, DYLAN
	HIU, PHILIP
	HOU, GRACE
	HSU, YUTE
	HUR, DUIK
	JACKSON, ROCHELLE C
	JENKINS, LIZ
	KHOROUSHI, MOHAMMAD T
	KO, SEONG A
	KRAUSE, TRACY A
	LAM, YING P
	LAU, REBECCA C
	LAZZARETTO, ANTHONY
	LEACH, RYAN C
	LEE, JAMES
	MANINGO, JOSEPHUS R
	MAPOY, LLOYD
	MAY, YUAN
	MENG, YANAN
	MORAGHEBI, KAVEH
	NGAI, JEFFREY
	NIJJAR, MANMOHAN
	OCHOA, ANDREA E
	OKAMURA, MICHELLE K
	PANDYA, ABHISHEK
	PONNAMPARAMBATH, TARUN
	QI, MARY T
	RADINOVICH, MASHA
	RAFIEZADEH, ALI
	RAYALACHERUVU, LAXMIPATHI
	RIX, JULIE
	ROBLES, MERCEDES F
	RODRIGUEZ, MARIA T
	RUH, WILLIAM

DUBLIN BLVD 2014 (Cont'd)

3465	SAVKOOR, SHRIKALA R
	SCHOCK, SKYLAR E
	SHIRODKAR, RAKESH
	SHU, JAMES
	SIMEONS, JOSEPH L
	SLADE, LADONNA
	SRIVASTAVA, AMIT
	STONE, DAVID E
	THOUTREDDY, NIVEDITHA
	TORRES, FERDINAND D
	TRAN, TRINH T
	TU, GABRIELA
	TUNG, TEH
	UM, SANG Y
	WAGNER, ROBERT
	WANG, LEO L
	WU, MICHAEL
	YALAMANCHILI, RAVI T
	YIU, KAREN K
	ZEMLOK, TY
	ZHOU, JIANWEI W
	ZIEGLER, MICHAEL
3637	RAMSAY, JANET
3641	MARKS, COURTNEY
3645	OCCUPANT UNKNOWN,
3649	THOMPSON, PHILLIP R
3653	LAM, TIM N
3657	YOSHIDA, MADISON J
3661	LAM, DANIEL M
3667	LAGAT, DAVID
3671	IBARRA, RIGOBERTO F
3701	GLASSELL, STEPHEN A
3703	RAISURANA, NAMIT
3707	OCCUPANT UNKNOWN,
3708	GILSDORF-YEE OPTOMETRIC GRP IN
3711	ZHANG, CINDY
3712	BUFFALO WILD WINGS
	TEE IT UP LLC
3719	LABRADOR, VICTORIA A
3723	TONG, JAMES
3725	DIENER, BILL
3727	IQBAL, AMANDEEP
3731	DAMA, IRFAN
3735	FONG, DAVID
3750	LOWES HOME CENTERS INC
4000	BASEL NAIM DO
	HARDY HOOD LESLIE MD
	JOHNSON MELISSA MD
	SAN RAMON VALLEY-DUBLIN
	SAPUGA ANNA MARIA MD

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

4000	SOLH NANCY MD
	TOTAL FOOT WELLNESS
	TUSTIN TELERADIOLOGY MED GROUP
	VALLEY CARE HEALTH SYSTEM
	WIGGINTON NANCY MD
4050	CASTRO VALLEY PRIMARY CARE
	SUTTER HEALTH
	ZAMARY RAAFAT K MD
4094	ALEXANDER, DIANE L
4101	ACHURY, MICHAEL
	ADULT MEDICARE INC
	ALAMEDA, JIM D
	ALARM CONNECTION SERVICES INC
	ALLREAD, PERRY H
	ANOSMI LLC
	ARRUDA, HARRY A
	BEASLEY INSURANCE SERVICES
	BECTON, NEISHA H
	BEST ENVROMENTAL SOLUTIONS LLC
	CAMELIO, JENNIFER K
	CHIA, EELAN
	CHUAH, CHEONG L
	CLOSIO INC
	COLOR PRO
	DOUGLASS, OLLIE
	EAST BAY FERTILITY CENTER INC
	ESQUEDA, ISABEL
	G FORCE ORTHODONTICS
	HUGH W GALYEAN ASSOCIAT
	IBARRA, JOAQUIN
	LEE, EUGENE W
	LEVINSON, MITCHELL E
	MCKAY HOLDINGS LLC
	NASRUDIN, WALI
	NATIONAL BDGT PLNNERS OF S FLA
	NG, DOMINIC Y
	PINOY SAVER USA LLC
	RANI JEWELS INC
	RICE, JERRILL E
	ROBERTS, SHARMAYNNE A
	SAFDARI, IDRISS
	SETHI, INDERDEEP S
	SINGH, RUPINDER J
	SNOWDEN, ELLEN
	SPECIAL TACTICS AND RESPONSE
	STUCKY, LISA
	TAYLOR, PENNY
	TIMELESS MEDIA LLC
	TSENG, DAVID T
	URBAN, REBECCA

DUBLIN BLVD 2014 (Cont'd)

4101 WHITE, KIMBERLY A
WOOFK9 LLC
4104 COMEAUX, BRYAN
SCHMIDT, SUNG
4140 ARCHSTONE SAUSALITO MEZZANINE
CLINE, RUTH
DUBLIN CORP CTR OWNERS ASSN
ELLIE, MAE
4160 OLIVETA INC
4250 BANK AMERICA NATIONAL ASSN
4288 ANGEL REBORN
BAHAAR MARKET INC
GLAMOUR NAIL SPA
GOLDEN DUBLIN OPTOMETRY
HAIR CULTURE
HALU SHABU SHABU INC
JIMS TAIWANESE CUISINE
JUST KOI
KEE WAH BAKERY
LIANGS KITCHEN
MACROREAL
PARADISE VACATION SERVICE
PHO SAIGON NO 2
SINGAPORE RIVER CORP
THAI BASIL EXPRESS
4500 ESA P PRTFOLIO OPER LESSEE LLC
4520 JPMORGAN CHASE BANK NAT ASSN
4524 CHRISTOPHER TRIPI
FOUR PAWS VETERINARY CENTER
4530 DUBLIN CORNERS DENTAL
4532 DANTE A GONZALES DMD MSD
4536 LITTLE SMILE MAKERS
4540 JC OPTICS
SITE FOR SORE EYES
4542 DUBLIN CA
KOKO FIT CLUB
TURNBERRY INVESTMENTS INC
4544 PERFECT NAIL
4546 ALLURE HAIR SALON
4548 PLANET BEACH TANNING SPA
SAN RAMON VALLEY
4550 ACE LIMOUSINE SERVICE
INFINITE VELOCITY INC
PERFECT THREADING
4552 NEW INDIA BAZARE
4554 KUMON MATH RADING PLEASANTON N
SUBWAY
4556 NIRVANAA DUBLIN
4558 MARTIAL ARTS ACADEMY OF USA
4562 DUBLIN LIQUOR AND WINE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

4580	CHINA PARADISE RESTAURANT
	VRRU INC
4582	DESAI & SHAH INVESTMENTS INC
	HAVELI INDIAN CUISINE
	SUBCONTINENTAL FOODS SVCS INC
4584	CAFE TAZZA
	DELICIOUS FOOD CONCEPTS
	SHELDANS BAKERY & CAFE
4588	PAPA JOHNS
	YASH S PIZZA CORP
4590	TOMATINA
4808	APPLE-BAY EAST INC
	R & D ENTERPRISES INC
4820	BEST BUY CO INC
	GEEK SQUAD INC
	PACIFIC SALES KITCHEN & HOME
4860	DRESS BARN INC
4870	BARONS JEWELERS
4882	BED BATH & BEYOND INC
4906	ANY MOUNTAIN LTD
4910	FUDDRUCKERS
4922	PARTY CITY CORPORATION
4930	FIVE GUYS BURGERS & FRIES
	SORROCHE & LUANGVIPHAT CORP
4940	ON THE BORDER CORPORATION
4948	ULTA SALON COSMT FRAGRANCE INC
4962	KEY & SAFE MASTERS
	OLD NAVY INC
4972	BARNES & NOBLE BOOKSELLERS INC
4980	WORLD OF JEANS & TOPS
4990	TOYS R US-DELAWARE INC
5000	MARMAXX OPERATING CORP
	REGAL CINEMAS INC
6050	ARLEN NESS ENTERPRISES INC
	ARLEN NESS MOTORCYCLES LLC
	NESS MOTORCYCLES LLC
6080	HERTZ LOCAL EDITION
	MAGNUSSEN DEALERSHIP GROUP
	SERVICE KING PAINT & BODY LLC
6091	COOKS COLLISION INC
6175	CALPHIN
	POOL PATIO & MORE
6225	AUTOMOTIVE CONSULTANTS
	GROOVE QUEST RECORDS
6275	LA QUINTA CORPORATION
	LA QUINTA INN & SUITES
	OPEN DOOR BAPTIST CHURCH
6300	HARVEY & MADDING INC
	HONDA CERTIFIED USED CAR OUTL
	KBH INVESTMENTS LLC

DUBLIN BLVD 2014 (Cont'd)

6351	DUBLIN AUTOWORKS
6379	AK & FOSTER 1718 LLC
6400	DUBLIN 76
6401	CIRCLE K STORES INC
6450	REINALT-THOMAS CORPORATION
	SOUTHERN CALIFDISCTTIRE COINC
6500	DIVERSIFIED STRATEGY FINANCIAL
	HOME & MORE REALTY INC
	MLD MARKETING
	SERENDIPITY SENIORS DBA SENIOR
	TALOS MEMORY
	YORKE ENGINEERING LLC
6599	ARANAS, TAOFANES C
	BABEL, SAMANTHA R
	BOLINGER, JOSEPH W
	BRIGNONI, RYAN
	BROWN, THOMAS W
	CABATIC, JONATHAN
	CLARK, SHELBY
	COPES, BLAKE
	DURLESTER, SHEILA B
	FLAHERTY, MICHAEL F
	FOSTER, CHRISTOPHER
	FRESH MILLIONS
	GHARAKHANIAN, ROOBEN A
	GUEST, KRISTI
	HAKIMI, SHAHLA
	HARTANTONO, HARY U
	HO, PHUONG K
	INAHARA, STEVEN
	JACKSON, CHRISTOPHER L
	MACARARG, LUKE
	MANCERA, GUILLERMO
	MARTIN, JOSEPH
	MATSARSKI, ALIAKSEI
	MAY, RANDY D
	MIKKELSEN, THOMAS A
	MOORE, TRACI
	MUTHUKRISHNAN, THIYAGARAJ
	PEREZ, DEREK
	STAMNES, ERIC T
	STEFL, JOHN M
	SWIFT, RICHARD N
	VARGAS, DEVINA A
	VARGAS, ROBERT J
	WARE, B
	WILLOUGHBY, DONALD F
	WILLOUGHBY, KATHARINE A
	WORD, CASEY L
	YOUSEFZAI, YAMA

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

6601	ALJABER, ABDULLAH
	BABU, ANURAG
	BLANCHARD, TANISHA A
	BROWN, MORGAN
	CELEBISOY, BERK
	CONNOR, ASHLEY
	FINN, MCKENZIE
	GALE, GILLIAN
	GUPTA, SAKSHI
	HALES, RICHARD L
	HARRIGAN, SALINA C
	HARRIS, JAMAL
	HILL, TREVIS
	HOLLAND, TYLER G
	JASER, HARB
	KILPATRICK, ERIN S
	LAGAGE, KATHY
	LICUANAN, RHEA Y
	MALVESTIO, PABLO E
	NADERPOUR, POUYA
	NIETO, MICHAEL
	PERSIS RESTAURANTS INC
	PULIPATI, VIJAY
	QUINTANA, KATHY M
	ROESBERY, DANIEL
	ROSE, SUMMER
	SAFFI, MOHAMMAD S
	TOLLIVER, DERRICK W
	UPPALAPATI, NAGA
	VERTIN, MELISSA
	WELCH, ERIK L
	YOGURT WALK
	ZHOU, LING
6610	BEYOND WIRELESS INC
6612	ALL CREATURES VET HOSPITAL
6616	SIGN PRO
6620	THREADS BEAUTY BAR
6622	ONE HOUR CLEANER
	WESTCOAST FOODS INC
6632	GULESSERIAN BROTHERS INC
6635	TRINOW FITNESS LLC
6743	AAA LOCKSMITH
	EAST BAY METAL FABRICATION
	GALAXY GAMES
	TIMOTHY NERRY
6769	APEX LIFE INC
	CROSS ROADS FURNITURE
6783	SAHARA MARKET
6785	ELBYS AND FUNKS AUTOWORKS
6797	HARVEYS CLEANERS & LAUNDRY

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2014 (Cont'd)

6801	BAD MONSTER INC
	NAPA AUTO PARTS DUBLIN
6841	CHRIST BIBLE CHURCH
6843	DE FAZIO DISTRIBUTOR INC
6849	AIRGAS USA LLC
	DEMO ACCOUNT DUBLIN B89
6867	ENTERPRISE HOLDINGS INC
6985	RAYS AUTO SERVICE
6993	CHRISTINA MORAIN EPC
	HAIR EMPORIUM
6997	FAX DOCTOR
	PC-TEK
6999	ATHENS BURGERS RESTAURANT
	DELANOY FRED
7001	DUBLIN CYCLERY
7011	WEST COAST BEAUTY SUPPLY
7027	AQUA TEMP COMPANY
	CALIFORNIA FOOTBALL CLUB INC
	D M J GAS MARKETING CONSULTANT
	LARSEN SUSIE LAW OFFICE OF
	MC CARTHY & LEONARD
	PARAGON TECHNICAL SERVICES INC
	PARK WLLNESS CTR CHRPRCTIC INC
	PERACTO AUTOGROUP LLC
7035	MAC DADDY PROPERTIES LLC
7036	CHINAWAY INTL CULTRAL & EDUC S
	JULIA HU DDS
	PERIODONTICS AND IMPLANT DNTL
7038	CONWAY BRIAN A
7040	VIEW MOBILE DENTAL
7042	ANNA LU DMD APC
	GIANG T VO DMD PROF DNTL CORP
	HILLCREST DENTAL GROUP
	VO JOHN DR DDS
7044	OASIS DENTAL
7046	ALL IN ONE DENTAL INNOVATIONS
	JAMES HUANG DMD INC
7048	OLYMPIC ORTHONDONTICS
7050	DUONG CHIROPRACTIC INC DUBLIN
7051	DERWA
	DSRSD FINANCING CORPORATION
	DUBLIN SAN RAMON SERVICES DIST
	LAVWMA
	LIVERMR-MADOR VLY WTR MGT AGCY
	WATER & SEWER SERVICE
7052	ALMOND PLAZA DENTAL CARE
7100	CONCORD FEED & FUEL INC
7102	ZONE LAZER TAG
7108	RAHMA MEDITERRANEAN MARKET
7110	ENJOY BETTER TV

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DUBLIN BLVD 2014 (Cont'd)

7110	RADIOSHACK CORPORATION
7112	MISTER PICKLES SANDWICH SHOP
7114	BEAUTY PLUS
	WINNIES NAIL SPA
7119	JAM PARTNERSHIP
	MOW LLC
	SAN DAN L P
7120	JAMK INVESTMENTS INC
	N & N FOODS INC
7121	CCM PARTNERSHIP
	GMI TIRES INC
7127	LOGOBOSS LLC
7129	HAIRTIQUE
7131	DUBLIN NAILS
7133	SCHULER BESS
7135	FRIENDS DAY SPA
7137	PNNU DENTAL
7139	ACCESS COMPUTERS
	QUADRANT INFO SVC
7141	ELEGANT AND NATURAL KOSMETIK
7143	EASTBAY EQUITIES INC
7145	BAY AREA RESTAURANT
	MCDONALDS
7240	DUBLIN AUTO WASH
	MOUNT MERU PETROLEUM LLC
7350	DUBLIN RIGATONIS
7460	TFI WIND DOWN INC
7496	BANK AMERICA NATIONAL ASSN
7499	SAFEWAY INC
	US BANK NATIONAL ASSOCIATION
7505	NWC LLC
7533	BANK OF WEST
7544	CROWN ISUZU
	DUBLIN CHEVROLET BODY SHOP
	FLUID MAINTENANCE EXPERTS INC
	TRI VALLEY COLLISION CENTER
7575	BASSETT FURNITURE INDS INC
7600	GIANT REALTY INC
	JPMORGAN CHASE & CO
7704	MUSIC EXCHANGE INC
7740	MALYS INC
7752	PALOMARES CHIROPRACTIC
7776	FJL MANAGEMENT INC
	RELAX AVE DAY SPA
7788	PREMIER MEDICAL GROUP
	SHIU TONY MD INC
7792	DESAI TEJAS DDS
	DUBLIN PLAZA DENTAL
7802	XPESS DRY CLEANER
7850	MANCINIS SLEEPWORLD INC

DUBLIN BLVD 2014 (Cont'd)

7855	TSA STORES INC
7884	D I S H N E T ALL CUSTOMER SVC
	OSH 2 LIQUIDATING LLC
7886	ROSS STORES INC
7889	CITIBANK N A
7890	MICHAELS STORES INC
7892	MARMAXX OPERATING CORP
7896	DSW INC
7898	HALF PRICE BKS REC MGZINES INC
	WESTERN APPLIANCE TV & STEREO
7904	STARBUCKS CORPORATION
7908	DGB LUGGAGE & LEATHER LLC
7912	JENNY CRAIG WGHT LOSS CTRS INC
7916	SLEEP TRAIN INC
7925	SUES GIFT BASKETS
7944	N J T COMPANY
7950	BACK CRE-A CHRPRACTIC SOLUTION
	GOLDFISH NATURAL HEALTH
	JCL PROPERTY MANAGEMENT LLC
	LEDO ENTERTAINMENT INC
	LISA IVANCICH
	MERIDIAN APARTMENTS LP
	MICHAELS GUN SHOP
	PACIFIC FINANCIAL BANCORP
	PROFESSNAL CNVERGENT SOLUTIONS
	SELF STORAGE WALNUT CREEK LLC
	STATE FARM
	THOMAS TOMANEK & ASSOCIATES
	VIP INJURY LLC
	ZIKOMO MALAWI INC
9530	SCHAEFER, OTTO
9540	WILLIS, JARROD R
9801	DISCOVERY BUILDERS
	HAPPY TALKERS INC
11501	FSG-AOC SERVICES LLC
	HAUSMANN, NICOLE
	HOWARD, KENNETH
	LEFF, ALEXANDER M
	LETS TAKE
	MAXVIEW CAPITAL LLC
	OPUS VIRTUAL OFFICES LLC
	PAINTBALLTICKETSCOM
	PANDIT
11505	GRAYBAR ELECTRIC COMPANY INC
11555	DESILVA GATES CONSTRUCTION LP
	DESLVA OLIVER INC
	DOUBLE D TRANSPORTATION CO
	OLIVER DE SILVA INC
	PACIFIC STTES ENVMTL CNTRS INC
	SUNOL AGGREGATE

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DUBLIN BLVD 2014 (Cont'd)

11700	ALL WORK DONE BY OWNER INC
	LAWMARK TRANSPORTATION SERVICE
	PARAGON MARKETING TEAM LLC
	POWER TURNER PROPERTIES INC
	ZIDIL INC
11711	HEXCEL CORPORATION
	HEXCEL FAR EAST INC
11740	CHRISTOPHER, HUANG
	DELTA FINANCIAL
	HATCH KATHERINE A PHD
	HATCH, KATHERINE
11750	A & D PAYMENT PROCESSING INC
	DISCOUNT VINYL & GARDEN CENTER
	EMERSON MARK PSYD
	MACROPHIL INC
11760	FANG YUAN DEVELOPMENT & INV
	LITTLE KIDS LEARNING CENTER
11805	US BANK NATIONAL ASSOCIATION
11820	HOFFMAN DON N CIVIL ENGINEER
11824	DUBLINE ELECTROLYSIS
11828	A AMERICAN WINDOW CLEANING
	BEESONS MINISTERIAL TAX SVCS
	CAUCHI PHOTOGRAPHY
	CHAMBERS KATHRYN CPA
	DOLPHAN ENTERPRISES INC
	GFK & ASSOCIATES
	HCS WATERPROOFING INC
	INK VCTNAL REHABILITATION SVCS
	KB AUTO SOLUTIONS
	LMARR DISK LTD
	SALBU & ASSOC
	SRE INC
	WILLIS CONSTRUCTION
	WOLLENBERG BURGESS KIM
	XINNOVIT INC
11830	DEERCREEK MORTUARY
11840	AXIS COMMUNITY HEALTH CENTER D
	PFS 14 SWIMMING POOL SVCS INC
11842	IRON HORSE HEIGHTS
	IVY OAKLAND LLC
	JACK LONDON TOWERS LLC
	LANCAR DEVELOPMENT INC
	SIMPLY BETTER REMODELS
11844	MAC INVESTMENT GROUP
11846	XL ENGINEERING LLC
11848	A SPECIAL TOUCH FUNERAL SVCS
11850	MB ACCOUONTING SERVICES
	MIDNIGHT RUNNER INC
	ROSS BRIAN K LAW OFFICES
	STARS GAMING INC

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DUBLIN BLVD 2014 (Cont'd)

11852 SEVERN SAFETY SUPPLY LLC
SKIMPAK LLC
TUTTIDARE
11854 BUCK PAMELA J
11860 DUBLIN FAMILY DENTISTRY
ERGONOMIC SEATING & PRODUCTS
GRASSO JOSEPH DDS
11873 TRI-VALLEY CHURCH OF CHRIST
11875 2628 TELEGRAPH AVENUE OWNERS
ACE LEARNING CENTER
ADEPT PROPERTY MANAGEMENT INC
ALLIANT PACIFIC CORPORATION
ARBORWORKS INC
BAY AREA EXCAVATORS INC
BAY CITY REALESTATE GROUP
BAYSIDE MEDICAL GROUP CORPORAT
BISE MITCHEL MFCC
BISHOPS LIAISON FOR CATHOLIC C
CALIFORNIA TRENCHLESS INC
CAMILLIA HOME OWNERS ASSOC
CASA BONITA CONDOMINIUM ASSN
CHALLENGE DAIRY PRODUCTS INC
CITY OF DUBLIN
COLLEEN PIVA
CRANBROOK REALTY INV FUND LP
DUBLIN GARBAGE COLLECTION
ENERGY EMP MED MONITORING PROG
EPIS INCORPORATED
FANTASY GARAGE
FRIES LINDA MFCC
GEO FOCUS GEO TECHNICAL CNSLTG
GST CORP
GST TRUCK DIVISION
HELSING GROUP INC
HERITAGE PARK OFFICE CENTER
HT OIL KANSAS III LP
I I W INSURANCE SVCS OF CAL
ICNEWS FOUNDATION
ISIF MADFISH INC
JT2 INTEGRATED RESOURCES
KINCHEN JOHN B
L S Y INCORPORATED
LEVINE MARK MD
LFG LENDING CORP
LINCOLN FUNDING GROUP INC
LINCOLN REALTY TRI-VALLEY INC
MAC INSTITUTE
MORSE & ASSOCIATES ATTRNY AT
MORSE IVAN O B ESQ ATTY AT LAW
NEXT DEMENSION SALES

DUBLIN BLVD 2014 (Cont'd)

11875 NYK LINE (NORTH AMERICA) INC
OHS
PROLOGIC COMMUNICATIONS INC
SALES CONSULTANTS PENISULA
SANDBERG INGRID PHD
SANDBERG, INGRID
SRM MORTGAGE LLC
SUPERIOR PROCESSING SERVICE
TECHNOVANT INC
US PUREN INC
11891 FULLFILLMENT SYSTEMS INC
11976 PETCO ANIMAL SUPS STORES INC

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GRAFTON ST 2014

4060	DSB LLC
	VITOS EXPRESS
4080	CHARTER PROPERTIES
	CHINA HKG TPE MERCHNT ASSOC
4100	KARMA DUBLIN LLC
4569	GONZALEZ, JAVIER P
4577	WANG, KEVIN
4585	FRANCO, DAVI
4593	ARRIVARE HORTON DR
	ARRIVARE, HORTON
4601	ANKALA, SHREEKANT
4609	JUNG, JAERYOUNG
4617	SANSONE, JOSEPH
4625	VAN, MICHAEL

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DUBLIN BLVD 2010

3245	ADVINCULA, MARIA L
	ALCALA, MICHAEL A
	ARCE, RODRIGO F
	ARCINIAGA, GENE M
	ASHE, KRISTI M
	AVOLICINO, SAM J
	BIELAWSKI, BLAIN
	BURKE, BRIAN
	CAMBRA, JENNIFER M
	CARTER, KARIN
	CARTLEDGE, RICHARD F
	CAVIL, LAURA
	CERRATO, DELMY S
	CHEHAB, SANDRA
	CHEN, PAULUS T
	CLARK, JONATHAN D
	COLOMA, JASON
	DE, GUZMAN
	DEGROAT, MICHAEL S
	DEGUZMAN, JOSEPHSON C
	DELEON, MARTA M
	DETIEGE, REBECCA A
	DOMEJEAN, JACQUES
	DONNELLY, KATIE
	FRANKLIN, RHONDA
	GARMAN, DUANE M
	GILLHAM, BILL E
	GOMEZ, TERESA G
	GREEN, JUSTIN
	GUNE, ABHIJIT P
	GURROLA, CAROL V
	HANNA, GEORGE
	HARRIS, CARMEN K
	HAYNES, MADGE O
	HERMOSO, TIFFANY
	HWANG, SOYEN
	INOCENCIO, VINCENT
	JAROSZ, JORDAN E
	JASIMAN, STEFFEN
	KOSASIH, MONA A
	LACANGLACANG, ARTHUR D
	LAGMAN, LIGAYA J
	LANE, RICK C
	LAYE, ERIC A
	LEE, DAVID A
	MAGANA, ENRIQUE
	MAK, JOHN
	MAURER, JOEL J
	MCCURTIS, DEBORA J
	MEIROVITZ, MATTHEW E

DUBLIN BLVD 2010 (Cont'd)

3245 MUNOZ-CARRASCO, MONICA M
NABAVI, FAEZEH
NEGAD, BEVERLY Q
NG, JONATHAN H
NGUYEN, ANNABEL
OGDEN, YONG H
PHASON, DOUGLAS A
PINILLA, ISAISA
PIRAH, CAROLINE
QUARTAROLI, LEONIDO
RABARA, LOURDES C
RABARA, SHEREEN C
RAFRAF, JAMES J
SIDHARTA, FRANCISCA
SILANGIL, PHILIP D
TRACTENBERG, MATT S
TSANG, KIT M
WANG, YUJU
WEINBERG, TODD
WILLIAMS, PETER A
WONG, RANDY D
YOO, CHUNSANG
YU, KAREN

3275 AUSEJO, LORELEI
BAFAIZ, ZARINA
BAFILE, ELIO
CASTANHA, JOHN
CHAPPELL, BRETT C
CHEN, YUN J
CHENG, BETTY S
CRAIG, MARSHA L
DALMACIO, MELISA T
DELEON, CARLOS O
ESTALILLA, CANDY M
FAN, YUKMUI
FLANAGAN, CHARLIE P
FRUEND, THEODORE F
FUNG, EDWARD K
HEARNS, GWENDOLYN D
HEW, TET L
HU, JOHN
HUNKEN, JEFFREY A
JENKINS, JESSE H
KILLUS, MIKE
KNAUS, MATTHEW J
LAGORIO, JULIE S
LAU, YVONNE
LEE, CHUNG E
LEONARD, ALAN R
LEVESQUE, THOMAS J

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DUBLIN BLVD 2010 (Cont'd)

3275 LEWIS, JILL
LONGORIA, ARTHUR E
LUECKE, KEITH R
MARLEAU, PETER
MCCARTHY, DENISE L
MCKENNEY, KYLE
MITCHELL, TODD
MOUAT, DANNA M
NAPOLI, JON B
OWEN, LAURA E
PANGILINAN, ROLANDO D
PARK, SOYOUNG
RIOS, ALVIA A
ROBERTS, MICHAEL
SILVA, GILBERT A
SUICO, LONNA M
SULGER, ADRIENNE
TERRACES AT DBLIN RNCH VLLAGES
TONG, DANNY H
TURNER, MARK J
VENT, BRITTANY
WEI, JANICE J
WHITE, ENICOLE N
WU, SIMON H
YAQUB, SHAMAILA
YOO, JOHN H

3385 ABLAZA, MELANIE
ACENAS, JEFFEREY M
ADUVISO, EDITHA F
ARKIN, DENNIS A
AUGUSTA, BRIAN G
BRANN, LYLE
BRATTEBO, JON S
BUCKHOUT, MICHAEL S
BUCKINGHAM, CAMILLE L
CADILE, NICHOLAS A
CAMPIOTTI, CHELSEA M
CHEN, JENNIFER
CHENG, ERNEST Y
CONNER, TRISHA
CRUZ, JAMES D
DANZIG, SUSAN
DEA, JAMES
DELEON, EVA O
DUNCAN, LANCE R
EMIGH, LANCE S
ENG, CALVIN G
EVANS, KEITH A
FAZELI, NEGAR
FENNING, WILMA

DUBLIN BLVD 2010 (Cont'd)

3385	GANDHI, SURENDRA K
	GARCIA, JUAN L
	GONZALES, JESUS M
	HAN, YUE H
	HIGGINS, SCOTT P
	HUBBARD, RONALD A
	HWANG, YOUNG S
	JACKSON, SANDRA
	JARIN, JOSEPH
	JOHNSON, BRIAN T
	JUI, GEORGINA
	KOLINEK, CURTIS L
	KWAN, KENNETH
	LAI, ERIC T
	LEE, YONG B
	LEYVAS, DIANE
	LIAO, AMY
	LIM, FERDINAND L
	LIU, HUI
	MATHIEU, CHARLES
	MCELHANY, CHERYL
	MORALES, FERDINAND
	NICHOLS, JANICE M
	NORRIS, LYNNE
	ONG, ONGKY W
	ORTIZ, FRED J
	PENA, GENE
	PSUTKA, DAVID A
	QUINET, JULIE A
	REZEIK, HAYSSAM
	RIVERA, LEANDRO A
	ROBINSON, BENJAMIN I
	RODGERS, ROBERT
	ROY, RICHARD S
	RUTLEDGE, DUANE L
	SANI, PERHOM
	SHON, SANG W
	SIM, BHUNG C
	SOMBERG, MERLE G
	STARR, MICHAEL W
	SUN, JOHNSON S
	TAYLOR, PENNY A
	TSE, JONATHAN
	TUGULEA, OVIDIU O
	VOVK, ANDRE
	WAIN, AHMAD
	WENGELER, ALEXANDER
	WILSON, TRACY M
	WONG, JOSEPH
	ZHAI, YUN

DUBLIN BLVD 2010 (Cont'd)

3465	BILLING, GEORGE
	BROWN, CHRISTOPHER S
	CERNIGLIA, KRISTIN M
	CHENG, HUIYONG
	CHEVURU, APURUP
	CHOO, LAWRENCE H
	CULLEN, AARON J
	DEUTSCH, STEVEN E
	FARRINGTON, CARL C
	FEW, VAKIYA R
	GONZALEZ, ETELVINA
	GORDON, BRANDON S
	GREGORY, KATHRYN
	HENDERSHOTT-WATSON, MATTHEW G
	HOU, KEWELL
	JACKSON, ROCHELLE C
	KRIPALANI, SAMEER
	KYUNG, SOON
	LAM, YING P
	MANINGO, JOSEPHUS R
	MUI, SANDRA
	OKAMURA, MICHELLE K
	OPPENDIKE, TIFFANY R
	PARKER, VICTORIA H
	RIVERA, JAVIER A
	SHIRODKAR, RAKESH
	SHU, ROBERT
	SIMEONS, JOSEPH L
	TORRES, FERDINAND
	WANG, LEO L
	YIU, KAREN W
	ZEMLOK, TY
3501	TOLL BROTHERS INC
3637	MADALENA, GREGORY J
3641	MARKS, COURTNEY
3645	JOAQUIN, PACIFICO M
3649	THOMPSON, PHILLIP
3653	LAM, TIM N
3657	PEREZ, ALEJANDRA V
3661	LAM, REGGIE K
3663	OCCUPANT UNKNOWN,
3667	NAKAMORI, BRIAN T
3671	CASTILLO, MARIBEL
3701	OCCUPANT UNKNOWN,
3703	JEM STRATEGIES
	OCCUPANT UNKNOWN,
3711	OCCUPANT UNKNOWN,
3712	BUFFALO WILD WINGS
3715	LAI, CYNTHIA M
3719	SHIKATA, HARUKA

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DUBLIN BLVD 2010 (Cont'd)

3723	OCCUPANT UNKNOWN,
3727	BIMAR, SULAYMAN
3731	CURTIS, STEVE T
3735	FONG, DAVID
3750	LOWES HOME CENTERS INC
4000	BAY AREA FOOR CARE
	HARDY HOOD LESLIE MD
	JOHNSON MELISSA MD
	SAPUGA ANNA MARIA MD
	SOLH NANCY MD
	TRI VALLEY PLASTIC SURG PROF
	WIGGINTON NANCY MD
4050	SUTTER HEALTH
	TASSAJARA VALLEY MEDICAL
	ZAMARY RAAFAT K MD
4094	ALEXANDER, IRVIN P
4101	ALAMEDA, JIM D
	ANDY LIN INC
	ANOSMI LLC
	BEST ENVROMENTAL SOLUTIONS LLC
	COLOR PRO
	GATEWAY FINANCIAL ADVISORS INC
	GREEN INK LLC
	HUGH W GALYEAN ASSOCIAT
	JIM Q PARK
	JOHNSON, ALLISON
	JOHNSTON FREDERICK
	KWAN, DANIEL W
	NATIVEMINDS INC CX
	NEKRAWESH, HOMAIRA
	PALMER, BRENT
	PEARSON, WILKENYA R
	PREMIER ACCNTING CNSULTING LLC
	RICHARDS, DANIAL R
	S4 MARKETING CORP
	SETHI, SWINDER K
	TIMELESS MEDIA LLC
	TOGOS
	VOGUE BUILDING DESIGNS INC
4120	AVAYA INC
4140	BAJA MINING
	LAPTOP TRAINING SOLUTIONS
	TISHMAN SPEYER PROPERTIES L
	VURV TECHNOLOGY INC
4160	CALPINE C POWER INC
4288	AA TOFU HOUSE & KOREAN BBQ
	ANGEL REBORN
	BAHAAR MARKET INC
	FOOT LOGIC REFLEXOLOGY
	GLAMOUR NAIL SPA

DUBLIN BLVD 2010 (Cont'd)

4288	GOLDEN DUBLIN OPTOMETRY
	HAIR CULTURE
	HALU SHABU SHABU INC
	JUST KOI
	KEE WAH BAKERY
	KOI GARDEN
	MACROREAL
	PHO SAIGON NO 2
	RAFFLES CAFE
	THAI BASIL EXPRESS
4500	ESA P PORTFOLIO LLC
4520	JPMORGAN CHASE BANK NAT ASSN
4524	BRENTWOOD FABULOUS DESIGNS LLC
4526	T MOBILE WIRELESS SOLUTION
4530	DUBLIN CORNERS DENTAL
4532	DANTE A GONZALES DMD MSD
4536	LITTLE SMILE MAKERS
	WONG ALEX DDS
4540	ALAN LI
	JC OPTICS
	LINTER GROUP INC
	SITE FOR SORE EYES
4542	FITNESS TOGETHER
4544	PERFECT NAILS & SPA
4546	ALLURE HAIR SALON
4548	PLANET BEACH TANNING SPA
	SAN RAMON VALLEY
4550	ACE LIMOUSINE SERVICE
	INFINITE VELOCITY INC
	PERFECT THREADING
4552	NEW INDIA BAZAR
	SHRI RAM CORP
4554	SUBWAY
4556	HERITAGE BOUTIQUE INC
4558	MARTIAL ARTS ACADEMY OF USA
4560	HACIENDA CLEANERS
4580	CHINA PARADISE RESTAURANT
	VRRU INC
4582	DESAI & SHAH INVESTMENTS INC
	HAVELI INDIAN CUISINE
4584	CAFE TAZZA
	SHELDANS BAKERY & CAFE
4588	PAPA JOHNS
4590	TOMATINA DUBLIN LLC
4808	APPLE-BAY EAST INC
	R & D ENTERPRISES INC
4820	BEST BUY CO INC
	GEEK SQUAD INC
4860	DRESS BARN INC
	ULTRA THREE COSMETICS

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DUBLIN BLVD 2010 (Cont'd)

4870	DB SHOES
4882	BED BATH & BEYOND INC
4906	ANY MOUNTAIN LTD
4910	FUDDRUCKERS
4920	PHO ASIAN BISTRO
	REAL MEX RESTAURANTS INC
4922	PARTY CITY CORPORATION
4930	MANDARA NAIL SPA
	SORROCHE & LUANGVIPHAT CORP
	STARBUCKS CORPORATION
4940	ON THE BORDER CORPORATION
4948	ULTA SALON COSMT FRAGRANCE INC
4962	OLD NAVY INC
4972	BARNES & NOBLE BOOKSELLERS INC
4980	WORLD OF JEANS & TOPS
4990	TOYS R US-DELAWARE INC
5000	MARMAXX OPERATING CORP
	REGAL CINEMAS INC
6050	ARLEN NESS ENTERPRISES INC
	ARLEN NESS MOTORCYCLES LLC
	NESS MOTORCYCLES LLC
6077	MAGNUSSEN DEALERSHIP GROUP
	MAGNUSSENS CAR WEST AUTO BODY
	YUBA SUTTER AUTO BODY
6080	KASSABIAN MTRS HM CAL CLASSICS
	PAWN YOUR RIDE
6091	COOKS COLLISION INC
6129	JINFU LI DENTAL CARE
6175	POOL PATIO & MORE
6225	CAMACHO RICK
	COOKS COLIISLON OF DUBIIN
	PRECISION FRANCHISING INC
6275	HOLIDAY INN EXPRESS HOTEL
	LA QUINTA INN & SUITES
	OPEN DOOR BAPTIST CHURCH
	RAPS DUBLIN LLC
6300	HARVEY & MADDING INC
	KBH INVESTMENTS LLC
6351	ENIGMA AUTOWORKS
6379	AK & FOSER 1718 LLC
	AK & FOSTER 1718 LLC
6400	BP NORTH AMERICA
	DUBLIN 76
	POWER QUALITY & ELECTRICAL
6401	CIRCLE K STORES INC
	CONVENIENCE RETAILERS LLC
6450	REINALT-THOMAS CORPORATION
	SOUTHERN CALIFDISCTTIRE COINC
6500	AMERICAN SAFETY ACADEMY
	CALIFORNIA CONSTRUCTION SVCS

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DUBLIN BLVD 2010 (Cont'd)

6500	CALYPSO SOFTWARE INC
	DIVERSIFIED STRATEGY FINANCIAL
	EVI
	HANSON TAX SERVICE
	INNOMETHODS CORP
	KITCHENS INC
	LPLM TAX ATTORNEYS INC
	SIGNATURE KITCHENS 500 INC
	SYNERGY HOME CARE
	VOGELSANG, MELISSA
6599	CUT AND BEYOND
	LUXOR NAILS AND SPA
	YANAGI SUSHI & GRILL
6600	CHOPRA DEEPAK C
	DICKYS KNIVES & GOLD
	DUBLIN KNIVES & GUNS
6601	DUBLIN SMILES
	YOGURT WALK
6605	SAFEWAY INC
6608	GAO LI
	MADAME SUNS RESTAURANT
6612	ALL CREATURES VET HOSPITAL
6614	A 2Z WIRELESS
	EZ BLINDS & SHADES
6616	SIGN PRO
6620	THREADS BEAUTY BAR
6622	ONE HOUR CLEANER
6632	GULESSERIAN BROTHERS INC
6715	SENSUI PROPERTIES LLC
	TRIPS & TRAVEL
6743	AAA LOCKSMITH
	HUBBARD DENNIS
6769	APEX LIFE INC
	OAK WAREHOUSE
	PROFESSONAL RET PROMOTIONS INC
6777	TRI-VLLEY UNTD DMCRTIC CMPAIGN
6783	SAHARA MARKET
6785	ELBYS AND FUNKS AUTOWORKS
6797	DEALS ON WHEELS 1
	HARVEYS CLEANERS & LAUNDRY
6799	NV ORTHODONTICS
	ORTHODONTIC CENTERS OF CAL
6841	HERTLEIN MUSIC
	HURTLAND GUITARS
6843	DE FAZIO DISTRIBUTOR INC
6849	AIRGAS NORTHERN CAL & NEV
6857	DJT MARKETING INC
6867	ENTERPRISE HOLDINGS INC
6985	RAYS AUTO SERVICE
6993	CHRISTINA MORAIN EPC

DUBLIN BLVD 2010 (Cont'd)

6993 HAIR EMPORIUM
6997 ADVANCE PRINTER REPAIR
FAX DOCTOR
PC-TEK
6999 ATHENS BURGERS RESTAURANT
7001 DUBLIN CYCLERY
7007 PACIFIC ELEC & COMMUNICATIONS
7009 STEREO DOCTOR
7011 WEST COAST BEAUTY SUPPLY
7017 BURGE, RICHARD
7027 CALIFORNIA FOOTBALL CLUB INC
D M J GAS MARKETING CONSULTANT
FARMERS INSURANCE
LARSEN SUSIE LAW OFFICE OF
MC CARTHY & LEONARD
PERACTO AUTOGROUP LLC
PIPPIN REBECCA J
7035 MAC DADDY PROPERTIES LLC
7036 AZURE
HU QIZHI
PERIODONTICS AND IMPLANT DNTL
7042 GIANG T VO DMD PROF DNTL CORP
HILLCREST DENTAL GROUP
7044 OASIS DENTAL
7046 ALL IN ONE DENTAL INNOVATIONS
JAMES HUANG DMD INC
7048 OLYMPIC ORTHONDONTICS
7051 DERWA
DSRSD FINANCING CORPORATION
DUBLIN SAN RAMON SERVICES DIST
LAVWMA
LIVERMR-MADOR VLY WTR MGT AGCY
WATER & SEWER SERVICE
7052 ALMOND PLAZA DENTAL CARE
7100 CONCORD FEED PET & HORSE SUPS
7102 PRETTY IN PINK
7104 JS TOW
PARK AVENUE CLEANERS INC
7106 ACCLAIM PRINT & COPY CENTER
CLAIM PRINT & COPY CENTER INC
7108 RAHMA MEDITERRANEAN MARKET
7110 RADIOSHACK CORPORATION
7112 MISTER PICKLES SANDWICH SHOP
QUIZNOS
7114 BEAUTY PLUS
7120 JAMK INVESTMENTS INC
7121 CCM PARTNERSHIP
GMI TIRES INC
7127 ACCURATE IMPRESSIONS
7129 HAIRTIQUE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2010 (Cont'd)

7131	DUBLIN NAILS
7133	SCHULER BESS
7135	FRIENDS DAY SPA
7137	DUBLIN VILLAGE DENTAL OFF
	PLANET E
	PLEASANT MEMORIES
7139	ACCESS COMPUTERS
	J&K FLOORING CORP
	QUADRANT INFO SVC
7141	ALAMEDA CNTY LVN TRAINING CTR
	ELEGANT AND NATURAL KOSMETIK
7143	EASTBAY EQUITIES INC
7240	DUBLIN AUTO WASH
	MOUNT MERU PETROLEUM LLC
7460	THOMASVILLE
7499	SAFEWAY INC
	US BANK NATIONAL ASSOCIATION
7505	PRANDIUM INC
7533	BANK OF WEST
7544	CROWN ISUZU
	CROWN STRIPPING CENTER
	FLUID MAINTENANCE EXPERTS INC
	LYNNBROOKE ENTERPRISES LLC
	SAVE TOW
	TRI VALLEY COLLISION CENTER
7575	SANOLUKE CALIFORNIA INC
7600	A & T LENDING LLC
	CORNERSTONE ENVIRONMENTL GRP
	EYC USA INC
	FIRST NATIONAL HOME LOANS
	HILTI INCORPORATED
	JPMORGAN CHASE & CO
	OSHA TRAINING CENTER
	WASHINGTON MUTUAL INC
	WIRELESS WIZARDS
7650	ARMANDA CUSTOM TAILORS
7704	MUSIC EXCHANGE INC
7740	MALYS INC
7752	A-1 SEWING AND VACUUM CENTER
	PALOMARES CHIROPRACTIC
7764	FANTASTIC STYLES
7776	FJL MANAGEMENT INC
	UNITD STUDIOS OF SELF DEFENSE
	UNITED PARTNERS LOS GATOS LLC
7788	FATTEH PARVEZ MD
	PREMIER MEDICAL GROUP
	SHIU TONY MD INC
7792	DESAI TEJAS DDS
7850	MANCINIS SLEEPWORLD INC
7884	ORCHARD SUP HDWR STORES CORP

DUBLIN BLVD 2010 (Cont'd)

7886	ROSS STORES INC
7889	CITIBANK NA
7890	MICHAELS STORES INC
7892	MARMAXX OPERATING CORP
7898	BOOKS HALF PRICE
	WESTERN APPLIANCE TV & STEREO
7900	MCCLOSKEY, KENNETH
7904	STARBUCKS COFFEE
7908	DGB LUGGAGE & LEATHER LLC
7912	JENNY CRAIG WGHT LOSS CTRS INC
7916	LEEP TRAIN INC
7925	CLARK SUSAN
	SUES GIFT BASKETS
7944	N J T COMPANY
7950	JCL PROPERTY MANAGEMENT LLC
	MICHAELS GUN SHOP
	PLATINUM GROUP
	PRO ITALY U S A
	PROFESSNAL CNVERGENT SOLUTIONS
	SPECIFIC CHIROPRACTIC CENTER
	TAUNK ENTERPRISES
	THERALEARN
	WEBSUPERSTORE
	WOLF LESLIE M
9530	OCCUPANT UNKNOWN,
10739	PARRA, MELINDA A
11501	BRUPI FINANCIAL CONSULTING INC
	CHANLER LAW GROUP
	DIVINE ARTS
	FARMERS INSUR GROUP DST OFF
	FORTISYS INC
	J2LOGIX INC
	MARKETING EXECUTIVES INC
	MFM MINISTRIES
	MISSION BENEFIT
	PANDIT
	PREDICTIVE BUS INTLLIGENCE INC
	PULAD INC
	PURETEK
	RESPONSIVE LN ADITS MDFCATIONS
	TEKVALLEY CORPORATION
	TICOR TITLE COMPANY
	VACATION GETAWAYS LLC
	VEEAR PROJECTS
11505	GRAYBAR ELECTRIC COMPANY INC
11555	DE SILVA GATES CONSTRUCTION LP
	DOUBLE D TRANSPORTATION CO
	LINCOLN HIGHLANDS LIEN CLAIMNT
	OLIVER DE SILVA INC
	PACIFIC STTES ENVMTL CNTRS INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2010 (Cont'd)

11555 TERRACE PARK LLC
11700 ALL WORK DONE BY OWNER INC
AMERICAN ALARM & DISPATCH
BRICKYARD, WAY
GSE ENTERPRISES INC
LAWMARK TRANSPORTATION SERVICE
POSITIVE CHANGES
YUSAY INSURANCE AGENCY
11711 HEXCEL CORPORATION
HEXCEL FAR EAST INC
11740 BURGER GROUP
CHRISTOPHER HUANG CPA
DELTA FINANCIAL
GLEN HAZEN INSURANCE
HATCH KATHERINE A PHD
HATCH, KATHERINE
LEHMAN INSURANCE AGENCY
PAUL HO LMHC
PRESTIGE FINANCIAL GROUP
11750 BELTRAMI DARREL M CPA
BELTRAMI, DARREL
DISCOUNT VINYL & GARDEN CENTER
EMERSON MARK PSYD
METLIFE RESOURSE
11760 FANG YUAN DEVELOPMENT & INV
LITTLE KIDS LEARNING CENTER
11805 US BANK NATIONAL ASSOCIATION
11820 HOFFMAN DON N CIVIL ENGINEER
11825 JOURNEY CHURCH COMMUNITY
11828 A AMERICAN WINDOW CLEANING
BEESONS MINISTERIAL TAX SVCS
CAUCHI PHOTOGRAPHY
CHAMBERS KATHRYN CPA
DOLPHAN ENTERPRISES INC
GFK & ASSOCIATES
HOMESTEAD REMODELING
INK VCTNAL REHABILITATION SVCS
NORTHSTAR REALTY SERVICES INC
SALBU & ASSOC
SIMI APPRAISAL SERVICE
SRE INC
STORAGE CONSULTANTS
WESTLEY, EDWARD C
WOLLENBERG BURGESS KIM
11830 DEERCREEK MORTUARY
11831 ALL VIDEO REPR FROM DUBLIN-SAN
11840 AXIS COMMUNITY HEALTH CENTER D
MIGUEL PALMA
11842 BRAN CHER LLC
IRON HORSE HEIGHTS

DUBLIN BLVD 2010 (Cont'd)

11842 JACK LONDON TOWERS LLC
LANCAR DEVELOPMENT INC
LCAR MJM HOMES LLC
11844 COLUMBUS CAPITAL ADVISORS CORP
GRIBELL NANCY E CPA
I S O ACCELERATE GROUP INC
MAC INVESTMENT GROUP
11848 A SPECIAL TOUCH FUNERAL SVCS
11852 TUTTIDARE
11854 BUCK PAMELA J
11860 GRASSO JOSEPH DDS
MIDNIGHT RUNNER INC
11873 TRI-VALLEY CHURCH OF CHRIST
11875 ADEPT PROPERTY MANAGEMENT INC
AFCN
AGAPE VILLAGES INC
ALLIANT PACIFIC CORPORATION
AMADOR VALLEY INDUSTRIES
BAY AREA EXCAVATORS INC
BAYSIDE MEDICAL GROUP CORPORAT
BERNAL INVESTMENT INC
BISE MITCHEL MFCC
BISHOPS LIAISON FOR CATHOLIC C
BRADFORD COMMUNITIES INC
CHALLENGE DAIRY PRODUCTS INC
CITY OF DUBLIN
CODORNICES ENTERPRISE CENTER C
COLLEEN PIVA
COMMUNITY PSYCHIATRY ASSOC
COMPASS
CONFICIO
COSI MARKETING
CRANBROOK REALTY INV FUND LP
CREST COMMUNITY REHABILITATION
DAIRYAMERICA INC
DARREN KARAL TECHNOLOGY INC
DENNY & MITCHELL INC
DIMMICK BETTY MFCC
ENERGY EMP MED MONITORING PROG
EPIS INCORPORATED
FANTASY GARAGE
FIDELITY CAPITAL MGT LLC
FRIES LINDA MFCC
GEO FOCUS GEO TECHNICAL CNSLTG
GIOIA JAMES J PHD
GOLDEN TITAN LLC
GREENSPAN CO ADJUSTERS INTERNA
GST TRUCK DIVISION
HAND & MIND INC
HARRIS CINDY

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2010 (Cont'd)

11875 HEIRLOOM PROPERTIES INC
HELSING GROUP INC
HENSHAW ASSOCIATES
HERITAGE PARK OFFICE CENTER
I I W INSURANCE SVCS OF CAL
ICNEWS FOUNDATION
ILOWN
IMPULSE WHOLESALE
ISIF MADFISH INC
JT2 INTEGRATED RESOURCES
KINCHEN JOHN B
L S Y INCORPORATED
LAW OFFICES OF ROSEANN TORRES
LEVINE MARK MD
LEVINE, MARK
LFG LENDING CORP
LINCOLN REALTY TRI-VALLEY INC
LISA IVANCICH
MAGNA ENTERTAINMENT CORP
MANAGED HLTH NTWRK OCCUPTNL HL
MARK, LEVINE
MCGRAW-HILL COMPANIES INC
MEYERS MICHAELPUBLIC RELATIONS
MODERA POINT INC
MORSE & ASSOCIATES ATTRNY AT
MORSE IVAN O B ESQ ATTY AT LAW
MORSE, IVAN O
NEXT DEMENSION SALES
NORTH AMERICAN TITLE CO INC
NYK LINE (NORTH AMERICA) INC
NYK LOGISTICS (AMERICAS) INC
OHS
PATTON LINDSAY PHD
PETERSON SHERRY LAW OFFICE
PROLOGIC COMMUNICATIONS INC
REGINA LESLEY A
RENOWN ENTERPRISES INC
RIVAS MARIA JULIA MA MFCC
ROSALYNN C MACALOLOOY
SANDBERG INGRID PHD
SANDBERG, INGRID
SHENKIN BUDD MD INC
SMR MORTGAGE
ST JUDE CHILDRENS RES HOSP
STANDARD TEL NETWORKS
SUMMIT PROPERTIES GROUP
TECHNOVANT INC
TESTMARCX ASSOCIATES INC
THERMAX/CDT INC
TRANS WEST NETWORK SOLUTIONS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

DUBLIN BLVD 2010 (Cont'd)

11875 USLA LLC
VALI COOPER & ASSOC INC
WILDAN GROUP INC
WILLDAN ENERGY SOLUTIONS
WILLS RALEIGH INSURANCE SVCS
WORKSTATION TECHNOLOGIES A
XL ENGINEERING
11891 FULLFILLMENT SYSTEMS INC
11976 PETCO ANIMAL SUPS STORES INC
11989 DUBLIN SHELL FOOD MART

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

GRAFTON ST 2010

4100 KARMA DUBLIN LLC

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

DUBLIN BLVD 2006



DUBLIN BLVD 94568
DUBLIN

WEALTH CODE 6.7

3245 . . . . . APARTMENTS

	★ABRAMS GRFNKL MRGLS RRGSN LLP	925-828-3555	+6
428	BENBENEK Laura	925-551-0712	+6
	CAMPBELL Sarah	925-833-9472	+6
	CRUZ Kevin	925-803-9553	+6
329	DEGROAT Michael	925-551-3869	+6
	DICKMAN Janis	925-556-6177	+6
	EVANGELISTA V	925-551-3901	+6
	EVERETT Lloyd	925-560-6453	+6
424	FRANKLIN R	510-633-1845	+6
	GARMAN Duane	925-551-0702	+6
121	HERDMAN Robert W	925-875-0327	+6
	KLEIN Adam	925-803-7558	+6
202	LANE Rick	925-833-0211	+6
	LARSEN Shannon	925-560-9708	+6
	LEE David	925-803-0199	+6
	LIU Lei	925-829-5016	+6
	MOUBARAK Katia	925-828-7415	+6
	MURPHY Terrence	925-803-0467	+6
228	NEGAD Beverly	925-829-1459	+6
	NG Jonathan	925-803-1678	+6
426	OCHOA Tyler T	925-828-8108	+6
429	OGDEN Yong	925-556-3599	+6
402	PINILLA Constanza E	925-551-3173	+6
	PINILLA Isaisa	925-803-0246	+6
	QUARTAROLI Leonido	925-560-9779	+6
	RAD Arash	925-556-1799	+6
412	SILANGIL T	925-833-7480	+6
	TABLAC Marideal	925-828-2604	+6

3245 . . . . . .
3275 . . . . . APARTMENTS

310	ABREU Gisela	925-829-5649	+6
404	AUSEJO Lorelei	925-828-0778	4
408	BALOGH Olivia	925-551-7606	4
406	BASYE Brian	925-828-2961	4
	BONDOY Roberto	925-833-8708	+6
325	CHANNAGIRI Shashikanth	925-803-9355	4
	★DUBLIN RANCH VLG SLS PAVILION	925-479-9611	4
	EDDINGER Nate	925-829-2349	4
	FATIMA Shamail	925-479-0916	4
106	FRUEND Theodore F	925-556-0421	4
224	GILBO John	925-828-1668	4
203	LEE Chung	925-479-0121	4
417	LEONARD Alan	925-803-6953	4
1588	LEWIS Jill	925-803-1693	4
	MERIS Rom	925-875-1306	4
405	MOLLESON Daniel	925-556-1989	4
415	RIOS Alvia	925-829-7711	4
	SEITZ Michael E	925-833-0461	+6
	SUGIMURA Jeff	925-829-2997	4
414	THOMAS M	925-479-0272	4
105	TONG Danny	925-875-1565	4
430	TRUESDEL Courtney	925-875-9604	4
418	WEBB Jason	925-828-8588	4

3275 . . . . . .

3653	XXXX	OO	
3661	o LAM Reggie	925-833-2491	4
4101	★BAGEL STREET CAFE	925-829-5758	4
F	★JOHNSTON FREDERICK L DDS	925-833-0535	+6
	★OLYMPIC ORTHODONTICS	925-833-0535	3
	★POSTAL ANNEX 457	925-556-2510	3
	★SAVVY INTERIORS	925-829-9654	+6
	★SAVVY INTERIORS	925-829-9656	+6
	★TOGO'S	925-551-8646	3
	★WATERFORD DENTAL GROUP	925-803-5888	3
4120	★CANTEEN VENDING CORPORATION	925-556-7406	3
	★CANTEEN VENDING CORPORATION	925-556-7424	3
	★CANTEEN VENDING CORPORATION	925-556-7400	3
	★CANTEEN VENDING CORPORATION	925-556-7425	3
	★FRONTAGE SOLUTIONS INC	925-404-1300	+6
	★FRONTAGE SOLUTIONS INC	925-404-1800	+6
	★SIMPSON STRONG TIE	925-560-9000	2
	★SIMPSON STRONG TIE	925-828-1840	2
4140	★BIT HOLDING FIFTY-SIX	925-556-6630	2
	★BIT HOLDING FIFTY-SIX	925-828-1045	2
	★ELLIE MAE	925-875-0501	4
	★KRONOS INC	925-556-6114	2
	★KRONOS INCORPORATED	925-361-7499	2
	★PRIME WEST RESIDENTIAL	925-574-2160	+6
	★SUPERGEN	925-560-0100	2
	★SUPERGEN	925-551-6481	2
4160	★ACCELA DOT COM	925-560-6577	3
4500	★EXTENDED STAY AMERICA	925-875-9556	3

APPENDIX L
EDR VAPOR ENCROACHMENT SCREEN

Promenade
Dublin Boulevard
Dublin, CA 94568

Inquiry Number: 5579666.2s
March 7, 2019

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Default Area of Concern (Miles)*	property	1/10	> 1/10
Federal NPL site list	1.125	0	0	0
Federal Delisted NPL site list	1.125	0	0	0
Federal CERCLIS list	0.625	0	0	0
Federal CERCLIS NFRAP site list	0.625	0	0	0
Federal RCRA CORRACTS facilities list	1.125	0	0	0
Federal RCRA non-CORRACTS TSD facilities list	0.625	0	0	0
Federal RCRA generators list	0.375	0	0	0
Federal institutional controls / engineering controls registries	0.625	0	0	0
Federal ERNS list	0.125	0	0	0
State- and tribal - equivalent NPL	1.125	0	0	0
State- and tribal - equivalent CERCLIS	1.125	0	0	0
State and tribal landfill and/or solid waste disposal site lists	0.625	0	0	0
State and tribal leaking storage tank lists	0.625	0	0	0
State and tribal registered storage tank lists	0.375	0	0	0
State and tribal institutional control / engineering control registries	not searched	-	-	-
State and tribal voluntary cleanup sites	0.625	0	0	0
State and tribal Brownfields sites	0.625	0	0	0

ADDITIONAL ENVIRONMENTAL RECORDS				
Local Brownfield lists	0.625	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.625	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	1.125	0	0	0
Local Lists of Registered Storage Tanks	0.375	0	0	0
Local Land Records	0.625	0	0	0
Records of Emergency Release Reports	0.625	0	0	0
Other Ascertainable Records	1.125	0	2	0

EDR HIGH RISK HISTORICAL RECORDS				
EDR Exclusive Records	1.125	0	0	0
Exclusive Recovered Govt. Archives	0.125	0	0	0

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

EDR Exclusive Records	1.125	0	0	0
Exclusive Recovered Govt. Archives	0.125	0	0	0

*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

PROMENADE
DUBLIN BOULEVARD
DUBLIN, CA 94568

COORDINATES

Latitude (North):	37.707166 - 37° 42′ 25.793152″
Longitude (West):	121.864772 - 121° 51′ 53.168335″
Elevation:	356 ft. above sea level

EXECUTIVE SUMMARY

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

ADDITIONAL ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
ARRIVARE CIWQS: CIWQS NPDES: NPDES	CENTRAL PARKWAY AND GRAFTON STREET	<1/10 NNE	▲ A1	8
SORRENTO EAST NEIGHBORHOOD 9 CIWQS: CIWQS	CENTRAL PARKWAY GAFTON STREET AND LEE THOMSPON STREET	<1/10 NNE	▲ A2	8

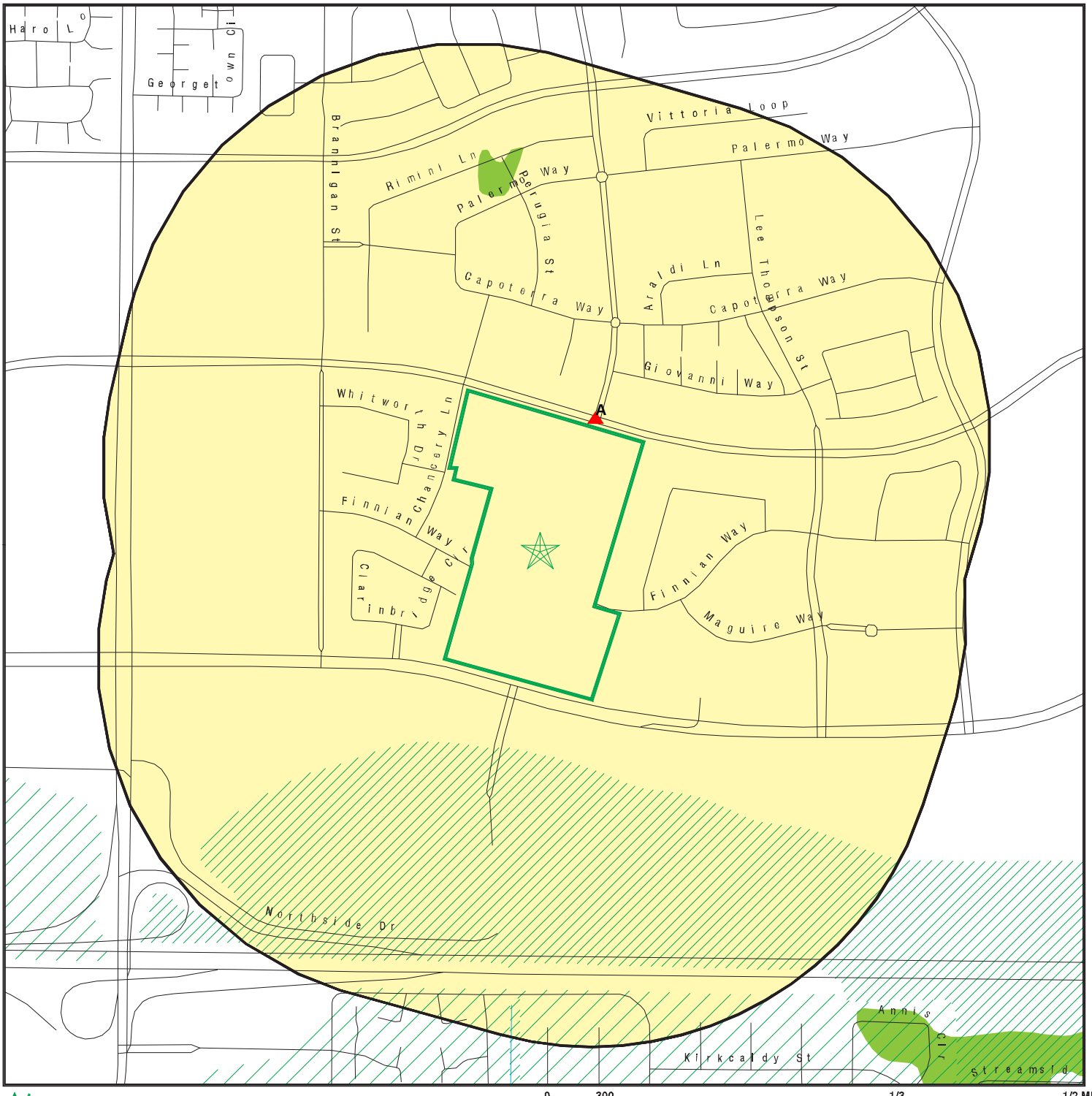
EDR HIGH RISK HISTORICAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

EDR RECOVERED GOVERNMENT ARCHIVES

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

PRIMARY MAP - 5579666.2S



0 300 1/3 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Promenade ADDRESS: Dublin Boulevard Dublin CA 94568 LAT/LONG: 37.707166 / 121.864772	CLIENT: Terraphase Engineering Inc. CONTACT: Laurie Israel INQUIRY #: 5579666.2s DATE: March 04, 2019 8:28 pm

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SECONDARY MAP - 5579666.2S



0 1/3 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Promenade	CLIENT: Terraphase Engineering Inc.
ADDRESS: Dublin Boulevard Dublin CA 94568	CONTACT: Laurie Israel INQUIRY #: 5579666.2s
LAT/LONG: 37.707166 / 121.864772	DATE: March 04, 2019 8:24 pm

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MAP FINDINGS

LEGEND

FACILITY NAME **FACILITY ADDRESS, CITY, ST, ZIP**		EDR SITE ID NUMBER
◆ **MAP ID#**	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.

Worksheet:

Comments:
Comments may be added on the online Vapor Encroachment Worksheet.

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

ARRIVARE CENTRAL PARKWAY AND GRAFTON STREET, DUBLIN, CA, 94568			S112141996
▲ A1	NNE <1/10	(38 ft. / 0.007 mi.)	Other Ascertainable Records
	10 ft. Higher Elevation	366 ft. Above Sea Level	

Worksheet:

SORRENTO EAST NEIGHBORHOOD 9 CENTRAL PARKWAY GAFTON STREET AND LEE THOMSPON STREET, DUBLIN, CA, 94568			S121675165
▲ A2	NNE <1/10	(54 ft. / 0.01 mi.)	Other Ascertainable Records
	10 ft. Higher Elevation	366 ft. Above Sea Level	

Worksheet:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
ENVIRONMENTAL RECORDS						
Federal NPL site list						
US	NPL	National Priority List	EPA	12/12/2018	12/28/2018	01/11/2019
US	Proposed NPL	Proposed National Priority List Sites	EPA	12/12/2018	12/28/2018	01/11/2019
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
Federal CERCLIS list						
US	SEMS	Superfund Enterprise Management System	EPA	12/12/2018	12/28/2018	01/11/2019
Federal RCRA CORRACTS facilities list						
US	CORRACTS	Corrective Action Report	EPA	03/01/2018	03/28/2018	06/22/2018
Federal RCRA TSD facilities list						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
Federal RCRA generators list						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
Federal institutional controls / engineering controls registries						
US	LUCIS	Land Use Control Information System	Department of the Navy	10/17/2018	10/25/2018	12/07/2018
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	07/31/2018	08/28/2018	09/14/2018
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	07/31/2018	08/28/2018	09/14/2018
Federal ERNS list						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	09/24/2018	09/25/2018	11/09/2018
State and tribal - equivalent NPL						
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	10/29/2018	10/30/2018	12/13/2018
State and tribal - equivalent CERCLIS						
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	10/29/2018	10/30/2018	12/13/2018
State and tribal landfill / solid waste disposal						
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	11/12/2018	11/14/2018	12/13/2018
State and tribal leaking storage tank lists						
CA	LUST	Leaking Underground Fuel Tank Report (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	LUST REG 1	Active Toxic Site Investigation	California Regional Water Quality Control Boa	02/01/2001	02/28/2001	03/29/2001
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Boa	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	06/07/2005	06/07/2005	06/29/2005
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	09/09/2003	09/10/2003	10/07/2003
CA	LUST REG 5	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	07/01/2008	07/22/2008	07/31/2008

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	LUST REG 4	Underground Storage Tank Leak List	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 3	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 2	Fuel Leak List	California Regional Water Quality Control Boa	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Boa	03/01/2001	04/23/2001	05/21/2001
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	04/24/2018	05/18/2018	07/20/2018
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	04/25/2018	05/18/2018	07/20/2018
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/10/2018	05/18/2018	07/20/2018
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/12/2018	05/18/2018	07/20/2018
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/01/2018	05/18/2018	07/20/2018
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/13/2018	05/18/2018	07/20/2018
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	05/08/2018	05/18/2018	07/20/2018
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/12/2018	05/18/2018	07/20/2018
CA	CPS-SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Boa	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victorv	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 7	SLIC List	California Regional Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	04/14/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	09/10/2007	09/11/2007	09/28/2007
State and tribal registered storage tank lists						
CA	UST	Active UST Facilities	SWRCB	12/10/2018	12/11/2018	01/15/2019
CA	UST CLOSURE	Proposed Closure of Underground Storage Tank (UST) Cases	State Water Resources Control Board	12/10/2018	12/12/2018	01/16/2019
CA	MILITARY UST SITES	Military UST Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	UST MENDOCINO	Mendocino County UST Database	Department of Public Health	12/04/2018	12/06/2018	12/14/2018
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	04/25/2018	05/18/2018	07/20/2018
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/12/2018	05/18/2018	07/20/2018
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/13/2018	05/18/2018	07/20/2018
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	04/24/2018	05/18/2018	07/20/2018
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/01/2018	05/18/2018	07/20/2018
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/10/2018	05/18/2018	07/20/2018
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	05/08/2018	05/18/2018	07/20/2018
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/12/2018	05/18/2018	07/20/2018
US	FEMA UST	Underground Storage Tank Listing	FEMA	05/15/2017	05/30/2017	10/13/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
State and tribal voluntary cleanup sites						
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	10/29/2018	10/30/2018	12/13/2018
State and tribal Brownfields sites						
CA	BROWNFIELDS	Considered Brownfieds Sites Listing	State Water Resources Control Board	12/20/2018	12/21/2018	02/28/2019
Other Records						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	09/30/2018	10/12/2018	12/07/2018
US	ROD	Records Of Decision	EPA	12/12/2018	12/28/2018	01/11/2019
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	12/12/2018	12/28/2018	01/11/2019
CA	HIST CAL-SITES	Calsites Database	Department of Toxic Substance Control	08/08/2005	08/03/2006	08/24/2006
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
CA	SWRCY	Recycler Database	Department of Conservation	12/10/2018	12/12/2018	01/15/2019
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	SAN FRANCISCO AST	Aboveground Storage Tank Site Listing	San Francisco County Department of Public Hea	09/11/2018	09/12/2018	10/11/2018
CA	SWEEPS UST	SWEEPS UST Listing	State Water Resources Control Board	06/01/1994	07/07/2005	08/11/2005
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	12/12/2018	12/28/2018	01/11/2019
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	08/31/2018	09/25/2018	11/09/2018
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	09/21/2018	09/21/2018	11/09/2018
US	Delisted NPL	National Priority List Deletions	EPA	12/12/2018	12/28/2018	01/11/2019
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	12/13/2018	12/28/2018	01/11/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	03/01/2018	03/28/2018	06/22/2018
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	03/26/2018	03/27/2018	06/08/2018
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	10/01/2018	10/30/2018	01/18/2019
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	09/21/2018	09/21/2018	11/09/2018
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	12/17/2018	12/18/2018	01/11/2019
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	01/31/2015	07/08/2015	10/13/2015
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	06/23/2017	10/11/2017	11/03/2017
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/01/2018	08/29/2018	10/05/2018
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	08/13/2018	10/04/2018	11/09/2018
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2016	01/10/2018	01/12/2018
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	09/14/2018	10/11/2018	12/07/2018
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	08/30/2016	09/08/2016	10/21/2016
US	RADINFO	Radiation Information Database	Environmental Protection Agency	10/02/2018	10/03/2018	11/09/2018
US	FINDS	Facility Index System/Facility Registry System	EPA	11/15/2018	12/05/2018	01/11/2019
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	10/26/2018	11/06/2018	01/11/2019
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	12/31/2017	06/12/2018	08/06/2018
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	04/06/2018	04/24/2018	06/14/2018
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	12/20/2018	12/21/2018	02/28/2019
CA	CUPA LIVERMORE-PLEASANTON	CUPA Facility Listing	Livermore-Pleasanton Fire Department	08/28/2018	08/30/2018	11/01/2018
CA	CUPA SAN FRANCISCO CO	CUPA Facility Listing	San Francisco County Department of Environmen	09/11/2018	09/12/2018	09/19/2018
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	12/03/2018	12/05/2018	01/11/2019
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substance Control	08/30/2018	09/27/2018	11/01/2018
CA	DRYCLEAN AVAQMD	Antelope Valley Air Quality Management District Drycleaner L	Antelope Valley Air Quality Management Distri	11/13/2018	12/04/2018	01/15/2019
CA	DRYCLEAN SOUTH COAST	South Coast Air Quality Management District Drycleaner Listi	South Coast Air Quality Management District	10/04/2018	10/05/2018	11/01/2018
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2017	06/20/2018	08/06/2018
CA	ENF	Enforcement Action Listing	State Water Resoruces Control Board	11/01/2018	11/02/2018	12/13/2018
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	10/19/2018	10/23/2018	11/30/2018
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	11/18/2018	11/19/2018	01/11/2019
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	09/26/2018	09/28/2018	11/01/2018
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2017	10/10/2018	11/16/2018
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	11/19/2018	11/19/2018	01/11/2019
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	10/09/2018	10/10/2018	11/16/2018
CA	LDS	Land Disposal Sites Listing (GEOTRACKER)	State Water Qualilty Control Board	12/10/2018	12/11/2018	01/15/2019
CA	LIENS	Environmental Liens Listing	Department of Toxic Substances Control	11/29/2018	12/04/2018	01/11/2019
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	MINES	Mines Site Location Listing	Department of Conservation	12/10/2018	12/12/2018	01/15/2019
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	11/09/2018	12/05/2018	01/11/2019
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	11/12/2018	11/14/2018	12/13/2018
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	12/03/2018	12/05/2018	01/11/2019
CA	PROC	Certified Processors Database	Department of Conservation	12/10/2018	12/12/2018	01/15/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	09/19/2018	09/20/2018	10/19/2018
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	10/29/2018	10/30/2018	12/13/2018
CA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	06/06/2012	01/03/2013	02/22/2013
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Deaprtment of Conservation	04/27/2018	06/13/2018	07/17/2018
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	05/08/2018	07/11/2018	09/13/2018
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WMUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000
CA	CIWQS	California Integrated Water Quality System	State Water Resources Control Board	12/03/2018	12/04/2018	01/11/2019
CA	WDR	Waste Discharge Requirements Listing	State Water Resources Control Board	12/10/2018	12/12/2018	01/18/2019
CA	NON-CASE INFO	Non-Case Information Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	08/22/2018	08/22/2018	10/05/2018
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	09/02/2018	09/05/2018	09/14/2018
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/10/2018	09/11/2018	09/14/2018
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/31/2018	07/26/2018	10/05/2018
US	UXO	Unexploded Ordnance Sites	Department of Defense	09/30/2017	06/19/2018	09/14/2018
CA	UIC GEO	Underground Injection Control Sites (GEOTRACKER)	State Water Resource Control Board	12/10/2018	12/11/2018	01/15/2019
CA	WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	OTHER OIL GAS	Other Oil & Gas Projects Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	MILITARY PRIV SITES	Military Privatized Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	SAMPLING POINT	Sampling Point ? Public Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	PROD WATER PONDS	Produced Water Ponds Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
CA	CERS TANKS	California Environmental Reporting System (CERS) Tanks	California Environmental Protection Agency	10/22/2018	10/23/2018	11/30/2018
CA	PROJECT	Project Sites (GEOTRACKER)	State Water Resources Control Board	12/10/2018	12/11/2018	01/15/2019
CA	CERS	CalEPA Regulated Site Portal Data	California Environmental Protection Agency	10/22/2018	10/23/2018	11/30/2018
CA	CERS HAZ WASTE	CERS HAZ WASTE	CalEPA	10/22/2018	10/23/2018	11/30/2018

HISTORICAL USE RECORDS

US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
CA	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Resources Recycling and Recover		07/01/2013	01/13/2014
CA	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	State Water Resources Control Board		07/01/2013	12/30/2013

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
COUNTY RECORDS						
CA	CS ALAMEDA	Contaminated Sites	Alameda County Environmental Health Services	10/05/2018	10/10/2018	11/01/2018
CA	UST ALAMEDA	Underground Tanks	Alameda County Environmental Health Services	10/05/2018	10/10/2018	11/02/2018
CA	CUPA AMADOR	CUPA Facility List	Amador County Environmental Health	07/01/2018	07/24/2018	08/20/2018
CA	CUPA BUTTE	CUPA Facility Listing	Public Health Department	04/21/2017	04/25/2017	08/09/2017
CA	CUPA CALVERAS	CUPA Facility Listing	Calveras County Environmental Health	10/31/2018	12/04/2018	12/12/2018
CA	CUPA COLUSA	CUPA Facility List	Health & Human Services	05/23/2018	05/24/2018	07/13/2018
CA	SL CONTRA COSTA	Site List	Contra Costa Health Services Department	11/26/2018	11/30/2018	01/15/2019
CA	CUPA DEL NORTE	CUPA Facility List	Del Norte County Environmental Health Divisio	08/16/2018	11/06/2018	11/14/2018
CA	CUPA EL DORADO	CUPA Facility List	El Dorado County Environmental Management Dep	12/13/2018	12/18/2018	01/15/2019
CA	CUPA FRESNO	CUPA Resources List	Dept. of Community Health	10/16/2018	10/18/2018	11/14/2018
CA	CUPA GLENN	CUPA Facility List	Glenn County Air Pollution Control District	01/22/2018	01/24/2018	03/14/2018
CA	CUPA HUMBOLDT	CUPA Facility List	Humboldt County Environmental Health	12/11/2018	12/13/2018	01/15/2019
CA	CUPA IMPERIAL	CUPA Facility List	San Diego Border Field Office	10/22/2018	10/25/2018	11/14/2018
CA	CUPA INYO	CUPA Facility List	Inyo County Environmental Health Services	04/02/2018	04/03/2018	06/14/2018
CA	UST KERN	Underground Storage Tank Sites & Tank Listing	Kern County Environment Health Services Depar	11/02/2018	11/07/2018	12/14/2018
CA	CUPA KINGS	CUPA Facility List	Kings County Department of Public Health	11/21/2018	11/27/2018	12/12/2018
CA	CUPA LAKE	CUPA Facility List	Lake County Environmental Health	11/07/2018	11/08/2018	11/14/2018
CA	CUPA LASSEN	CUPA Facility List	Lassen County Environmental Health	10/15/2018	10/23/2018	11/14/2018
CA	AOCONCERN	Key Areas of Concerns in Los Angeles County		03/30/2009	03/31/2009	10/23/2009
CA	HMS LOS ANGELES	HMS: Street Number List	Department of Public Works	09/20/2018	10/12/2018	11/16/2018
CA	LF LOS ANGELES	List of Solid Waste Facilities	La County Department of Public Works	10/15/2018	10/16/2018	11/16/2018
CA	LF LOS ANGELES CITY	City of Los Angeles Landfills	Engineering & Construction Division	01/01/2018	05/01/2018	05/14/2018
CA	SITE MIT LOS ANGELES	Site Mitigation List	Community Health Services	07/01/2018	10/16/2018	11/16/2018
CA	UST EL SEGUNDO	City of El Segundo Underground Storage Tank	City of El Segundo Fire Department	01/21/2017	04/19/2017	05/10/2017
CA	UST LONG BEACH	City of Long Beach Underground Storage Tank	City of Long Beach Fire Department	03/09/2017	03/10/2017	05/03/2017
CA	UST TORRANCE	City of Torrance Underground Storage Tank	City of Torrance Fire Department	10/02/2018	10/05/2018	11/02/2018
CA	CUPA MADERA	CUPA Facility List	Madera County Environmental Health	11/26/2018	11/27/2018	12/12/2018
CA	UST MARIN	Underground Storage Tank Sites	Public Works Department Waste Management	09/26/2018	10/04/2018	11/02/2018
CA	CUPA MERCED	CUPA Facility List	Merced County Environmental Health	08/29/2018	08/31/2018	09/19/2018
CA	CUPA MONO	CUPA Facility List	Mono County Health Department	12/07/2018	12/11/2018	01/24/2019
CA	CUPA MONTEREY	CUPA Facility Listing	Monterey County Health Department	10/29/2018	11/01/2018	11/16/2018
CA	LUST NAPA	Sites With Reported Contamination	Napa County Department of Environmental Manag	01/09/2017	01/11/2017	03/02/2017
CA	UST NAPA	Closed and Operating Underground Storage Tank Sites	Napa County Department of Environmental Manag	11/28/2018	11/30/2018	12/14/2018
CA	CUPA NEVADA	CUPA Facility List	Community Development Agency	11/06/2018	11/08/2018	11/14/2018
CA	IND_SITE ORANGE	List of Industrial Site Cleanups	Health Care Agency	10/04/2018	11/14/2018	12/13/2018
CA	LUST ORANGE	List of Underground Storage Tank Cleanups	Health Care Agency	10/04/2018	11/14/2018	12/13/2018
CA	UST ORANGE	List of Underground Storage Tank Facilities	Health Care Agency	10/04/2018	11/06/2018	12/14/2018
CA	MS PLACER	Master List of Facilities	Placer County Health and Human Services	11/29/2018	12/04/2018	01/11/2019
CA	CUPA PLUMAS	CUPA Facility List	Plumas County Environmental Health	07/19/2018	07/25/2018	09/05/2018
CA	LUST RIVERSIDE	Listing of Underground Tank Cleanup Sites	Department of Environmental Health	10/10/2018	10/12/2018	10/16/2018
CA	UST RIVERSIDE	Underground Storage Tank Tank List	Department of Environmental Health	10/10/2018	10/12/2018	11/05/2018
CA	CS SACRAMENTO	Toxic Site Clean-Up List	Sacramento County Environmental Management	08/03/2018	10/02/2018	11/01/2018
CA	ML SACRAMENTO	Master Hazardous Materials Facility List	Sacramento County Environmental Management	08/23/2018	10/02/2018	11/02/2018
CA	CUPA SAN BENITO	CUPA Facility List	San Benito County Environmental Health	11/15/2018	11/16/2018	12/13/2018
CA	PERMITS SAN BERNARDINO	Hazardous Material Permits	San Bernardino County Fire Department Hazardo	11/28/2018	11/30/2018	01/11/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	HMMD SAN DIEGO	Hazardous Materials Management Division Database	Hazardous Materials Management Division	12/03/2018	12/05/2018	01/11/2019
CA	LF SAN DIEGO	Solid Waste Facilities	Department of Health Services	04/18/2018	04/24/2018	06/19/2018
CA	SAN DIEGO CO LOP	Local Oversight Program Listing	Department of Environmental Health	10/22/2018	10/23/2018	11/30/2018
CA	SAN DIEGO CO. SAM	Environmental Case Listing	San Diego County Department of Environmental	03/23/2010	06/15/2010	07/09/2010
CA	LUST SAN FRANCISCO	Local Oversite Facilities	Department Of Public Health San Francisco Cou	09/19/2008	09/19/2008	09/29/2008
CA	UST SAN FRANCISCO	Underground Storage Tank Information	Department of Public Health	11/05/2018	11/06/2018	12/14/2018
CA	UST SAN JOAQUIN	San Joaquin Co. UST	Environmental Health Department	06/22/2018	06/26/2018	07/11/2018
CA	CUPA SAN LUIS OBISPO	CUPA Facility List	San Luis Obispo County Public Health Departme	11/14/2018	11/15/2018	12/13/2018
CA	BI SAN MATEO	Business Inventory	San Mateo County Environmental Health Service	12/03/2018	12/12/2018	01/15/2019
CA	LUST SAN MATEO	Fuel Leak List	San Mateo County Environmental Health Service	12/13/2018	12/18/2018	01/23/2019
CA	CUPA SANTA BARBARA	CUPA Facility Listing	Santa Barbara County Public Health Department	09/08/2011	09/09/2011	10/07/2011
CA	CUPA SANTA CLARA	Cupa Facility List	Department of Environmental Health	11/16/2018	11/16/2018	12/13/2018
CA	HIST LUST SANTA CLARA	HIST LUST - Fuel Leak Site Activity Report	Santa Clara Valley Water District	03/29/2005	03/30/2005	04/21/2005
CA	LUST SANTA CLARA	LOP Listing	Department of Environmental Health	03/03/2014	03/05/2014	03/18/2014
CA	SAN JOSE HAZMAT	Hazardous Material Facilities	City of San Jose Fire Department	11/01/2018	11/06/2018	12/14/2018
CA	CUPA SANTA CRUZ	CUPA Facility List	Santa Cruz County Environmental Health	01/21/2017	02/22/2017	05/23/2017
CA	CUPA SHASTA	CUPA Facility List	Shasta County Department of Resource Manageme	06/15/2017	06/19/2017	08/09/2017
CA	LUST SOLANO	Leaking Underground Storage Tanks	Solano County Department of Environmental Man	11/29/2018	12/04/2018	01/11/2019
CA	UST SOLANO	Underground Storage Tanks	Solano County Department of Environmental Man	11/29/2018	12/04/2018	12/14/2018
CA	CUPA SONOMA	Cupa Facility List	County of Sonoma Fire & Emergency Services De	12/21/2018	12/27/2018	01/15/2019
CA	LUST SONOMA	Leaking Underground Storage Tank Sites	Department of Health Services	10/02/2018	10/04/2018	10/25/2018
CA	CUPA STANISLAUS	CUPA Facility List	Stanislaus County Department of Ennvironmenta	12/11/2018	12/13/2018	01/15/2019
CA	UST SUTTER	Underground Storage Tanks	Sutter County Environmental Health Services	09/18/2018	09/20/2018	10/25/2018
CA	CUPA TEHAMA	CUPA Facility List	Tehama County Department of Environmental Hea	12/13/2018	12/18/2018	01/15/2019
CA	CUPA TRINITY	CUPA Facility List	Department of Toxic Substances Control	10/22/2018	10/25/2018	11/14/2018
CA	CUPA TULARE	CUPA Facility List	Tulare County Environmental Health Services D	12/26/2018	12/27/2018	01/15/2019
CA	CUPA TUOLUMNE	CUPA Facility List	Divison of Environmental Health	04/23/2018	04/25/2018	06/25/2018
CA	BWT VENTURA	Business Plan, Hazardous Waste Producers, and Operating Unde	Ventura County Environmental Health Division	12/26/2018	01/24/2019	02/28/2019
CA	LF VENTURA	Inventory of Illegal Abandoned and Inactive Sites	Environmental Health Division	12/01/2011	12/01/2011	01/19/2012
CA	LUST VENTURA	Listing of Underground Tank Cleanup Sites	Environmental Health Division	05/29/2008	06/24/2008	07/31/2008
CA	MED WASTE VENTURA	Medical Waste Program List	Ventura County Resource Management Agency	09/25/2018	10/25/2018	11/30/2018
CA	UST VENTURA	Underground Tank Closed Sites List	Environmental Health Division	11/26/2018	12/12/2018	01/16/2019
CA	UST YOLO	Underground Storage Tank Comprehensive Facility Report	Yolo County Department of Health	12/26/2018	01/03/2019	01/16/2019
CA	CUPA YUBA	CUPA Facility List	Yuba County Environmental Health Department	11/05/2018	11/07/2018	11/14/2018

STREET AND ADDRESS INFORMATION

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APPENDIX M
EDR ENVIRONMENTAL LIEN AND AUL SEARCH

Promenade
Dublin Boulevard
Dublin, CA 94568

Inquiry Number: 5579666.7S
March 13, 2019

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

PROMENADE
DUBLIN BOULEVARD
DUBLIN, CA 94568

RESEARCH SOURCE

Source 1: Recorder
Alameda County, California

Source 2: Assessor
Alameda County, California

PROPERTY INFORMATION

Deed 1:

Type of Deed: Grant Deed

Title is vested in: Grafton Station, LLC

Title received from: James Tong and Mei Fong Tong, husband and wife as Community Property

Deed Dated: 03/29/2013

Deed Recorded: 05/07/2013

Instrument: 2013160396

Legal Description: All that certain piece or parcel of land being Parcel 1 as shown on Parcel Map 9717, filed on 11/06/2009 in Map Book 314 at Pages 74 through 77, situate and lying in the County of Alameda, State of California.

Legal Current Owner: Grafton Station, LLC

Property Identifiers: 985-0078-004-00

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:

Recorded:

Book:

Page:

Docket:

Volume:

Instrument:

Comments:

Miscellaneous:

EDR Environmental Lien and AUL Search

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found ☐ Not Found ☒

If found:

1st Party:

2nd Party:

Dated:
Recorded:
Book:
Page:
Docket:
Volume:
Instrument:
Comments:
Miscellaneous:

DEED EXHIBIT

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL THIS DEED TO:

Linda M. Gonsalves
Gonsalves & Kozachenko
1133 Auburn Street
Fremont, CA 94538

MAIL TAX STATEMENTS TO:

Grafton Station, LLC
4080 Grafton Street, Suite 200
Dublin, CA 94568

2013160396 05/07/2013 01:39 PM
OFFICIAL RECORDS OF ALAMEDA COUNTY
PATRICK O'CONNELL
RECORDING FEE: 15.00

1 PG

GRANT DEED

The undersigned grantor(s) declare(s) under penalty of perjury that the following is true and correct:
THERE IS NO CONSIDERATION FOR THIS TRANSFER.
Documentary transfer tax is $ -0- **Not Pursuant to a Sale-Proportional ownership interest remains the same (R&T Code Section 11925)**
[ ] computed upon full value of property conveyed, or [ ] computed on full value less value of liens and encumbrances remaining at time of sale.

We, James Tong and Mei Fong Tong, husband and wife as Community Property, grant to Grafton Station, LLC, all that real property situated in the City of Dublin, Alameda County, California, described as follows:

Parcel 3 of Tract 7148 recorded February 14, 2001 in Map Book 257 at Pages 3 through 7, Alameda County Records.

Excepting therefrom that portion conveyed to the City of Dublin in the Deed recorded November 13, 2003, Series No. 2003-673646, Alameda County Records.

Commonly Known As: undeveloped real property

Assessor's Parcel Nos. ~~985-9-78-2~~, 985-78-3, 985-78-4, 985-78-5, 985-78-6, 985-78-7, 985-78-2

** This deed replaces the original Grant Deed executed on December 20, 2012 which was lost.

Executed on March 29, 2013, at Fremont, California.

JAMES TONG

MEI FONG TONG

STATE OF CALIFORNIA)
) SS.
COUNTY OF ALAMEDA)

On March 29, 2013, before me, Gayle M. Facciola, a Notary Public, personally appeared JAMES TONG and MEI FONG TONG, who proved to me on the basis of satisfactory evidence to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons or the entity upon behalf of which the persons acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

GAYLE M. FACCIOLA
Commission # 1898424
Notary Public - California
Alameda County
My Comm. Expires Sep 2, 2014

APPENDIX N
SITE RECONNAISSANCE PHOTOGRAPH LOG



Photograph 1: View of entrance to Promenade Site at intersection of Grafton St and Dublin Blvd. Commercial property to to the south across Dublin Boulevard.



Photograph 2: View of adjacent multi-family residential.

SAFETY FIRST	CLIENT: Dublin Unified School District	**PHOTO LOG**
terraphase engineering	PROJECT: Phase I ESA Promenade, Dublin, CA	
	PROJECT NUMBER: 0098.003.002	**PAGE 1**

	Photograph 3: View of the southwestern portion of the Subject Property. View to the west. Adjacent multi-family residential buildings are to the west.
	Photograph 4: View from western central portion of the Subject Property. Devany Square Park and multi-family residential buildings are adjacent to the west. View to the west.

	Photograph 5: View of the northwestern portion of the Subject Property. Multi-family residential buildings are adjacent to the west of Chancery Lane and north of Central Parkway. View to the northwest.
	Photograph 6: View of central northern portion of the Subject Property towards Central Parkway and multi-family residential buildings to the north. View to the north

	Photograph 7: View of the northeast portion of the Subject Property towards Central Parkway to the north and multi-family residential buildings to the east. View to the northeast.
	Photograph 8: View of central portion of the Subject Property towards the southeast and Dublin Boulevard to the south and multi-family residential buildings to the east. View to the southeast.



Photograph 9. View of southeastern portion of the Subject Property. Multi-family residential buildings are to the east. View to the northeast.



Photograph 10. Standing rain water observed along the southeastern boundary of the Subject property. Multi-family residential buildings are to the east. View to the south.

	Photograph 11: A former electrical equipment concrete pad with PVC caps and a wooden post at the southwestern corner of the Subject Property.
	Photograph 12: A storm drain on the Subject property in alignment with Grafton Street. View to the south towards Dublin Blvd.

	Photograph 13: Loooking east toward Finnian Way. Broken well boxes and concrete pad, utility vaults and fenced areas inside Subject Property.
	Photograph 14: Interior of one of the fenced in areas on the Subject Property near Finnian Way. View of to the northeast.

	Photograph 15. Concrete caps and recycled water vaults located in the western portion of the Subject Property. Devany Square Park is to the northwest. View to the northwest.
	Photograph 16. Concrete caps and recycled water vaults located in the western portion of the Subject Property. Devaney Square Park is to the northwest. View to the northwest.



Photograph 17: Concrete ring in the western portion of the Subject Property. View to the west towards Devany Square Park (background).



Photograph 18: PG&E Transformer T-30314, near west property boundary of Parcel 1 (see Figure 2). View looking east during April 15, 2019 visit.



Photograph 19: PG&E High Voltage Underground Vault J-74481, near west property boundary of Parcel 1 (see Figure 2). View looking north during April 15, 2019 visit.



Photograph 20: PG&E Transformer T-28217, near south property boundary of Parcel 3 (see Figure 2). View looking north during April 15, 2019 visit.



Photograph 21: Pad-mounted gear, SW-73661, S&C electrical equipment on south side of Central Parkway (see Figure 2). View looking south during April 15, 2019 visit.



Photograph 22: aboveground electrical equipment on southeast corner of the intersection of Central Parkway & Grafton Street (see Figure 2). View looking southwest during April 15, 2019 visit.

	Photograph 23: aboveground electrical equipment on southwest corner of the intersection of Central Parkway & Grafton Street (see Figure 2). View looking southeast during April 15, 2019 visit.

APPENDIX O
BORING LOGS

Project: **Promenade Phase II - Dublin Unified School District**

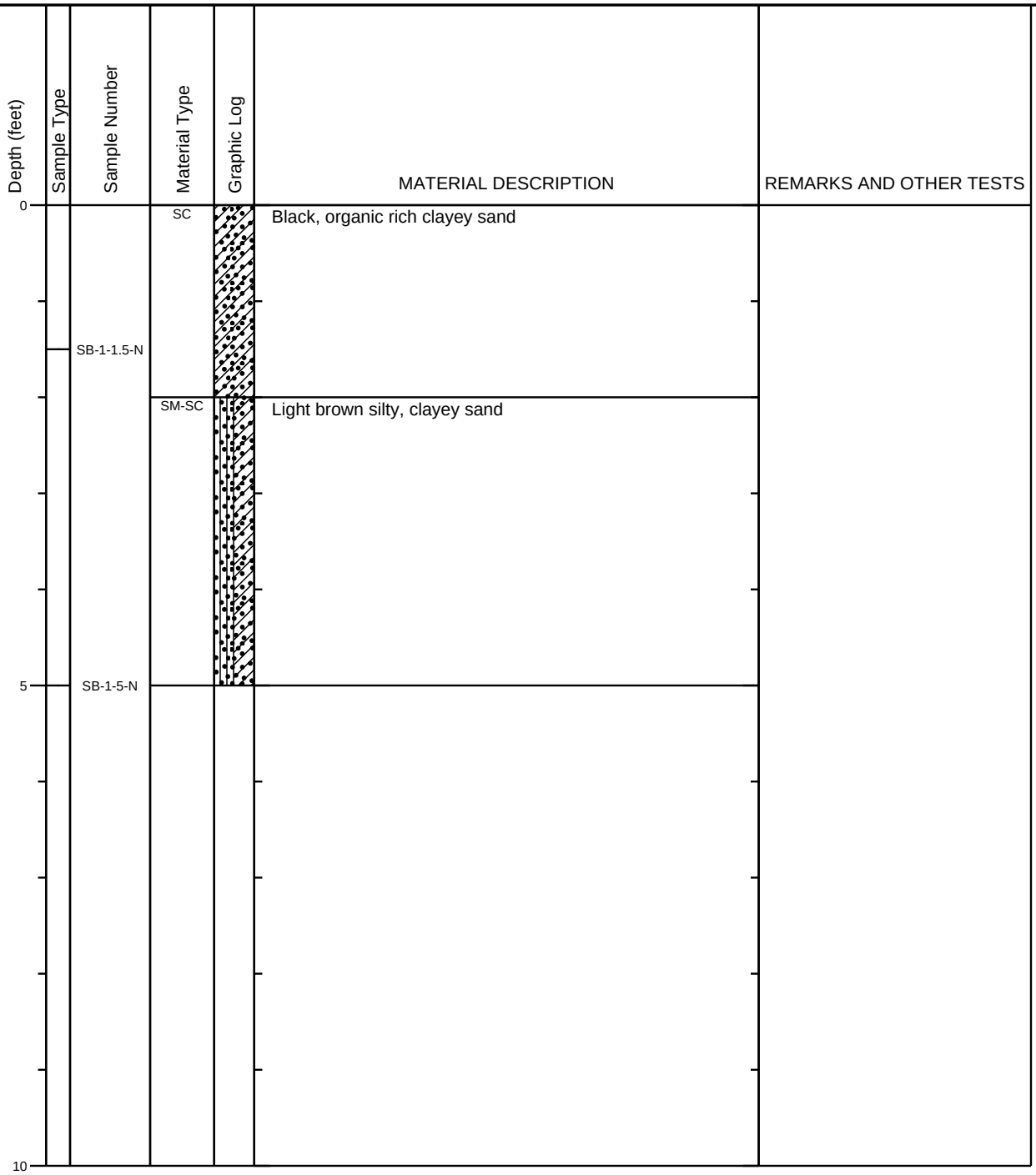
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**

Project Number: **0098.003.001**

Log of Boring SB-1

Sheet 1 of 1

Date(s) Drilled **05/22/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 1

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Clayey SAND (SC)
Silty to Clayey SAND (SM-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

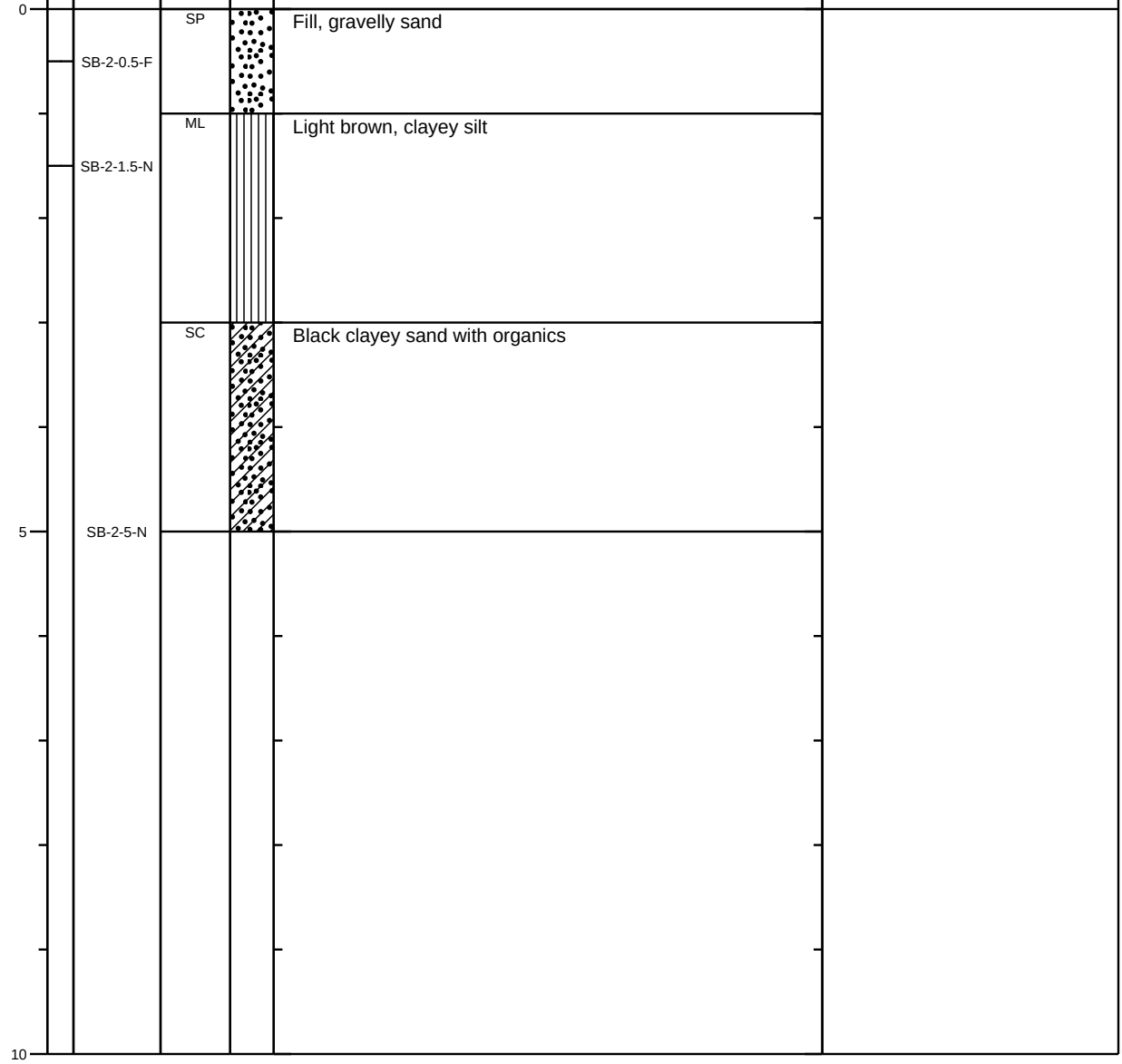
1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-2 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 2

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)
Poorly graded SAND (SP)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

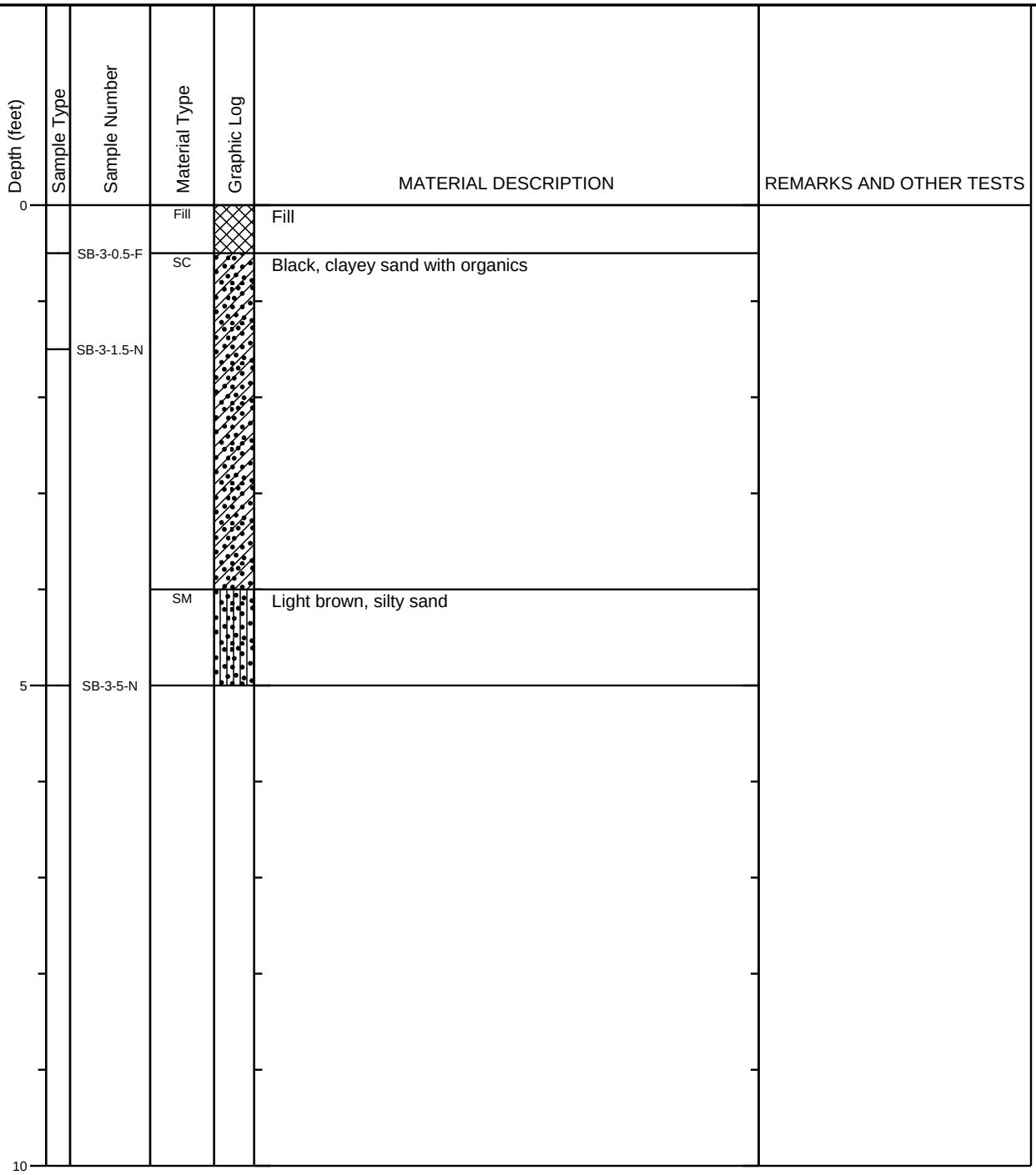
1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-3 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 3

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
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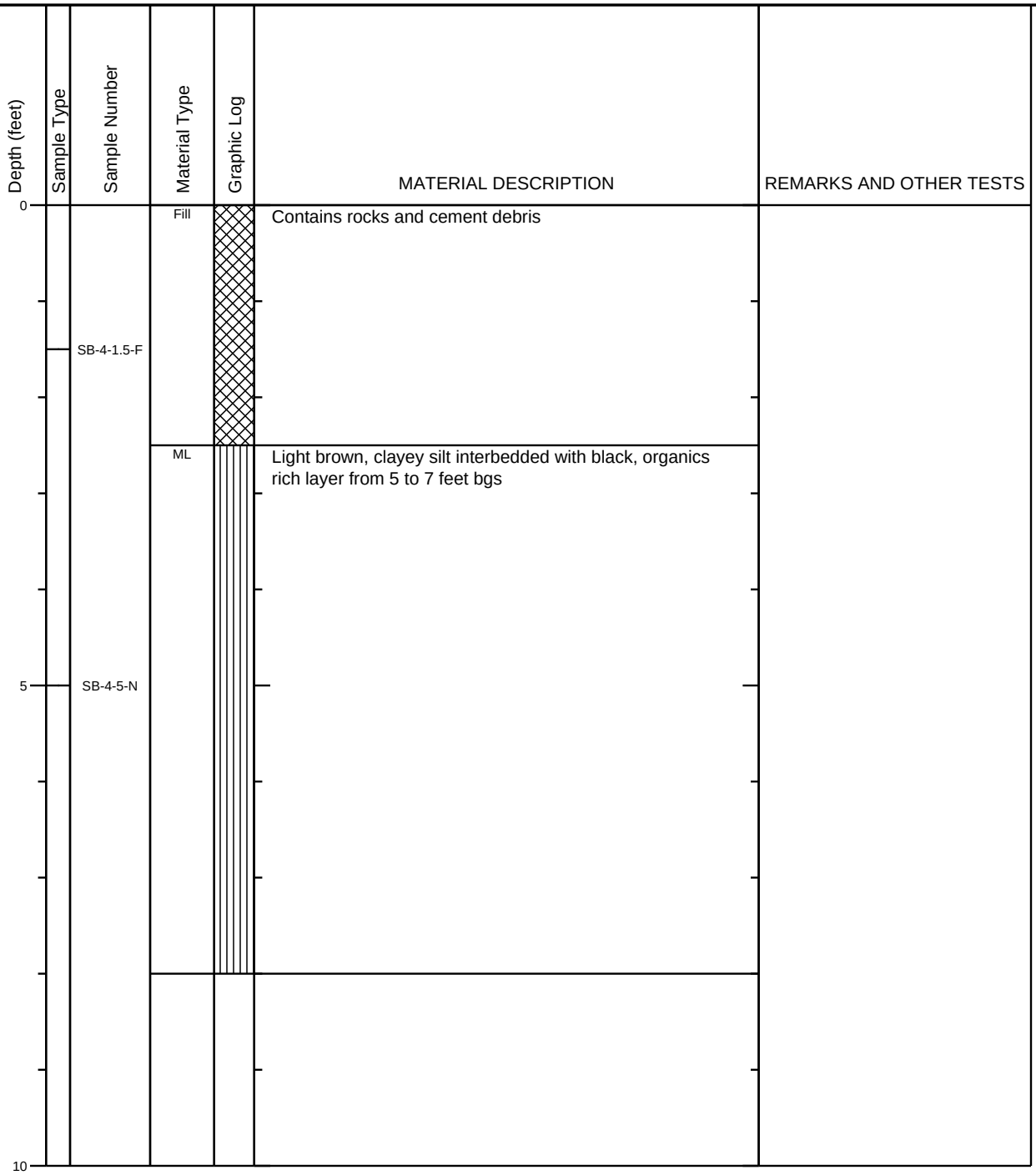
Figure B-1

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Log of Boring SB-4

Sheet 1 of 1

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 4

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

SILT, SILT w/SAND, SANDY SILT (ML)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

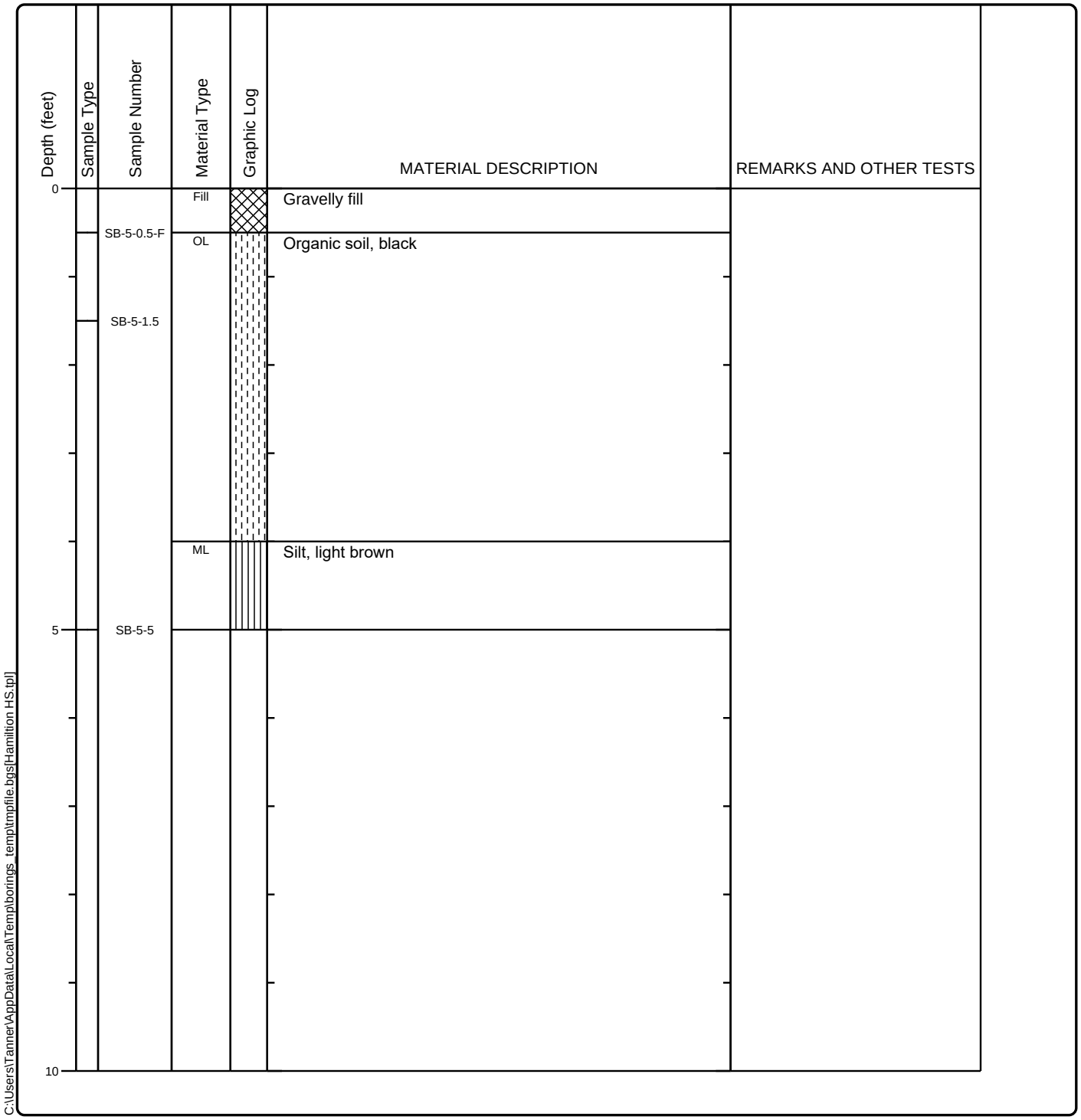
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-5 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 5

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

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COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Low plasticity PEAT (OL)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

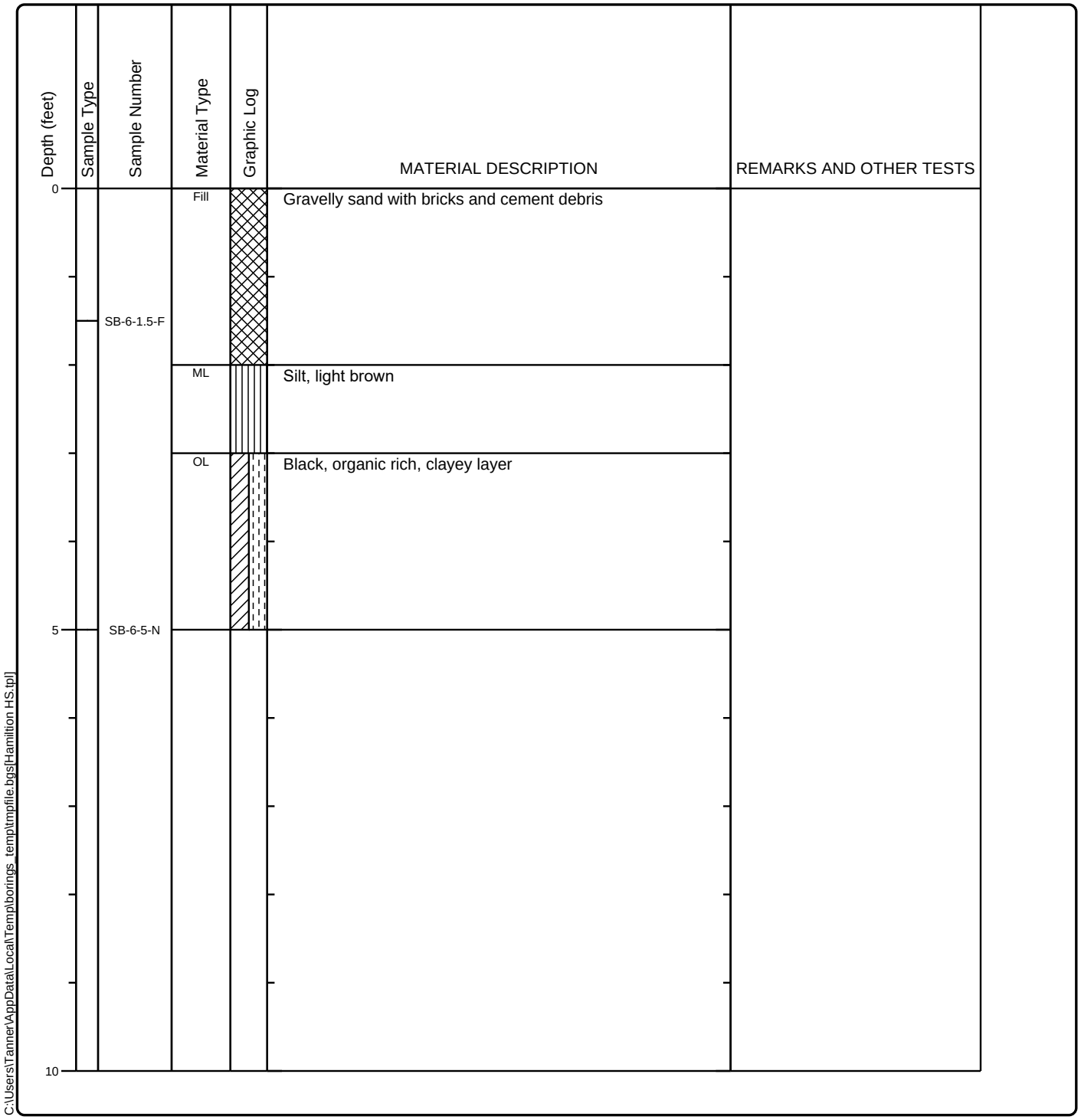
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-6 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 6

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Lean CLAY/PEAT (CL-OL)
AF
SILT, SILT w/SAND, SANDY SILT (ML)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

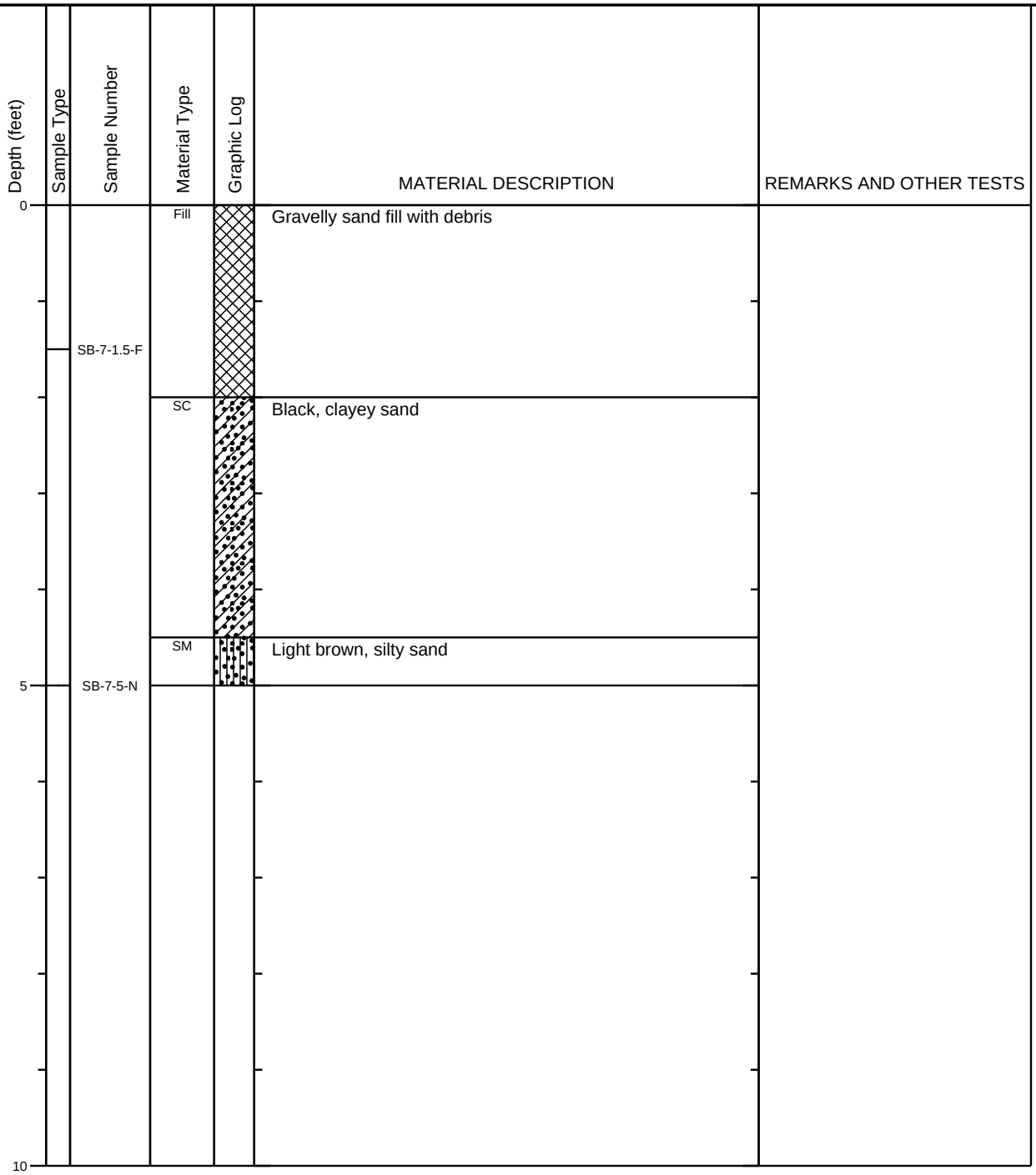
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-7 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 7

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
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FIELD AND LABORATORY TEST ABBREVIATIONS

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SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

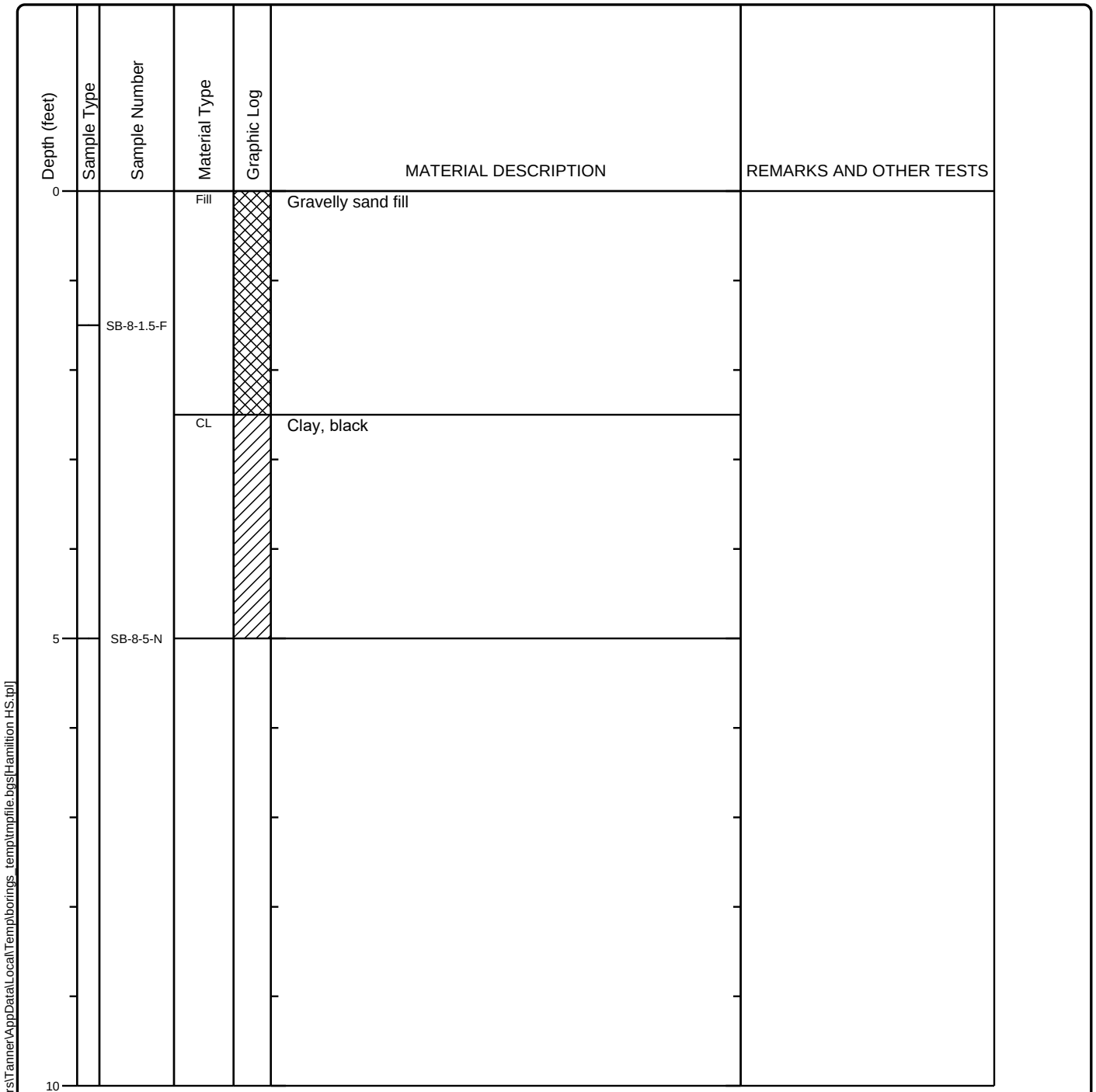
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-8 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 8

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
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FIELD AND LABORATORY TEST ABBREVIATIONS

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SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
CME Sampler
Pitcher Sample
Bulk Sample
Grab Sample
2-inch-OD unlined split spoon (SPT)
3-inch-OD California w/ brass rings
2.5-inch-OD Modified California w/ brass liners
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

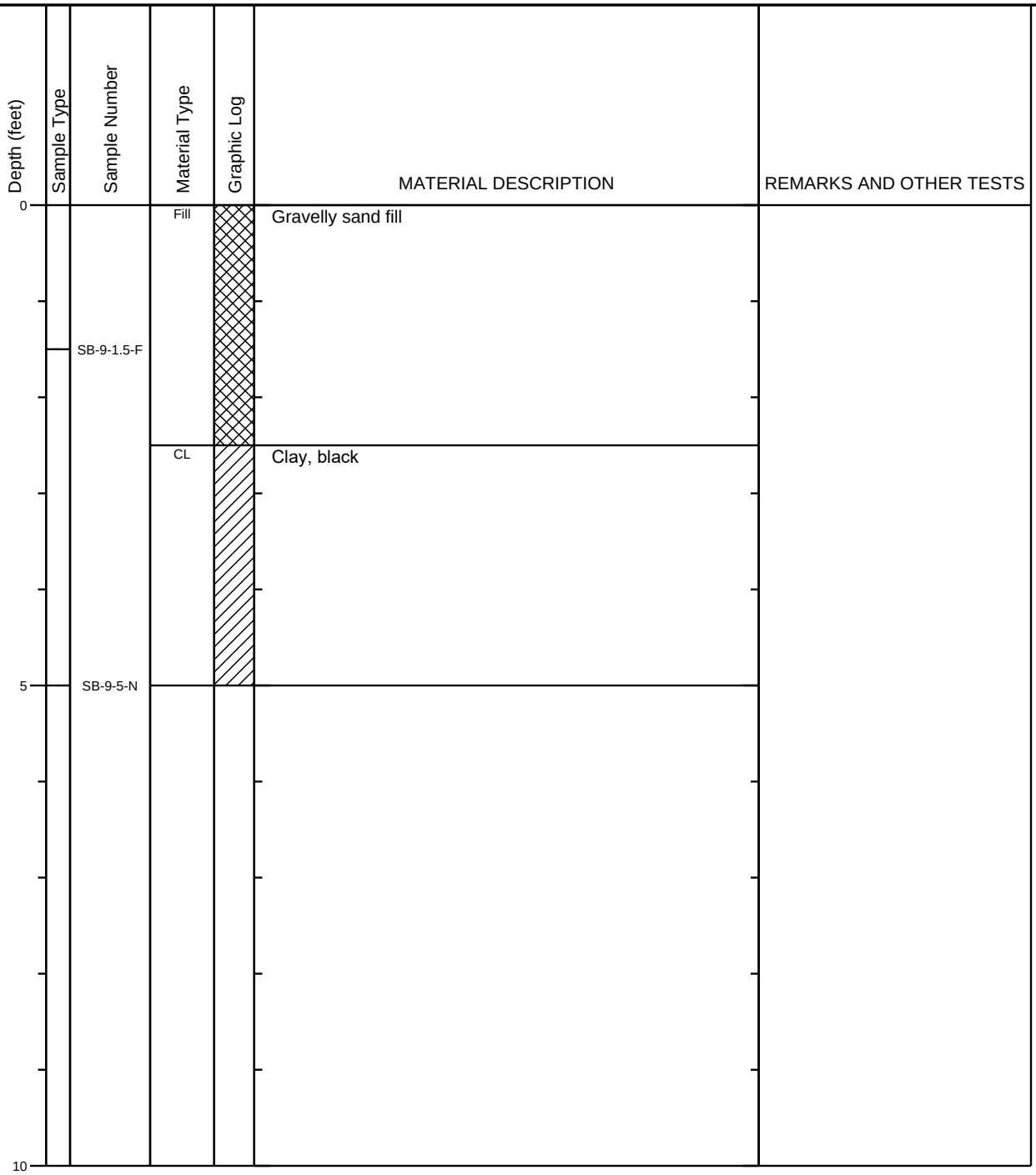
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-9 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 9

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
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UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
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GENERAL NOTES

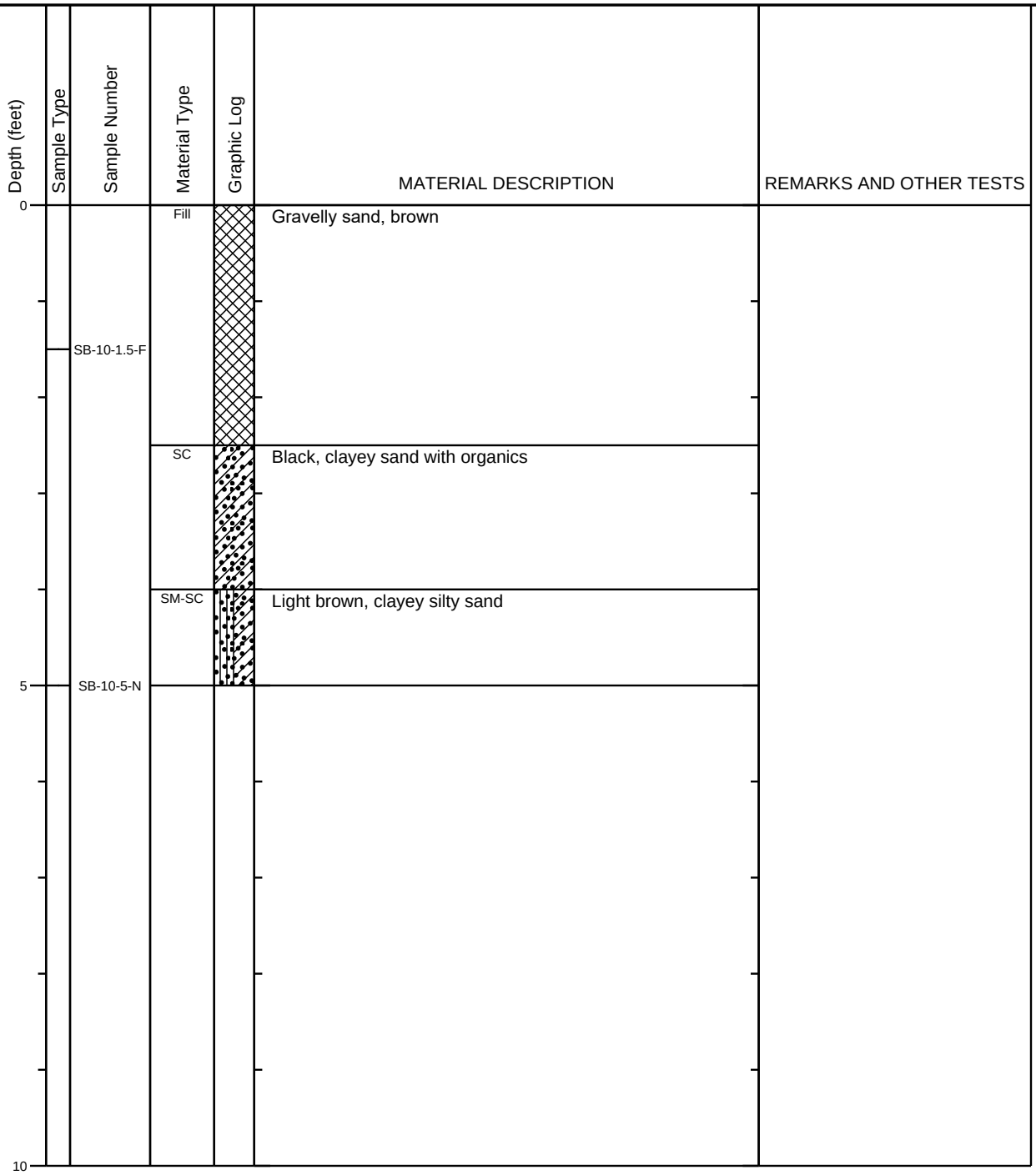
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-10 **Sheet 1 of 1**

Date(s) Drilled **05/30/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 10

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
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PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)
Silty to Clayey SAND (SM-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-11 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger**	Drill Bit Size/Type **Not Applicable**	Total Depth of Borehole **5 feet bgs**
Drill Rig Type **Not Applicable**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			Fill		Brown, gravelly sandy fill with debris	
		SB-11-1.5-F				
			CL		Clay, black with caliche present	
5		SB-11-5-N				
10						

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Figure 11

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-12 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **6.5 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			Fill		Dry, brown fill sand with clay and debris	Boring hand augered to 5 feet below ground surface and advanced to total depth using direct-push drilling.
		SB-12-1.5-F				
			OH		Moist, black native with organics	
5		SB-12-5-N				
10						

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Figure 12

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Fat CLAY/PEAT (CH-OH)
AF

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

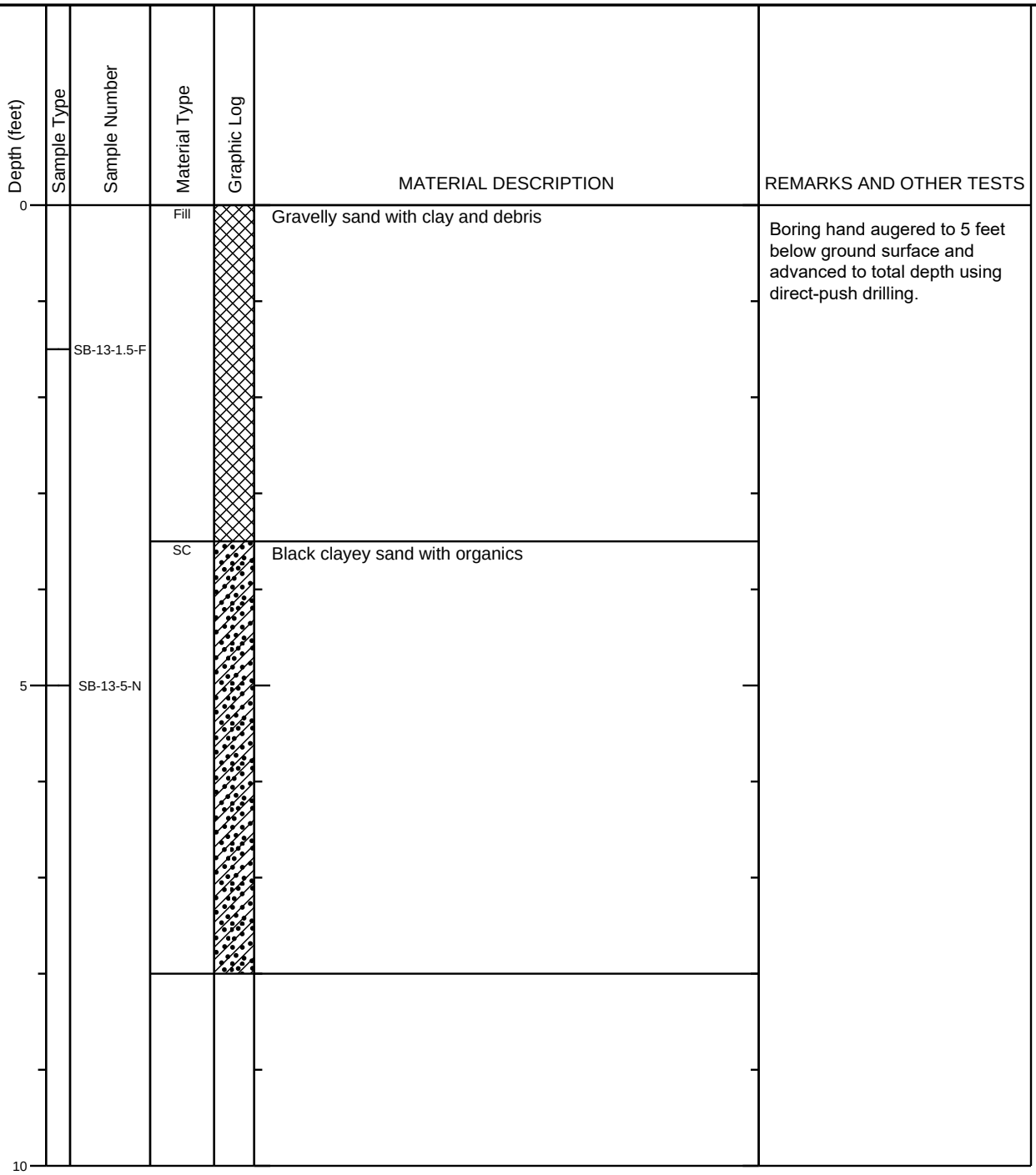
1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-13 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 13

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-14 **Sheet 1 of 2**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **12 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0			SP-SC		Brown, gravelly, clayey sand with debris, dry, includes cement debris and gravel	Boring hand augered to 5 feet below ground surface and advanced to total depth using direct-push drilling.
		SB-14-1.5-F				
			SC		Clayey sand with silt and organics, black, moist, very dense, little to no gravel and no debris present, caliche present	
5		SB-14-5-N				
			ML		Clayey silt with sand, brown, moist	
10						

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Figure 14

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Log of Boring SB-14

Sheet 2 of 2

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
10			ML		Clayey silt with sand, brown, moist	
15						
20						
25						
30						

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Figure 14

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)
Poorly graded SAND with Clay (SP-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

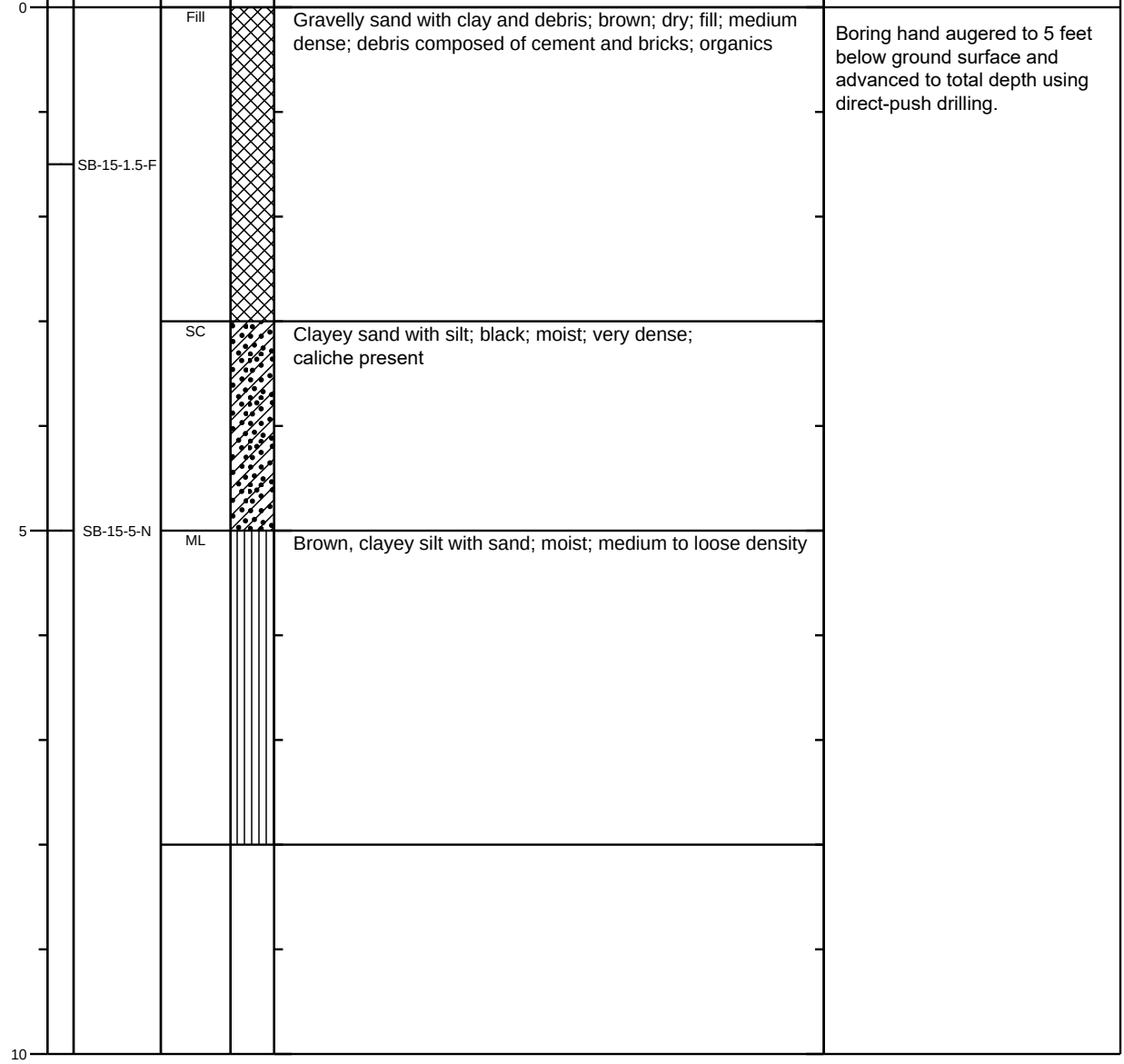
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-15 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **8 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 15

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

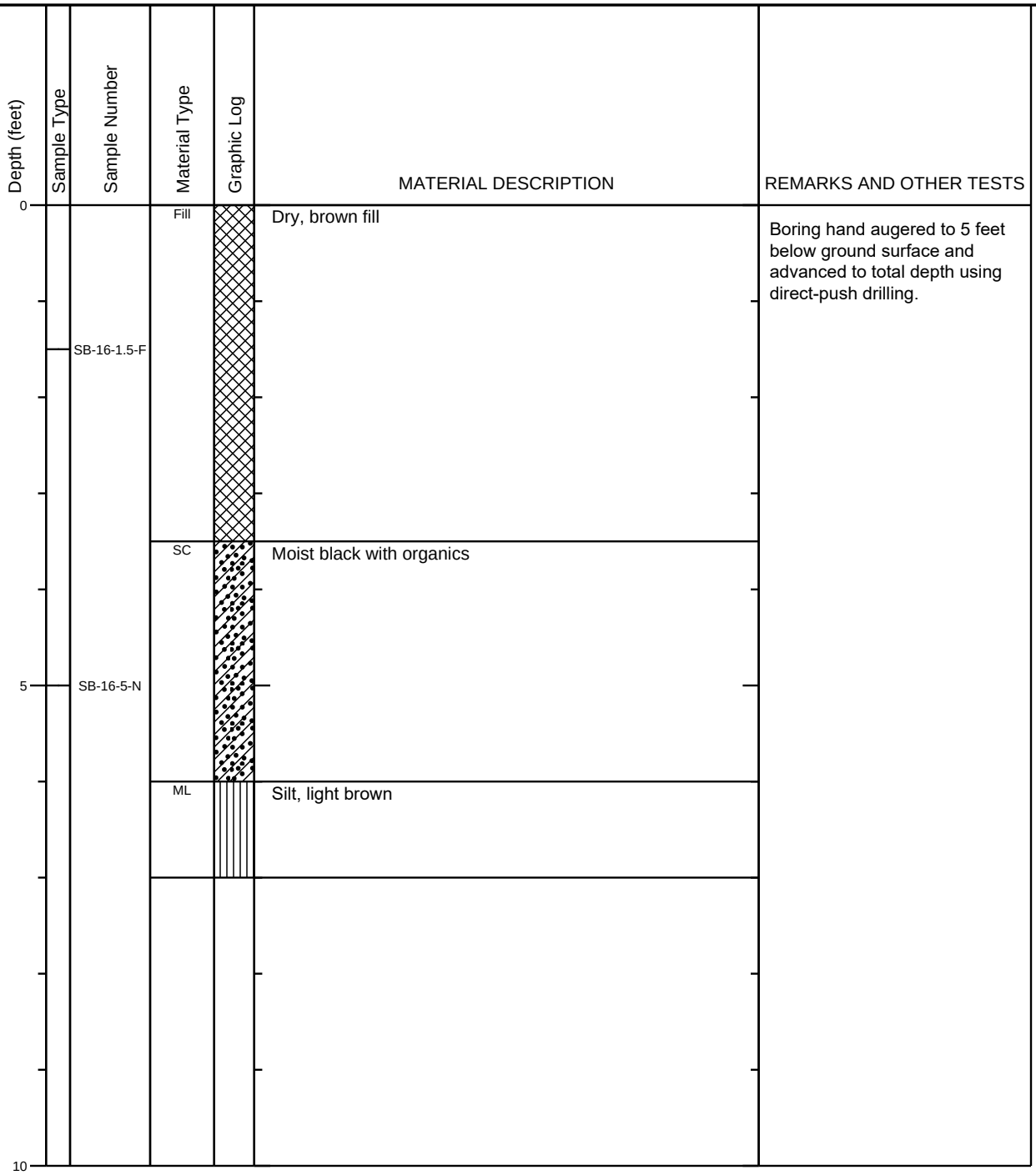
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Figure B-1

Project: **Promenade Phase II - Dublin Unified School District** Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568** Project Number: **0098.003.001**	Log of Boring SB-16 **Sheet 1 of 1**

Date(s) Drilled **05/29/2018**	Logged By **Seth Stroika**	Checked By **Andrew Lojo, CA PG #6034**
Drilling Method **Hand Auger/Direct Push**	Drill Bit Size/Type **DPT/2 inch**	Total Depth of Borehole **7 feet bgs**
Drill Rig Type **GeoProbe**	Drilling Contractor **Gregg Drilling**	Approximate Surface Elevation **Not Measured**
Groundwater Level and Date Measured **Not Encountered**	Sampling Method(s) **Hand Auger, Grab**	Hammer Data **Not Applicable**
Borehole Backfill **Grout**	Location **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**	



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Figure 16

Project: **Promenade Phase II - Dublin Unified School District**
Project Location: **Dublin Boulevard and Chancery Lane, Dublin, CA 94568**
Project Number: **0098.003.001**

Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Sample Type: Type of soil sample collected at the depth interval shown.
3 Sample Number: Sample identification number.
4 Material Type: Type of material encountered.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

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LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

AF
SILT, SILT w/SAND, SANDY SILT (ML)
Clayey SAND (SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
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Figure B-1

APPENDIX P
LABORATORY ANALYTICAL REPORTS



ENTHALPY

ANALYTICAL

Enthalpy Analytical
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300550
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
SB-2-0.5-F	300550-001
SB-3-0.5-F	300550-002
SB-4-1.5-F	300550-003
SB-5-0.5-F	300550-004
SB-6-1.5-F	300550-005
SB-7-1.5-F	300550-006
SB-8-1.5-F	300550-007
SB-9-1.5-F	300550-008
SB-10-1.5-F	300550-009
SB-11-1.5-F	300550-010
SB-12-1.5-F	300550-011
SB-13-1.5-F	300550-012
SB-14-1.5-F	300550-013
SB-15-1.5-F	300550-014
SB-16-1.5-F	300550-015

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Tracy Babjar Date: 06/25/2018

Tracy Babjar
Project Manager
tracy.babjar@enthalpy.com
(510) 204-2226 Ext 13107

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300550**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**06/18/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for fifteen soil samples, requested for the above referenced project on 06/18/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
SB-9-1.5-F (lab # 300550-008), SB-11-1.5-F (lab # 300550-010), and SB-15-1.5-F (lab # 300550-014) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
Matrix spikes QC935647,QC935648 (batch 260436) were not reported because the parent sample required a dilution that would have diluted out the spikes. High recoveries were observed for 2,4-dinitrotoluene and 4-nitrophenol in the LCS for batch 260436; these analytes were not detected at or above the RL in the associated samples. High surrogate recovery was observed for phenol-d5 in SB-5-0.5-F (lab # 300550-004); no target analytes were detected in the sample. High surrogate recoveries were observed for terphenyl-d14 in SB-3-0.5-F (lab # 300550-002) and SB-5-0.5-F (lab # 300550-004); no target analytes were detected in these samples. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC935535,QC935536 (batch 260410) were not reported because the parent sample required a dilution that would have diluted out the spikes. Many samples were diluted due to the color of the sample extracts. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
A number of analytes were detected between the MDL and the RL in the method blank for batch 260616. No other analytical problems were encountered.

CARB 435 Asbestos (CARB 435):
Forensic Analytical in Hayward, CA performed the analysis (not NELAP certified). Please see the Forensic Analytical case narrative.

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300550)

3 messages

Daren Roth <daren.roth@terraphase.com> Fri, Jun 15, 2018 at 6:34 PM
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

We would like to proceed with analyzing the extracts for all the samples presented in the login below (300550) for the following analytes:

- TPHd and TPHmo by 8015
- SVOCs by 8270
- PCBs by 8082

We would also like to analyze this same list of samples for the following:

- Title 22 Metals by 6010
- Asbestos by CARB 435

We would like these analyzed on a standard turn around time.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Monday, June 11, 2018 1:02 PM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <michael.murphy@terraphase.com>; Seth Stroika <seth.stroika@terraphase.com>
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300550)

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

Re: 0098.003.001 - Enthalpy (Berkeley) Data ~~(300213)~~ CT # 300550

Daren Roth <daren.roth@terraphase.com> Fri, Jun 8, 2018 at 6:42 PM
To: "mike.dahlquist@enthalpy.com" <mike.dahlquist@enthalpy.com>, Tracy Babjar <tracy.babjar@enthalpy.com>
Cc: Andy Lojo <andrew.lojo@terraphase.com>

Hi Tracy,

We would like to have the **extraction** completed for **SVOCs, TPHd/TPHmo, and PCBs** for select samples from the subject sample group. This will apply to the following samples:

1- • SB-2-0.5-F -028
2- • SB-3-0.5-F -027
3- • SB-4-1.5-F -026
4- • SB-5-0.5-F- 020
5- • SB-6-1.5-F -019
6- • SB-7-1.5-F -018
7- • SB-8-1.5-F -017
8- • SB-9-1.5-F -009
9- • SB-10-1.5-F -010
10- • SB-11-1.5-F -011
11- • SB-12-1.5-F -012
12- • SB-13-1.5-F -001
13- • SB-14-1.5-F- 002
14- • SB-15-1.5-F -003
15- • SB-16-1.5-F -004

Please prioritize the extractions from the samples that were collected on 5/29 on Monday, and then complete the extractions from the samples collected on 5/30 to avoid missing the hold times for any of these samples.

Let me know if you have any questions.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stouka
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																				
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd, mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	Hold												
	SB-13-1.5-F	5/24/18	1130		X			2					X	X	X	X	X	X	X	T												
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X	T												
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X	T												
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	T												
	SB-13-5-N	5/29/18	1140		X			2					X	X	X					T												
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					T												
	SB-15-5-N	5/29/18	0910		X			2					X	X	X					T												
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					T												
	SB-9-1.5-F	5/29/18	1510		X			2					X	X	X	X	X	X	X	T												
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X	T												
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X	T												
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	T												
					X																											

COMP-13-16-F
COMP-13-16-N
COMP-9-12-F

Notes:
Hold all discrete samples for potential future analysis, Only analyze comp at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 300213

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	T. Hs 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHdmo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE										
	SB-9-5-N	5/29/18	1520		X			2					X	X	X					T	COMP-9-12-N								
	SB-10-5-N	5/30/18	0745		X			2					X	X	X					T									
	SB-11-5-N	5/29/18	1405		X			2					X	X	X					T									
	SB-12-5-N	5/29/18	1215		X			2					X	X	X					T									
	SB-8-1.5-F	5/29/18	1435		X			2					X	X	X	X	X	X	X	T	COMP-5-8-F								
	SB-7-1.5-F	5/30/18	1020		X			2					X	X	X	X	X	X	X	T									
	SB-6-1.5-F	5/30/18	0905		X			2					X	X	X	X	X	X	X	T									
	SB-5-0.5-F	5/30/18	1105		X			2					X	X	X	X	X	X	X	T									
	SB-8-5-N	5/29/18	1445		X			2					X	X	X					T	COMP-5-8-N								
	SB-7-5-N	5/30/18	1030		X			2					X	X	X					T									
	SB-6-5-N	5/30/18	0920		X			2					X	X	X					T									
	SB-5-1.5-N	5/30/18	1105		X			2					X	X	X					T									
	SB-5-5-N	5/30/18	1110		X			2					X	HOLD						T									

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE 5/30/18 TIME 1605
DATE TIME
DATE TIME

RECEIVED BY:
DATE 5/31/18 TIME 1015
DATE TIME
DATE TIME

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stoika

Project Name: DUSD Promenade Report To: Daren Roth

Project P. O. No: Company: Terraphase

EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496

Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																			
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite													
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	1	} COMP-1-4-F											
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X	1												
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	1												
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	1	} COMP-1-4-N											
	SB-2-1.5-N	5/30/18	1205		X			2					X	X						1												
	SB-3-1.5-N	5/30/18	1135		X			2					X	X						1												
	SB-4-5-N	5/30/18	0840		X			2					X	X						1												
	SB-1-5-N	5/30/18	1235		X			2					X	X						1												
	SB-2-5-N	5/30/18	1210		X			2					X	HOLD																		
	SB-3-5-N	5/30/18	1140		X			2					X	HOLD																		
														HOLD																		

Notes:
Hold all discrete samples pending analysis; Only Analyze COMP SB-1-1.5-N run for All analytes as discrete

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/31/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300213 Client: Terraphase

Date Received: 5.30.18 Project: DUSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5.30.18 By (print) KP (sign) KP

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☒ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? By Date:			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (If N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 - time (sample) doesn't match COC → ID & date matched

Sample 20 - sample time doesn't match COC → ID & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "N"

Sample 30 & 34 - sample labels were wrong, called client to figure out which sample was ~~empty~~ which since the 2 small jars have the same label & 2 large jars had same label instead of 1 large jar & 1 small jar per the rest of the job.

Date Logged In 5/31/18 **By (print)** KP **(sign)** KP

Date Labeled 5/31/18 **By (print)** KP **(sign)** KP

ENTHALPY ANALYTICAL

Detections Summary for 300550

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-2-0.5-F Laboratory Sample ID : 300550-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.1	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	110		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.30		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.069	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.60	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	53		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-0.5-F Laboratory Sample ID : 300550-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	22		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.2		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	290		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.67		0.096	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.28		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.24	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.96	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.020		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.17	J	0.24	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	45		0.24	0.066	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.63	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	52		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		0.96	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

ENTHALPY ANALYTICAL

Client Sample ID : SB-4-1.5-F Laboratory Sample ID : 300550-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.4	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	72		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
4-Methylphenol	20	J	340	10	ug/Kg	As Recd	1.000	EPA 8270C	EPA 3550C
Arsenic	5.3		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.25	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.7		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.025		0.016	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.36		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.50	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.25	0.051	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-5-0.5-F Laboratory Sample ID : 300550-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.9	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	43		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.5		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	300		0.23	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.67		0.093	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.27		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.23	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.93	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.024		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.083	J	0.23	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.23	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.54	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	55		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		0.93	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-6-1.5-F Laboratory Sample ID : 300550-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	53		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.68		0.10	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.26		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.25	0.069	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.73	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	53		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.0	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-7-1.5-F Laboratory Sample ID : 300550-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.9	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	57		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.7		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.11	0.022	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.32		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.27	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.9		1.0	0.14	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.22	J	0.27	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.27	0.075	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.41	J	2.0	0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	52		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	47		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-8-1.5-F Laboratory Sample ID : 300550-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	74		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	6.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	330		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.66		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.26		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.016	0.0027	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.66	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	56		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-9-1.5-F Laboratory Sample ID : 300550-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	17	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	190		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	4.7		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	320		0.24	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.73		0.097	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.25		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	43		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		0.97	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.19	J	0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.24	0.067	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.72	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	51		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		0.97	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-10-1.5-F Laboratory Sample ID : 300550-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.1	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	65		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.0		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	340		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.73		0.098	0.020	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	42		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.25	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		0.98	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.017	J	0.017	0.0030	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.17	J	0.25	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.25	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.48	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	55		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	47		0.98	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-11-1.5-F Laboratory Sample ID : 300550-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	15	Y,Z	2.0	0.61	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	160		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	6.3		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	210		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.58		0.11	0.022	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.27	J	0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	10		1.0	0.14	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.034		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.37		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	39		0.27	0.076	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.58	J	2.0	0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	46		0.27	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	56		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-12-1.5-F Laboratory Sample ID : 300550-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.3	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	70		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	1.2	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	5.4		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.32		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	36		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.9		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.018		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.15	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.48	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	46		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	44		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-13-1.5-F Laboratory Sample ID : 300550-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.7	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	69		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	0.78	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	6.0		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.094	0.019	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.31		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	36		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	9.7		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.24	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.8		0.94	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.019		0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.23	J	0.24	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	34		0.24	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.51	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	48		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		0.94	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-14-1.5-F Laboratory Sample ID : 300550-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	90		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Aroclor-1260	1.0	J	4.8	0.78	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	6.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	280		0.26	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.26	0.057	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.0		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.018	0.0031	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.22	J	0.26	0.057	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	35		0.26	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.60	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-15-1.5-F Laboratory Sample ID : 300550-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y,Z	2.0	0.61	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	210		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Arsenic	6.5		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	250		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.66		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.33		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	48		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	26		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	11		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.027		0.016	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.34		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	46		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.57	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	54		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	61		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : SB-16-1.5-F Laboratory Sample ID : 300550-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	25		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
bis(2-Ethylhexyl)phthalate	15	J	330	13	ug/Kg	As Recd	1.000	EPA 8270C	EPA 3550C
Arsenic	6.5		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	240		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.10	0.021	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.34		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	20		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.6		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.021		0.017	0.0029	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.26	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.44	J	2.0	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	45		1.0	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-2-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-001	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	7.1 Y Z	1.0	0.31
Motor Oil C24-C36	110	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Field ID:	SB-3-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-002	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.3 Y Z	1.0	0.31
Motor Oil C24-C36	22	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	102	55-133

Field ID:	SB-4-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-003	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.4 Y Z	1.0	0.31
Motor Oil C24-C36	72	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Field ID:	SB-5-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-004	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.9 Y Z	1.0	0.31
Motor Oil C24-C36	43	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-6-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-005	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.3 Y Z	1.0	0.31
Motor Oil C24-C36	53	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Field ID:	SB-7-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-006	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	4.9 Y Z	1.0	0.31
Motor Oil C24-C36	57	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	99	55-133

Field ID:	SB-8-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-007	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	5.3 Y Z	1.0	0.31
Motor Oil C24-C36	74	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Field ID:	SB-9-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-008	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	17 Y Z	2.0	0.62
Motor Oil C24-C36	190	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	112	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID:	SB-10-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-009	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	9.1 Y Z	1.0	0.31
Motor Oil C24-C36	65	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Field ID:	SB-11-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-010	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	15 Y Z	2.0	0.61
Motor Oil C24-C36	160	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	103	55-133

Field ID:	SB-12-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-011	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.3 Y Z	1.0	0.31
Motor Oil C24-C36	70	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	111	55-133

Field ID:	SB-13-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-012	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	7.7 Y Z	1.0	0.31
Motor Oil C24-C36	69	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	260392
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/11/18

Field ID: SB-14-1.5-F
Type: SAMPLE
Lab ID: 300550-013
Diln Fac: 1.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	12 Y Z	1.0	0.31
Motor Oil C24-C36	90	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Field ID: SB-15-1.5-F
Type: SAMPLE
Lab ID: 300550-014
Diln Fac: 2.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	16 Y Z	2.0	0.61
Motor Oil C24-C36	210	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Field ID: SB-16-1.5-F
Type: SAMPLE
Lab ID: 300550-015
Diln Fac: 1.000
Sampled: 05/29/18
Analyzed: 06/18/18

Analyte	Result	RL	MDL
Diesel C10-C24	4.2 Y Z	1.0	0.31
Motor Oil C24-C36	25	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	107	55-133

Type: BLANK
Lab ID: QC935459
Diln Fac: 1.000
Analyzed: 06/12/18

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935460	Batch#:	260392
Matrix:	Soil	Prepared:	06/11/18
Units:	mg/Kg	Analyzed:	06/12/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	54.79	110	51-137

Surrogate	%REC	Limits
o-Terphenyl	107	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	SB-11-1.5-F	Batch#:	260392
MSS Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/11/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Type: MS Lab ID: QC935461

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	15.02	50.48	47.24	64	36-143

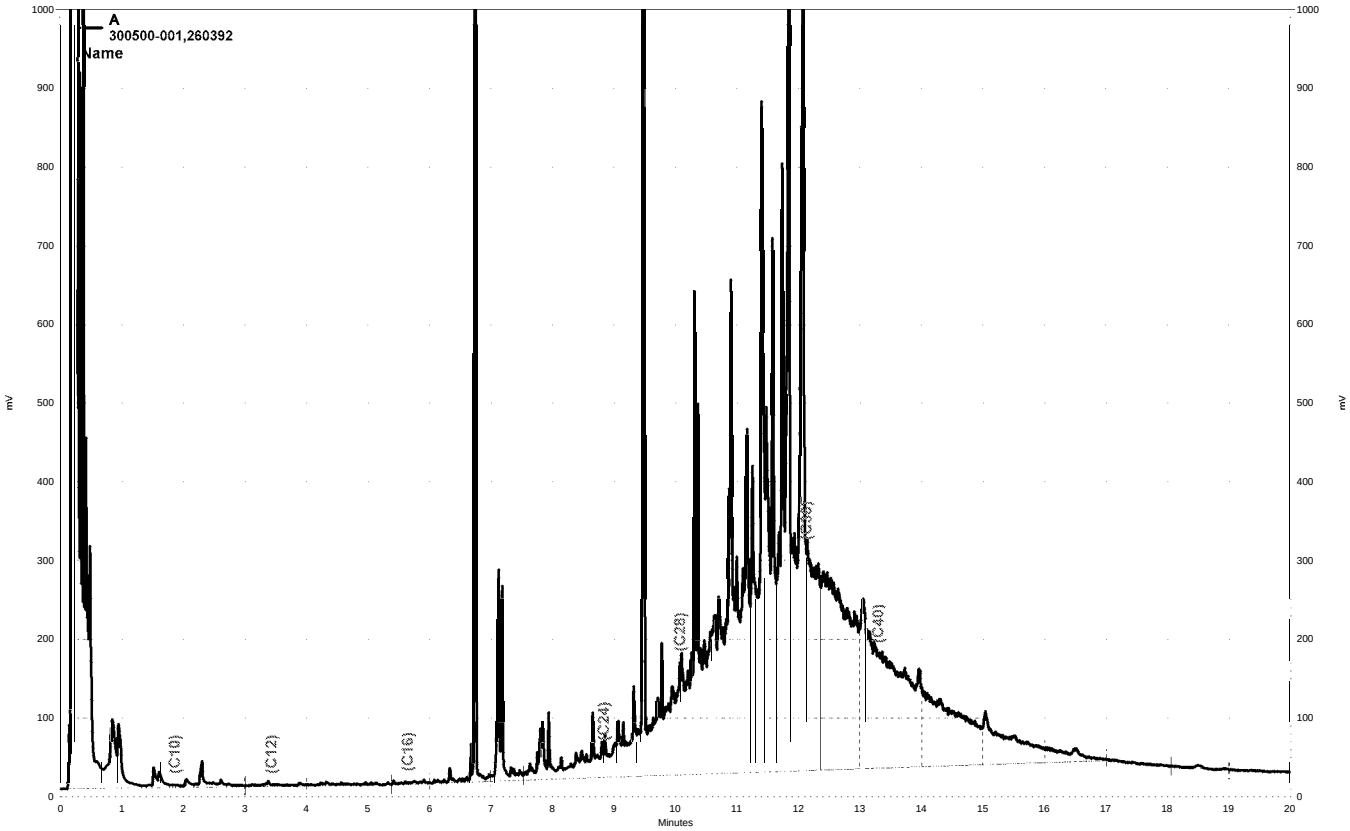
Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Type: MSD Lab ID: QC935462

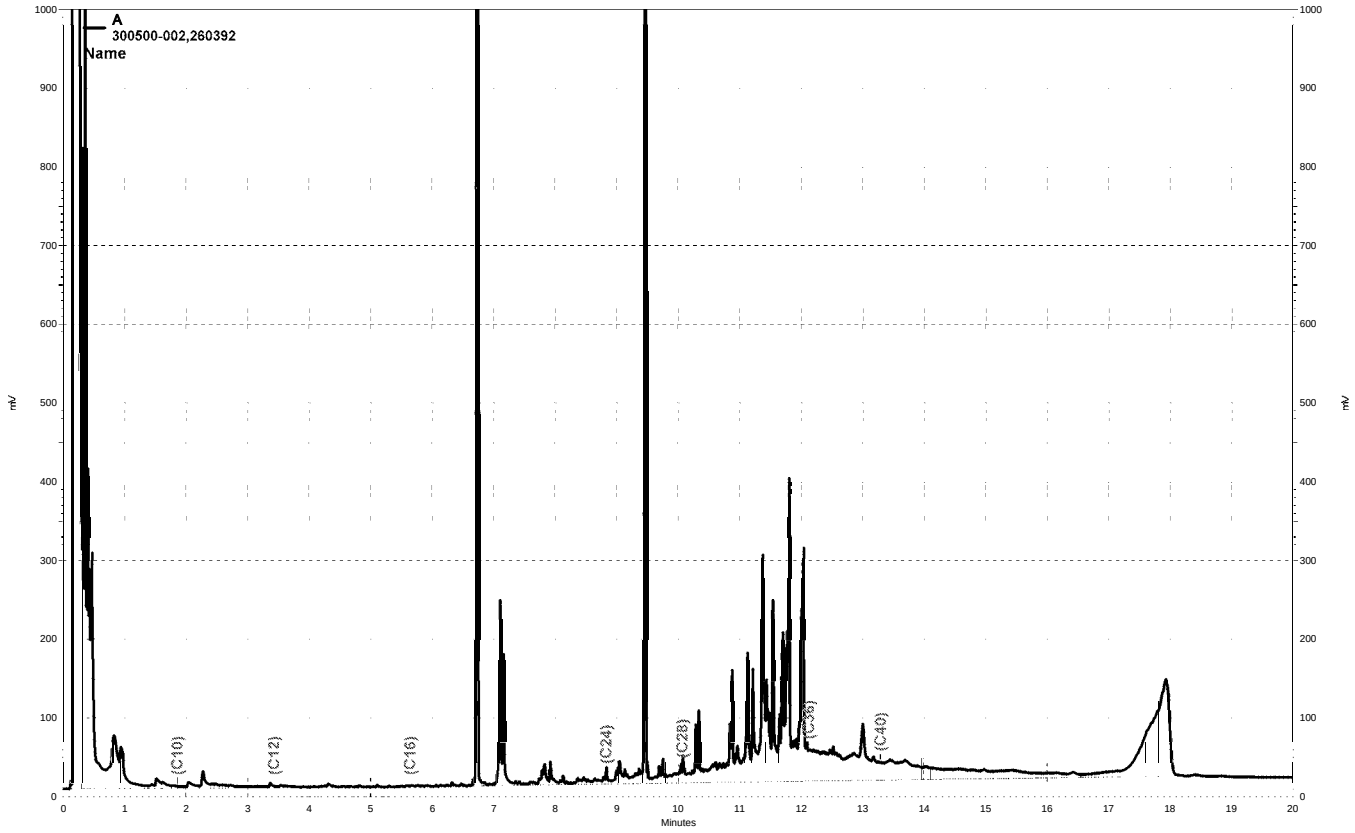
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.55	47.83	66	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	99	55-133

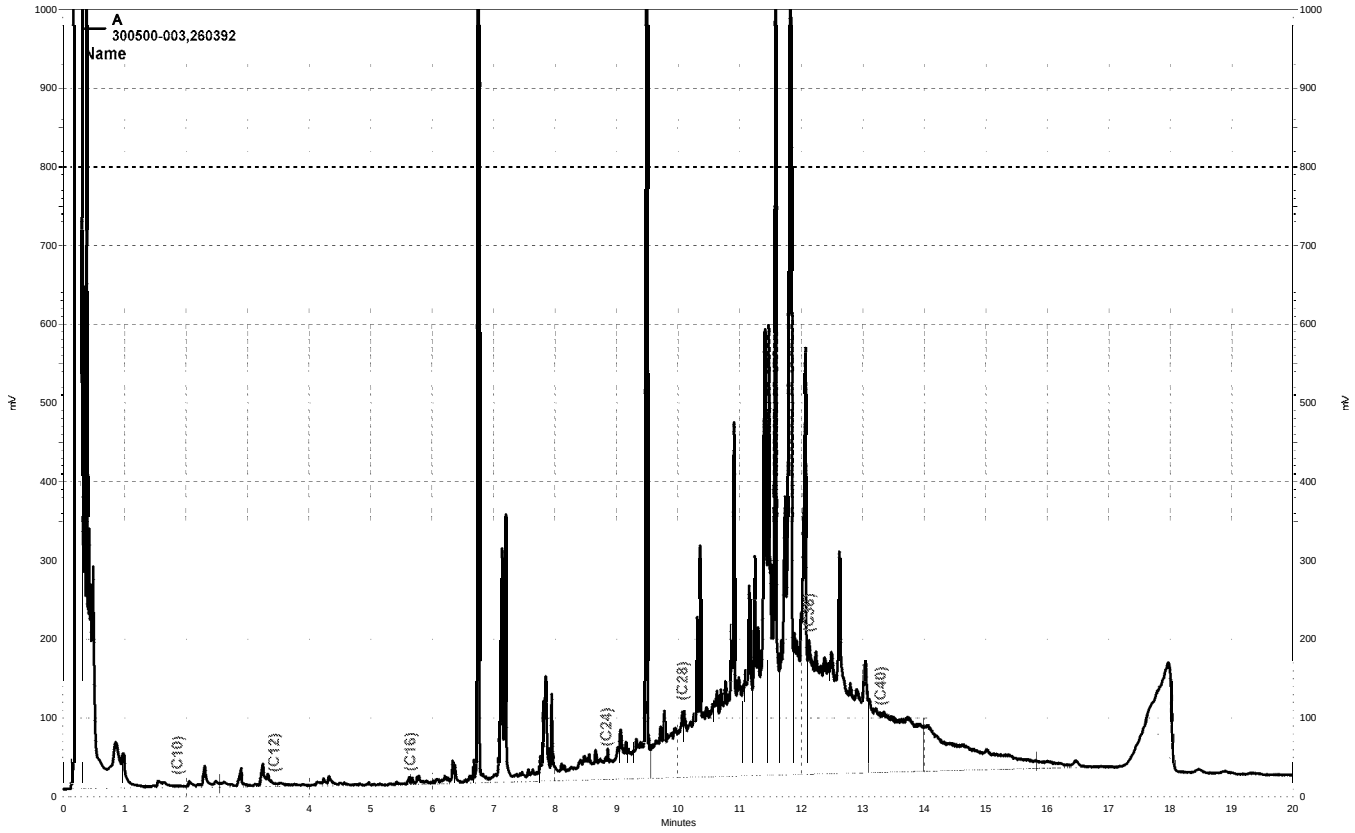
RPD= Relative Percent Difference



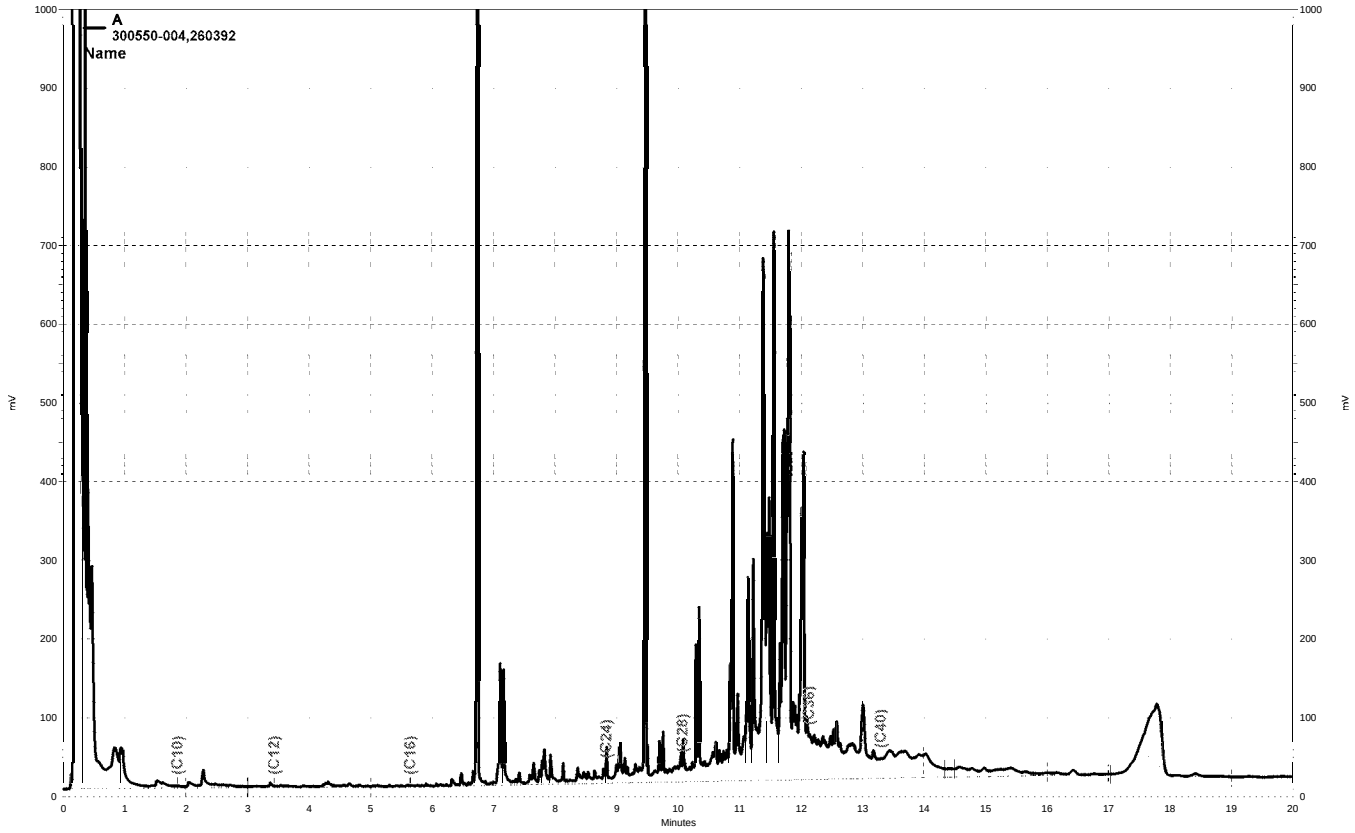
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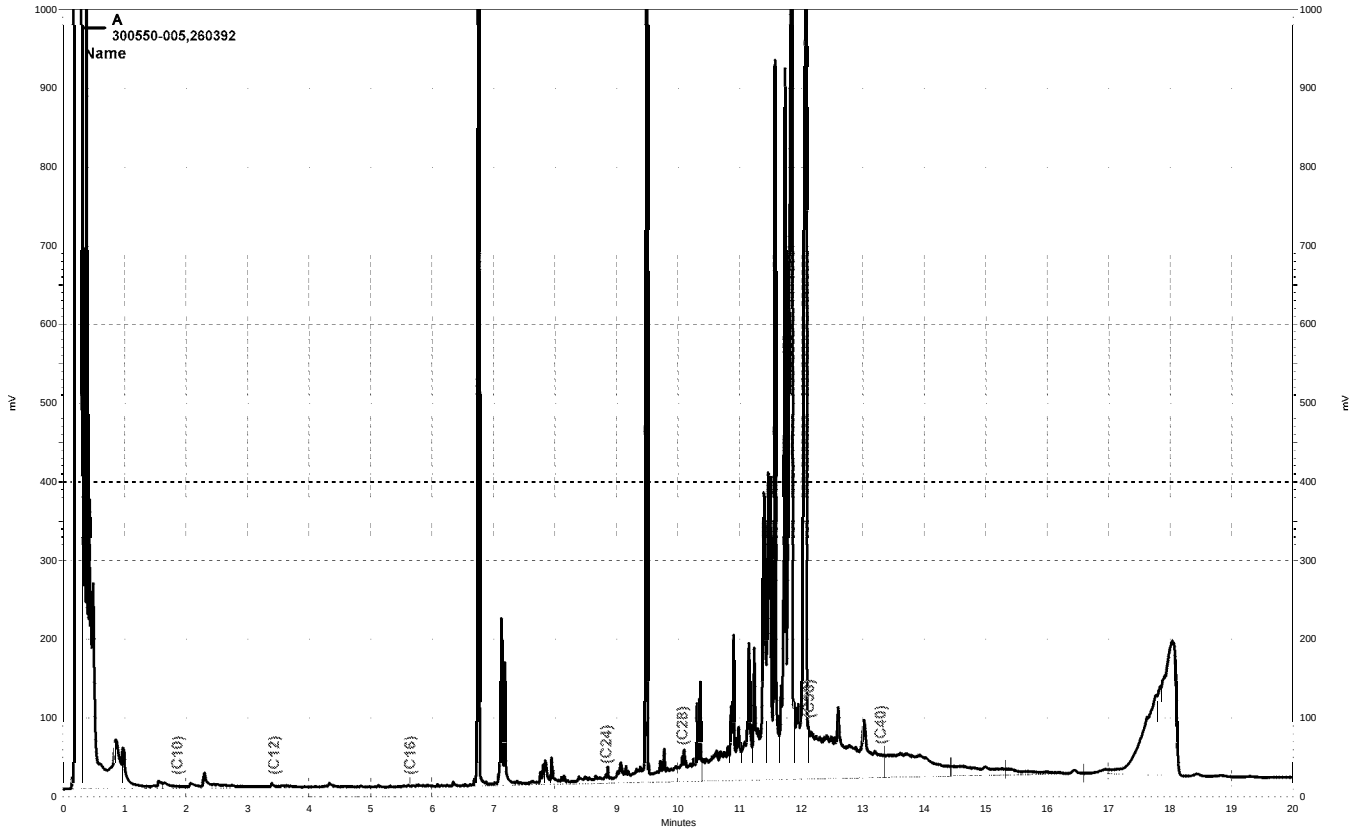
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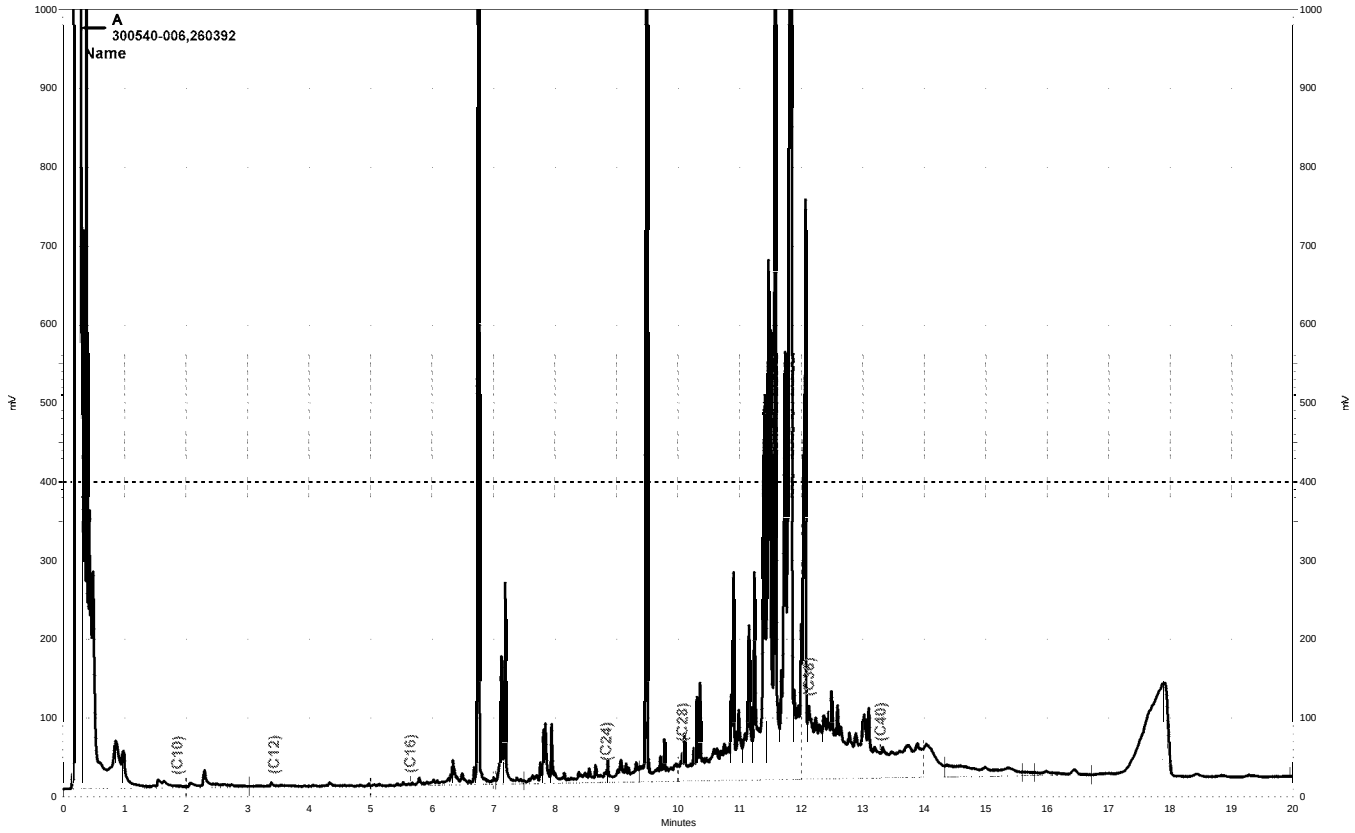
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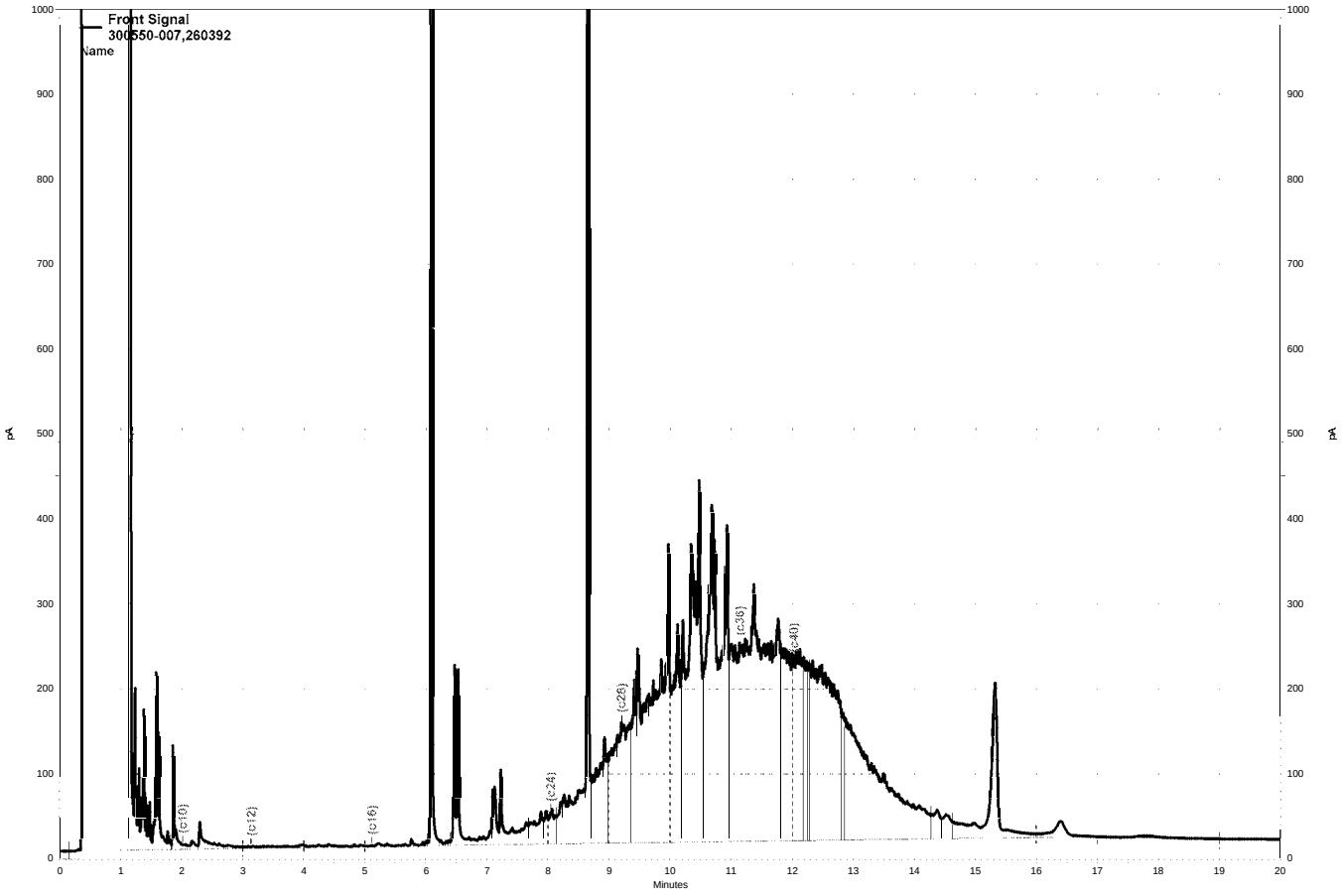
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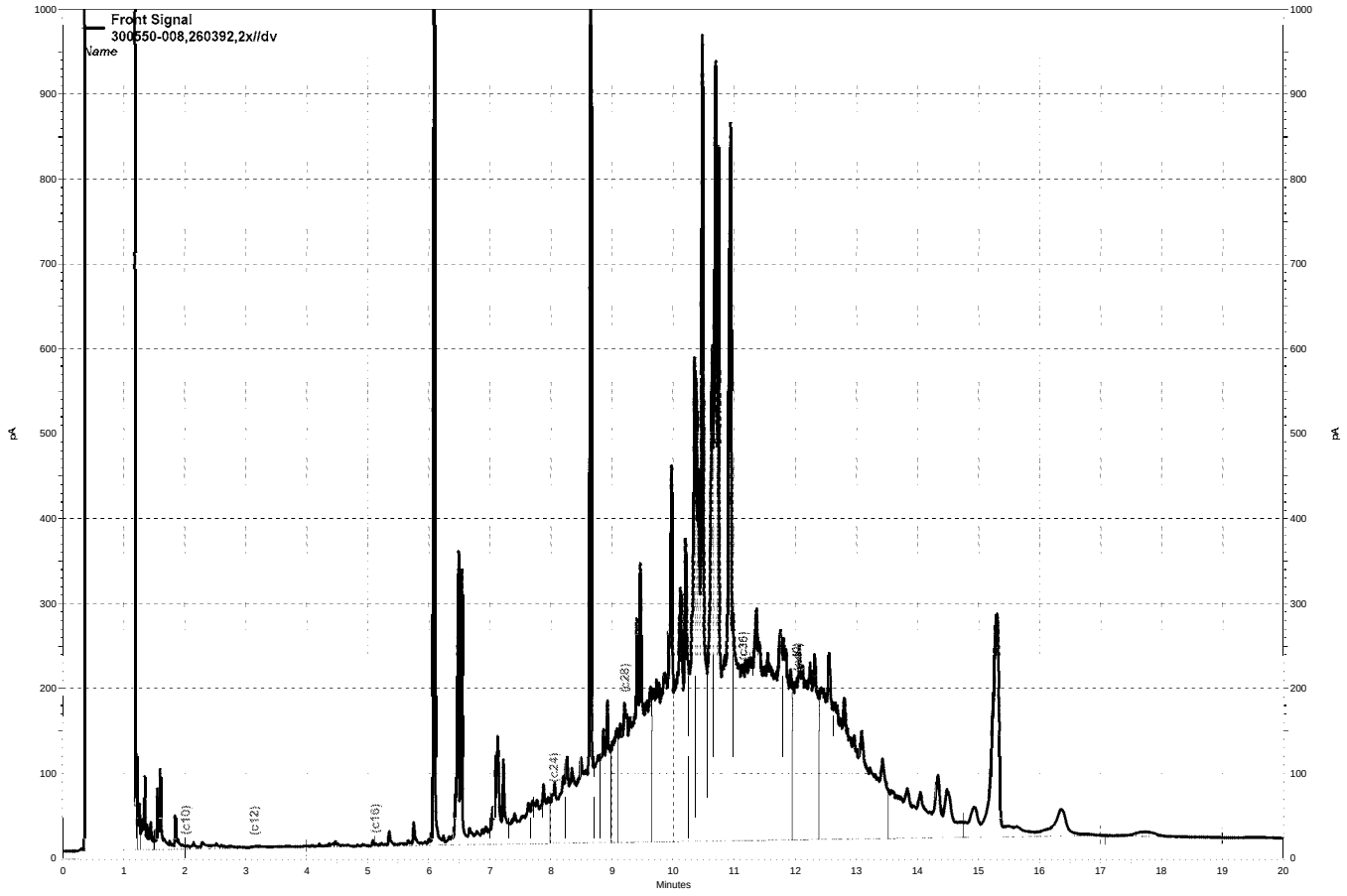
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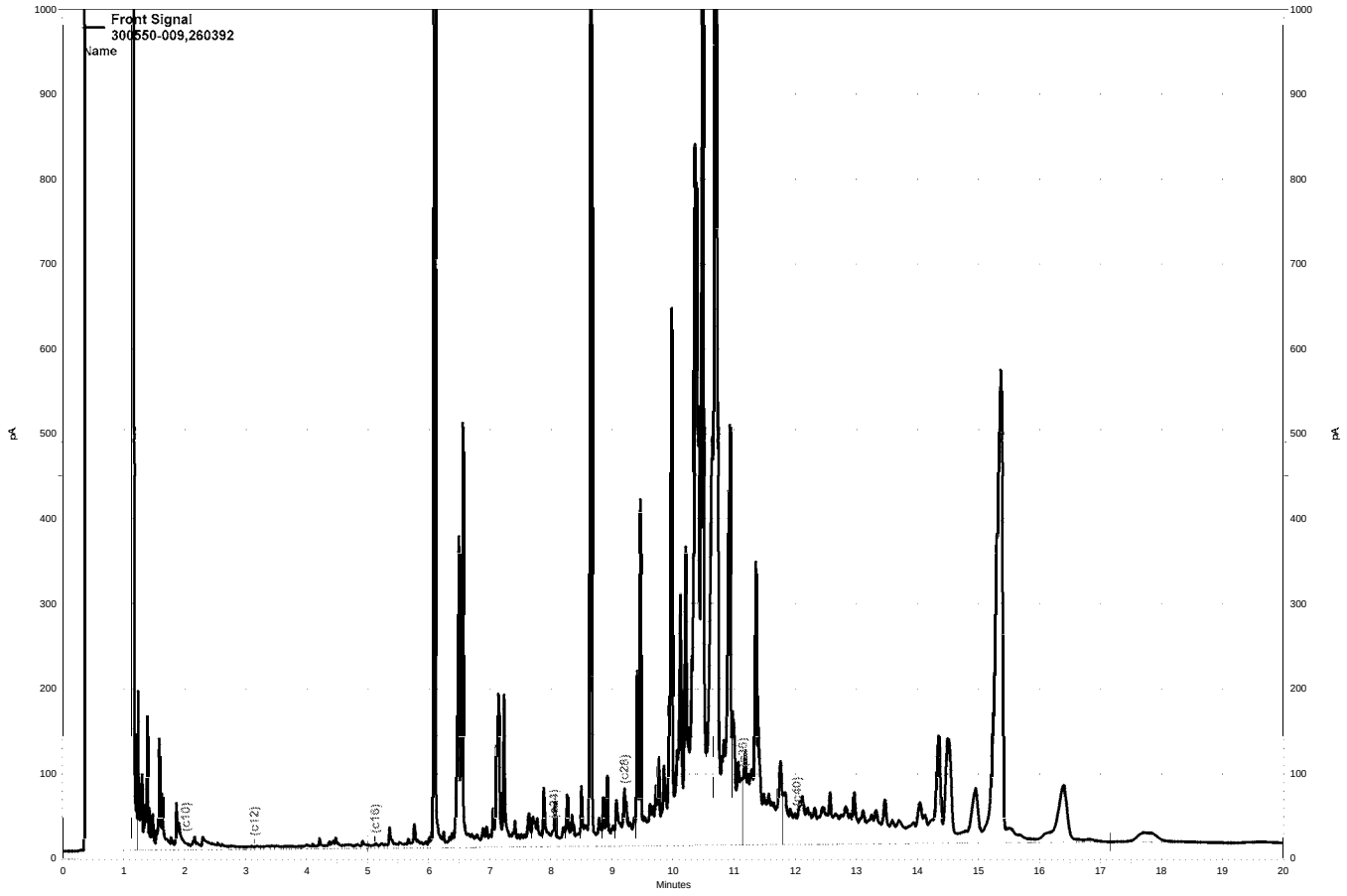
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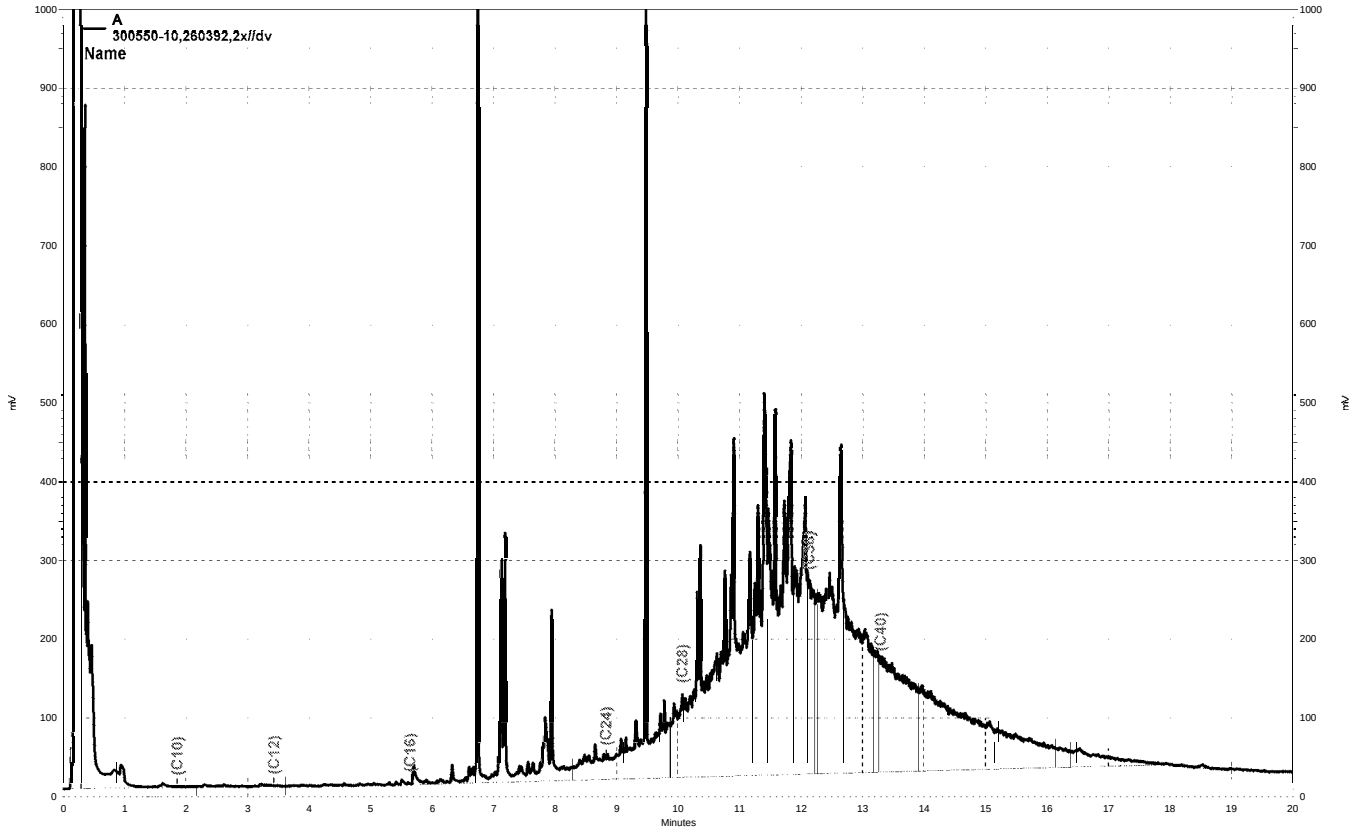
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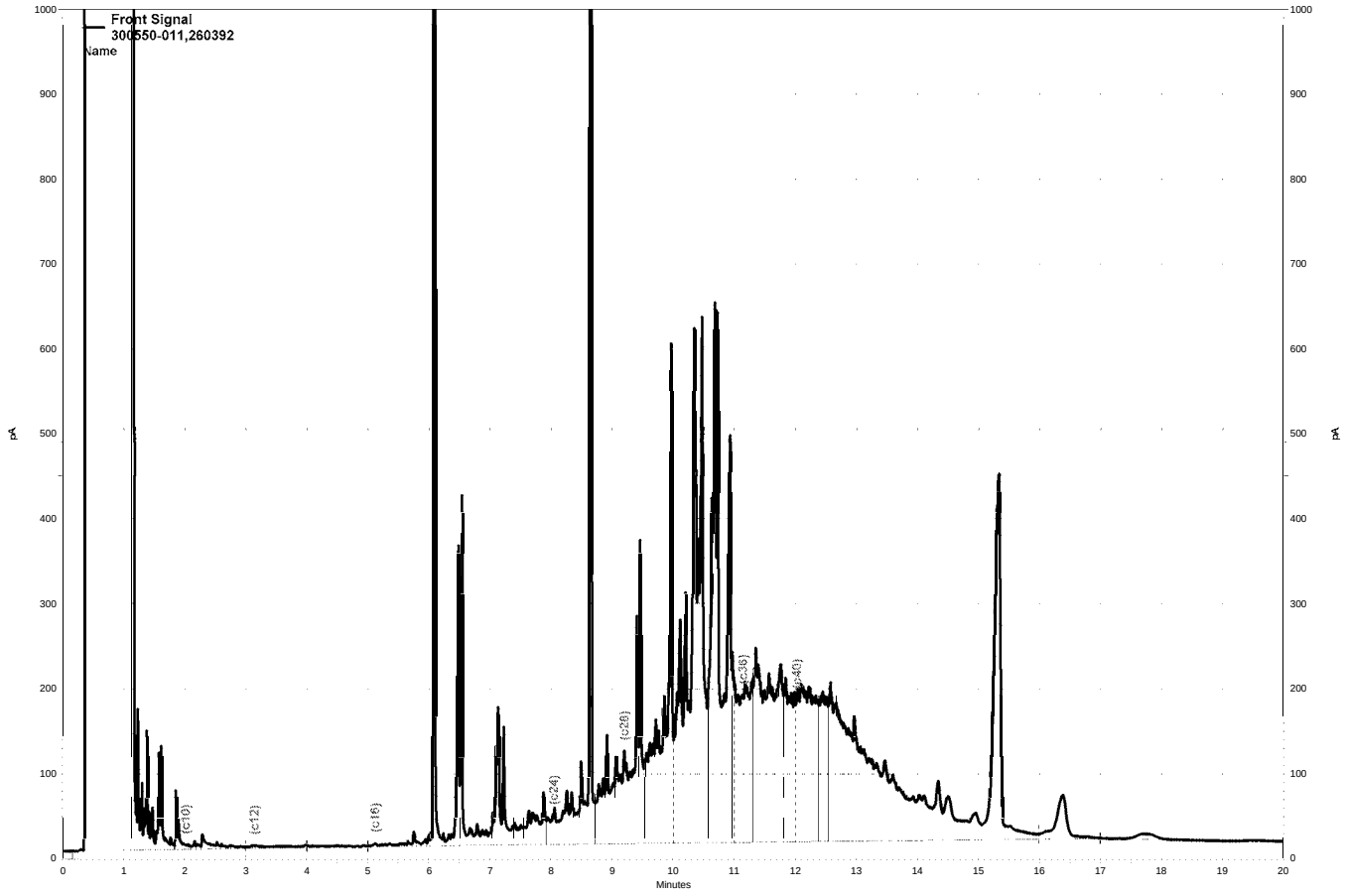
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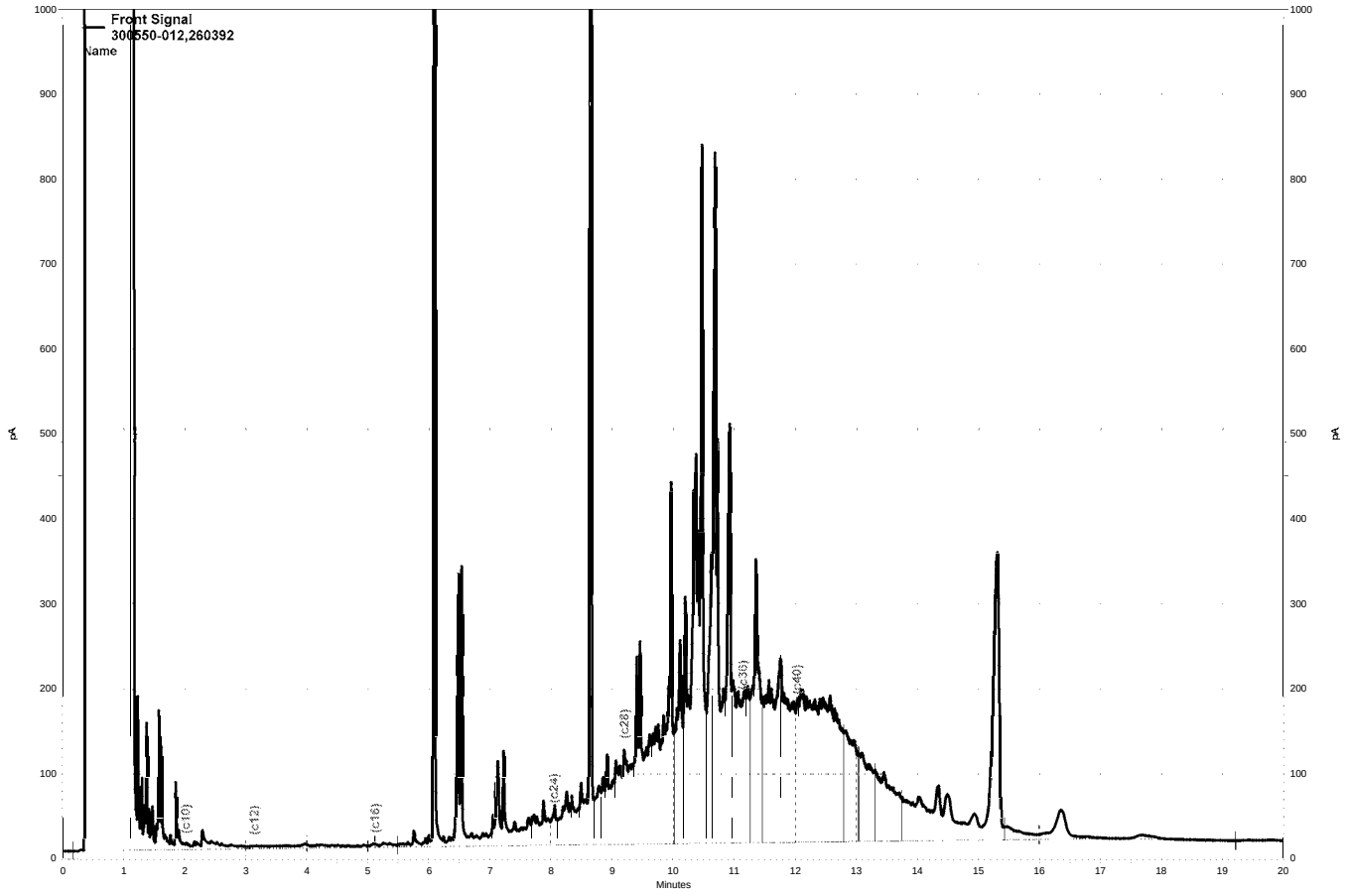
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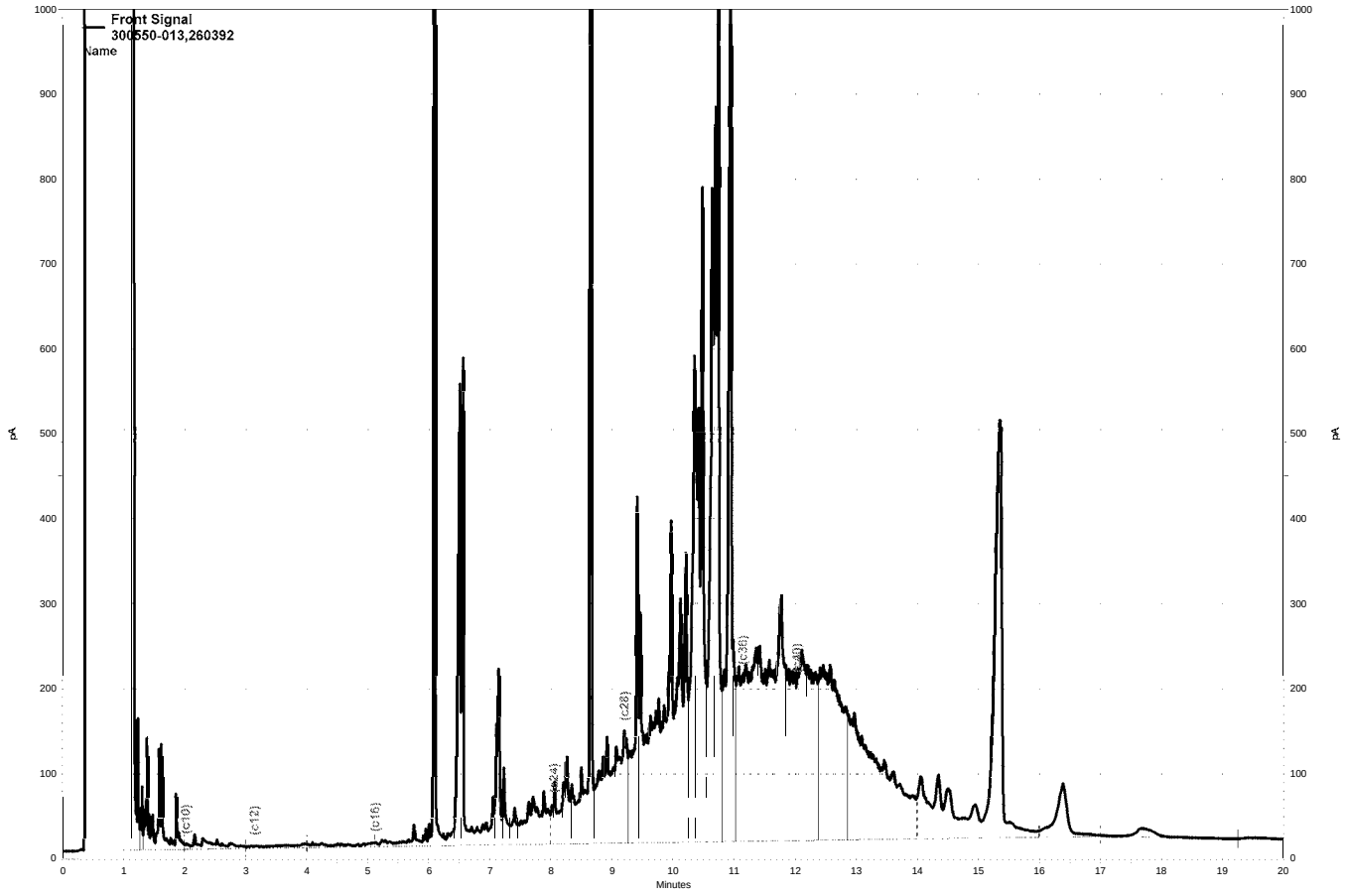
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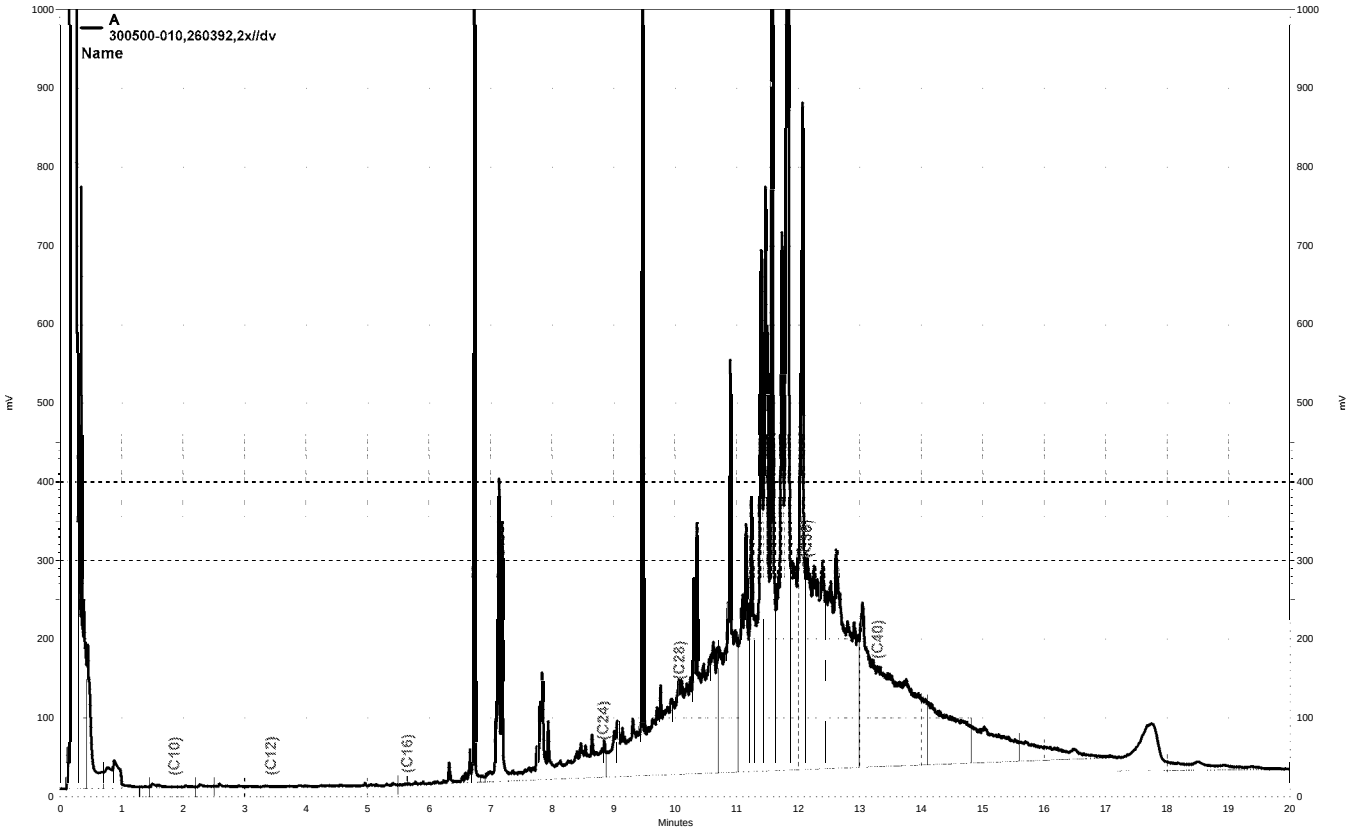
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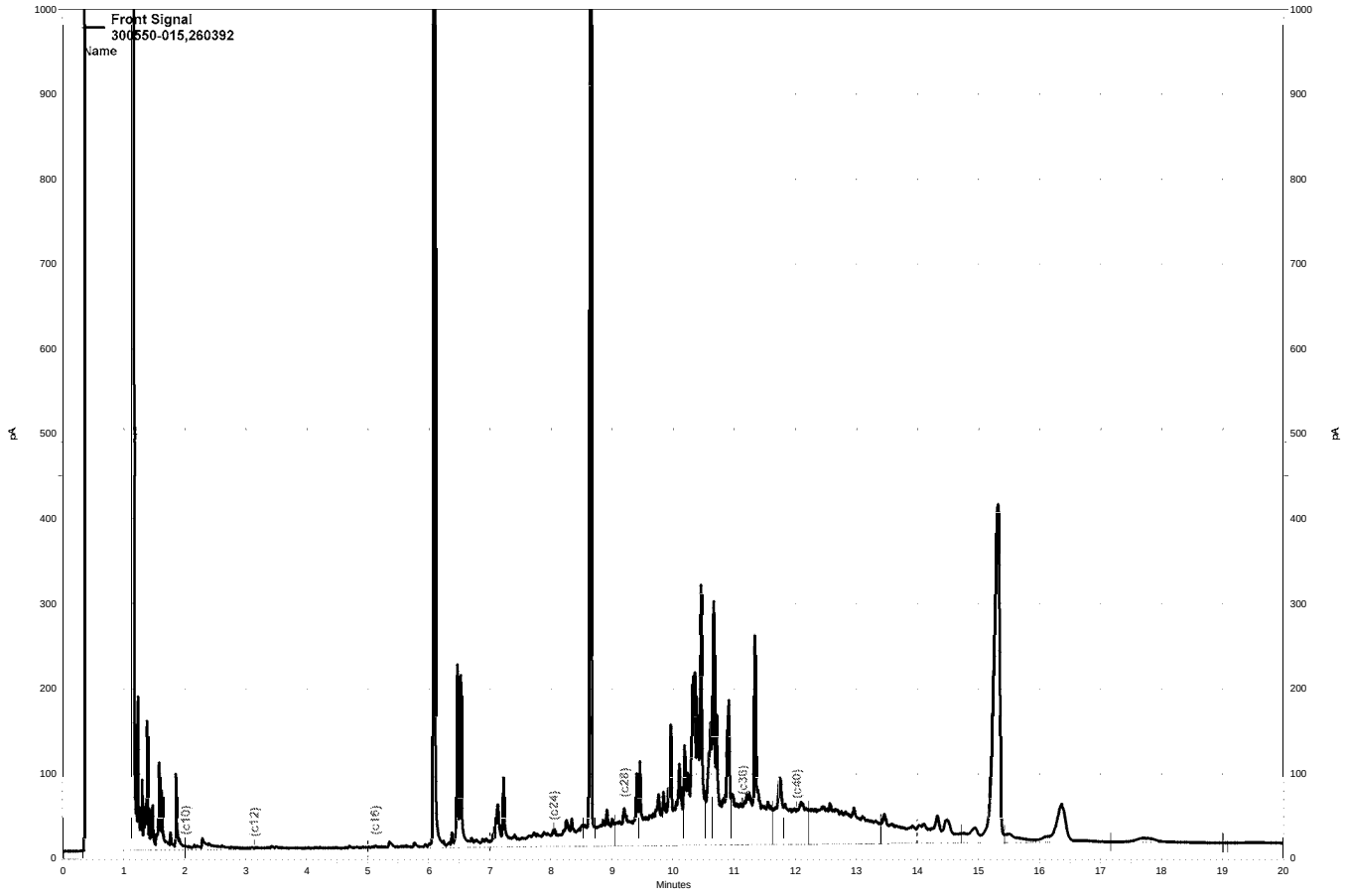
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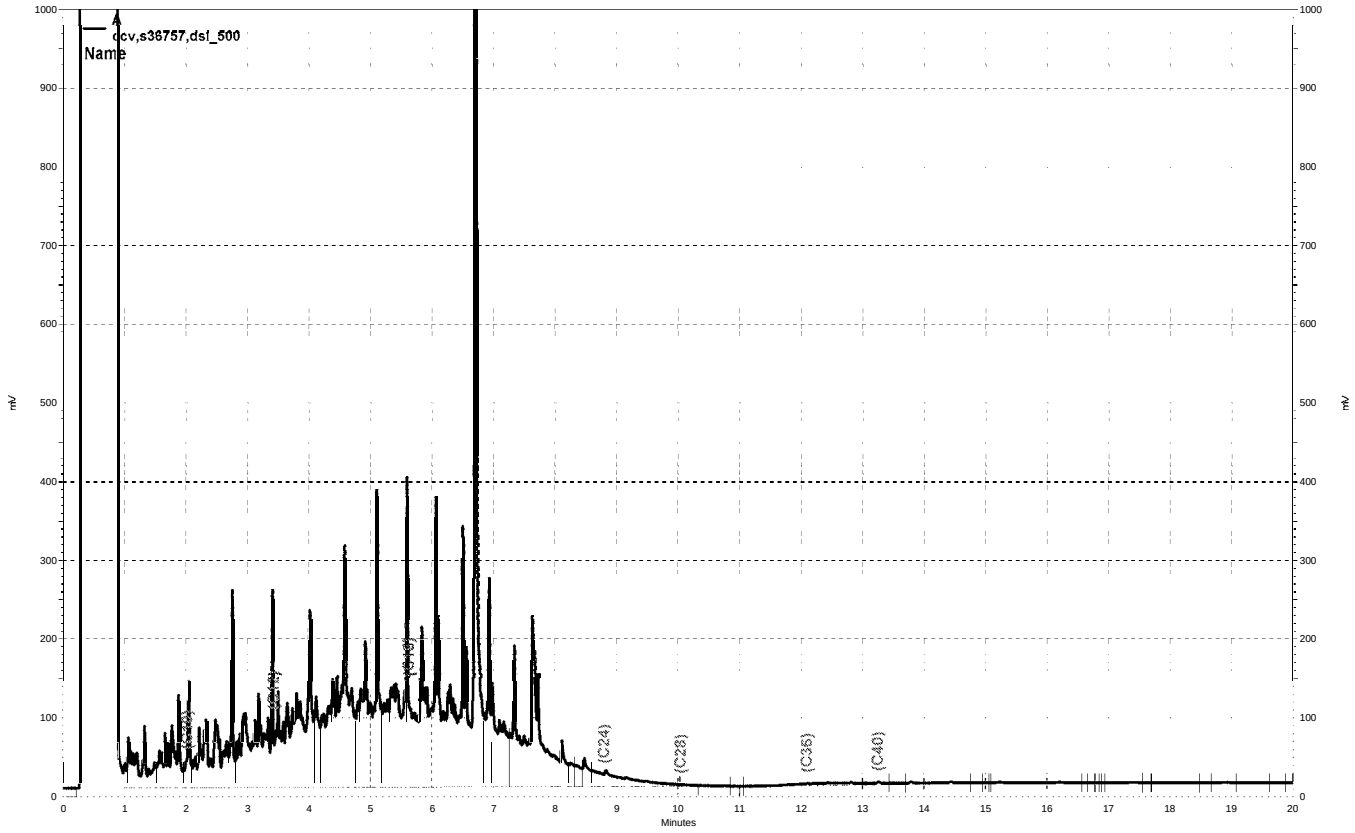
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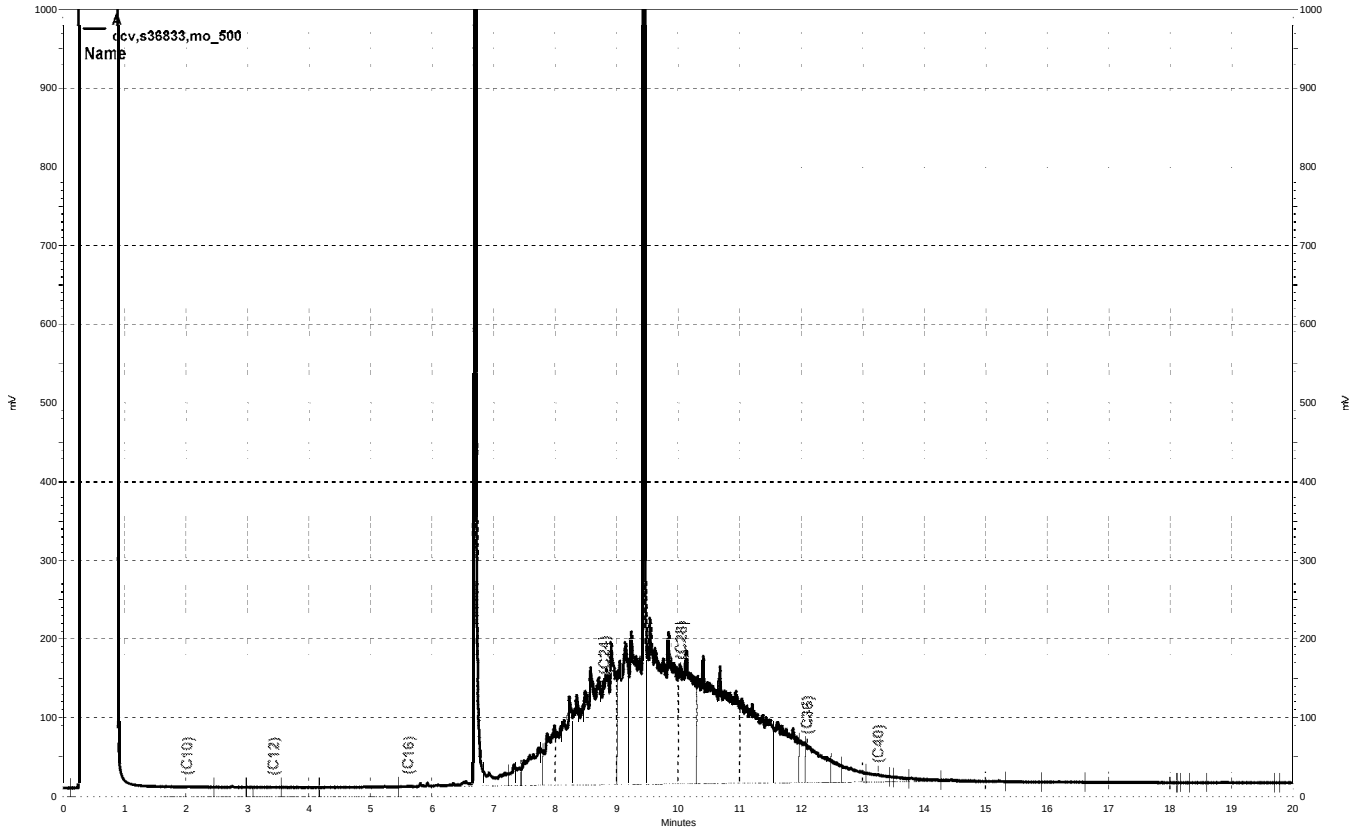
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ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-2-0.5-F	Batch#:	260436
Lab ID:	300550-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	660	94
Phenol	ND	660	20
bis(2-Chloroethyl)ether	ND	660	120
2-Chlorophenol	ND	660	20
1,3-Dichlorobenzene	ND	660	110
1,4-Dichlorobenzene	ND	660	20
Benzyl alcohol	ND	660	22
1,2-Dichlorobenzene	ND	660	20
2-Methylphenol	ND	660	27
bis(2-Chloroisopropyl) ether	ND	660	20
4-Methylphenol	ND	660	20
N-Nitroso-di-n-propylamine	ND	660	20
Hexachloroethane	ND	660	20
Nitrobenzene	ND	660	22
Isophorone	ND	660	20
2-Nitrophenol	ND	1,300	20
2,4-Dimethylphenol	ND	660	28
Benzoic acid	ND	3,300	870
bis(2-Chloroethoxy)methane	ND	660	20
2,4-Dichlorophenol	ND	660	20
1,2,4-Trichlorobenzene	ND	660	20
Naphthalene	ND	130	20
4-Chloroaniline	ND	660	19
Hexachlorobutadiene	ND	660	18
4-Chloro-3-methylphenol	ND	660	17
2-Methylnaphthalene	ND	130	20
Hexachlorocyclopentadiene	ND	1,300	150
2,4,6-Trichlorophenol	ND	660	25
2,4,5-Trichlorophenol	ND	660	17
2-Chloronaphthalene	ND	660	18
2-Nitroaniline	ND	1,300	21
Dimethylphthalate	ND	660	20
Acenaphthylene	ND	130	18
2,6-Dinitrotoluene	ND	660	18
3-Nitroaniline	ND	1,300	83
Acenaphthene	ND	130	20
2,4-Dinitrophenol	ND	1,300	300
4-Nitrophenol	ND	1,300	140
Dibenzofuran	ND	660	21
2,4-Dinitrotoluene	ND	660	19
Diethylphthalate	ND	660	22
Fluorene	ND	130	20
4-Chlorophenyl-phenylether	ND	660	19
4-Nitroaniline	ND	1,300	83
4,6-Dinitro-2-methylphenol	ND	1,300	150
N-Nitrosodiphenylamine	ND	660	21
Azobenzene	ND	660	17
4-Bromophenyl-phenylether	ND	660	21
Hexachlorobenzene	ND	660	21
Pentachlorophenol	ND	1,300	250
Phenanthrene	ND	130	21
Anthracene	ND	130	23

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-2-0.5-F	Batch#:	260436
Lab ID:	300550-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	2.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	660	24
Fluoranthene	ND	130	20
Pyrene	ND	130	22
Butylbenzylphthalate	ND	660	20
3,3'-Dichlorobenzidine	ND	1,300	44
Benzo(a)anthracene	ND	130	20
Chrysene	ND	130	22
bis(2-Ethylhexyl)phthalate	ND	660	26
Di-n-octylphthalate	ND	660	20
Benzo(b)fluoranthene	ND	130	18
Benzo(k)fluoranthene	ND	130	19
Benzo(a)pyrene	ND	130	17
Indeno(1,2,3-cd)pyrene	ND	130	18
Dibenz(a,h)anthracene	ND	130	19
Benzo(g,h,i)perylene	ND	130	20

Surrogate	%REC	Limits
2-Fluorophenol	86	31-121
Phenol-d5	84	31-120
2,4,6-Tribromophenol	88	24-120
Nitrobenzene-d5	82	43-120
2-Fluorobiphenyl	97	44-120
Terphenyl-d14	108	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-3-0.5-F	Batch#:	260436
Lab ID:	300550-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	41
Phenol	ND	330	17
bis(2-Chloroethyl)ether	ND	330	12
2-Chlorophenol	ND	330	16
1,3-Dichlorobenzene	ND	330	12
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	15
1,2-Dichlorobenzene	ND	330	9.3
2-Methylphenol	ND	330	15
bis(2-Chloroisopropyl) ether	ND	330	41
4-Methylphenol	ND	330	17
N-Nitroso-di-n-propylamine	ND	330	33
Hexachloroethane	ND	330	12
Nitrobenzene	ND	330	12
Isophorone	ND	330	11
2-Nitrophenol	ND	660	9.9
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,600	490
bis(2-Chloroethoxy)methane	ND	330	11
2,4-Dichlorophenol	ND	330	12
1,2,4-Trichlorobenzene	ND	330	9.5
Naphthalene	ND	66	8.6
4-Chloroaniline	ND	330	41
Hexachlorobutadiene	ND	330	60
4-Chloro-3-methylphenol	ND	330	14
2-Methylnaphthalene	ND	66	9.7
Hexachlorocyclopentadiene	ND	660	60
2,4,6-Trichlorophenol	ND	330	14
2,4,5-Trichlorophenol	ND	330	8.6
2-Chloronaphthalene	ND	330	54
2-Nitroaniline	ND	660	33
Dimethylphthalate	ND	330	9.2
Acenaphthylene	ND	66	8.4
2,6-Dinitrotoluene	ND	330	8.6
3-Nitroaniline	ND	660	41
Acenaphthene	ND	66	12
2,4-Dinitrophenol	ND	660	160
4-Nitrophenol	ND	660	68
Dibenzofuran	ND	330	8.6
2,4-Dinitrotoluene	ND	330	9.5
Diethylphthalate	ND	330	8.4
Fluorene	ND	66	8.8
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	41
4,6-Dinitro-2-methylphenol	ND	660	41
N-Nitrosodiphenylamine	ND	330	55
Azobenzene	ND	330	12
4-Bromophenyl-phenylether	ND	330	58
Hexachlorobenzene	ND	330	12
Pentachlorophenol	ND	660	150
Phenanthrene	ND	66	9.4

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-3-0.5-F	Batch#:	260436
Lab ID:	300550-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	12
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	8.5
Pyrene	ND	66	9.2
Butylbenzylphthalate	ND	330	12
3,3'-Dichlorobenzidine	ND	660	42
Benzo(a)anthracene	ND	66	8.5
Chrysene	ND	66	12
bis(2-Ethylhexyl)phthalate	ND	330	8.6
Di-n-octylphthalate	ND	330	8.3
Benzo(b)fluoranthene	ND	66	12
Benzo(k)fluoranthene	ND	66	8.5
Benzo(a)pyrene	ND	66	8.5
Indeno(1,2,3-cd)pyrene	ND	66	12
Dibenz(a,h)anthracene	ND	66	12
Benzo(g,h,i)perylene	ND	66	8.5

Surrogate	%REC	Limits
2-Fluorophenol	115	31-121
Phenol-d5	120	31-120
2,4,6-Tribromophenol	74	24-120
Nitrobenzene-d5	77	43-120
2-Fluorobiphenyl	78	44-120
Terphenyl-d14	131 *	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-4-1.5-F	Batch#:	260436
Lab ID:	300550-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	20 J	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	67	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	670	43
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	11
Fluorene	ND	67	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	670	43
4,6-Dinitro-2-methylphenol	ND	670	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-4-1.5-F	Batch#:	260436
Lab ID:	300550-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	67	12
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	67	9.1
Benzo(k)fluoranthene	ND	67	9.6
Benzo(a)pyrene	ND	67	8.9
Indeno(1,2,3-cd)pyrene	ND	67	8.9
Dibenz(a,h)anthracene	ND	67	9.5
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	70	31-121
Phenol-d5	79	31-120
2,4,6-Tribromophenol	87	24-120
Nitrobenzene-d5	58	43-120
2-Fluorobiphenyl	70	44-120
Terphenyl-d14	91	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-5-0.5-F	Batch#:	260436
Lab ID:	300550-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	41
Phenol	ND	330	17
bis(2-Chloroethyl)ether	ND	330	12
2-Chlorophenol	ND	330	16
1,3-Dichlorobenzene	ND	330	12
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	15
1,2-Dichlorobenzene	ND	330	9.3
2-Methylphenol	ND	330	15
bis(2-Chloroisopropyl) ether	ND	330	41
4-Methylphenol	ND	330	17
N-Nitroso-di-n-propylamine	ND	330	32
Hexachloroethane	ND	330	12
Nitrobenzene	ND	330	12
Isophorone	ND	330	11
2-Nitrophenol	ND	660	9.9
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,600	490
bis(2-Chloroethoxy)methane	ND	330	11
2,4-Dichlorophenol	ND	330	12
1,2,4-Trichlorobenzene	ND	330	9.5
Naphthalene	ND	66	8.6
4-Chloroaniline	ND	330	41
Hexachlorobutadiene	ND	330	60
4-Chloro-3-methylphenol	ND	330	14
2-Methylnaphthalene	ND	66	9.7
Hexachlorocyclopentadiene	ND	660	60
2,4,6-Trichlorophenol	ND	330	14
2,4,5-Trichlorophenol	ND	330	8.6
2-Chloronaphthalene	ND	330	54
2-Nitroaniline	ND	660	32
Dimethylphthalate	ND	330	9.2
Acenaphthylene	ND	66	8.4
2,6-Dinitrotoluene	ND	330	8.6
3-Nitroaniline	ND	660	41
Acenaphthene	ND	66	12
2,4-Dinitrophenol	ND	660	160
4-Nitrophenol	ND	660	68
Dibenzofuran	ND	330	8.6
2,4-Dinitrotoluene	ND	330	9.5
Diethylphthalate	ND	330	8.4
Fluorene	ND	66	8.8
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	41
4,6-Dinitro-2-methylphenol	ND	660	41
N-Nitrosodiphenylamine	ND	330	55
Azobenzene	ND	330	12
4-Bromophenyl-phenylether	ND	330	58
Hexachlorobenzene	ND	330	12
Pentachlorophenol	ND	660	150
Phenanthrene	ND	66	9.4

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-5-0.5-F	Batch#:	260436
Lab ID:	300550-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	12
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	8.5
Pyrene	ND	66	9.2
Butylbenzylphthalate	ND	330	12
3,3'-Dichlorobenzidine	ND	660	42
Benzo(a)anthracene	ND	66	8.5
Chrysene	ND	66	12
bis(2-Ethylhexyl)phthalate	ND	330	8.6
Di-n-octylphthalate	ND	330	8.3
Benzo(b)fluoranthene	ND	66	12
Benzo(k)fluoranthene	ND	66	8.5
Benzo(a)pyrene	ND	66	8.5
Indeno(1,2,3-cd)pyrene	ND	66	12
Dibenz(a,h)anthracene	ND	66	12
Benzo(g,h,i)perylene	ND	66	8.5

Surrogate	%REC	Limits
2-Fluorophenol	121	31-121
Phenol-d5	121 *	31-120
2,4,6-Tribromophenol	86	24-120
Nitrobenzene-d5	86	43-120
2-Fluorobiphenyl	86	44-120
Terphenyl-d14	142 *	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-6-1.5-F	Batch#:	260436
Lab ID:	300550-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	42
Phenol	ND	340	17
bis(2-Chloroethyl)ether	ND	340	13
2-Chlorophenol	ND	340	17
1,3-Dichlorobenzene	ND	340	12
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	16
1,2-Dichlorobenzene	ND	340	9.5
2-Methylphenol	ND	340	15
bis(2-Chloroisopropyl) ether	ND	340	42
4-Methylphenol	ND	340	18
N-Nitroso-di-n-propylamine	ND	340	33
Hexachloroethane	ND	340	12
Nitrobenzene	ND	340	12
Isophorone	ND	340	11
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	500
bis(2-Chloroethoxy)methane	ND	340	12
2,4-Dichlorophenol	ND	340	13
1,2,4-Trichlorobenzene	ND	340	9.7
Naphthalene	ND	67	8.8
4-Chloroaniline	ND	340	42
Hexachlorobutadiene	ND	340	61
4-Chloro-3-methylphenol	ND	340	15
2-Methylnaphthalene	ND	67	9.9
Hexachlorocyclopentadiene	ND	670	61
2,4,6-Trichlorophenol	ND	340	14
2,4,5-Trichlorophenol	ND	340	8.8
2-Chloronaphthalene	ND	340	56
2-Nitroaniline	ND	670	33
Dimethylphthalate	ND	340	9.4
Acenaphthylene	ND	67	8.6
2,6-Dinitrotoluene	ND	340	8.8
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	12
2,4-Dinitrophenol	ND	670	160
4-Nitrophenol	ND	670	69
Dibenzofuran	ND	340	8.8
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	8.5
Fluorene	ND	67	9.0
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	42
N-Nitrosodiphenylamine	ND	340	56
Azobenzene	ND	340	12
4-Bromophenyl-phenylether	ND	340	59
Hexachlorobenzene	ND	340	12
Pentachlorophenol	ND	670	150
Phenanthrene	ND	67	9.6
Anthracene	ND	67	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-6-1.5-F	Batch#:	260436
Lab ID:	300550-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	8.7
Pyrene	ND	67	9.4
Butylbenzylphthalate	ND	340	12
3,3'-Dichlorobenzidine	ND	670	43
Benzo(a)anthracene	ND	67	8.7
Chrysene	ND	67	12
bis(2-Ethylhexyl)phthalate	ND	340	8.8
Di-n-octylphthalate	ND	340	8.5
Benzo(b)fluoranthene	ND	67	12
Benzo(k)fluoranthene	ND	67	8.7
Benzo(a)pyrene	ND	67	8.7
Indeno(1,2,3-cd)pyrene	ND	67	12
Dibenz(a,h)anthracene	ND	67	12
Benzo(g,h,i)perylene	ND	67	8.7

Surrogate	%REC	Limits
2-Fluorophenol	107	31-121
Phenol-d5	99	31-120
2,4,6-Tribromophenol	83	24-120
Nitrobenzene-d5	91	43-120
2-Fluorobiphenyl	90	44-120
Terphenyl-d14	118	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-7-1.5-F	Batch#:	260436
Lab ID:	300550-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.4
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	67	9.0
2,6-Dinitrotoluene	ND	340	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.7
Diethylphthalate	ND	340	11
Fluorene	ND	67	10
4-Chlorophenyl-phenylether	ND	340	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.6
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-7-1.5-F	Batch#:	260436
Lab ID:	300550-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	67	9.1
Benzo(k)fluoranthene	ND	67	9.6
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.9
Dibenz(a,h)anthracene	ND	67	9.4
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	79	31-121
Phenol-d5	84	31-120
2,4,6-Tribromophenol	91	24-120
Nitrobenzene-d5	67	43-120
2-Fluorobiphenyl	77	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-8-1.5-F	Batch#:	260436
Lab ID:	300550-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	8,300	1,200
Phenol	ND	8,300	250
bis(2-Chloroethyl)ether	ND	8,300	1,500
2-Chlorophenol	ND	8,300	250
1,3-Dichlorobenzene	ND	8,300	1,400
1,4-Dichlorobenzene	ND	8,300	250
Benzyl alcohol	ND	8,300	270
1,2-Dichlorobenzene	ND	8,300	250
2-Methylphenol	ND	8,300	340
bis(2-Chloroisopropyl) ether	ND	8,300	250
4-Methylphenol	ND	8,300	250
N-Nitroso-di-n-propylamine	ND	8,300	250
Hexachloroethane	ND	8,300	250
Nitrobenzene	ND	8,300	270
Isophorone	ND	8,300	250
2-Nitrophenol	ND	17,000	250
2,4-Dimethylphenol	ND	8,300	350
Benzoic acid	ND	42,000	11,000
bis(2-Chloroethoxy)methane	ND	8,300	250
2,4-Dichlorophenol	ND	8,300	250
1,2,4-Trichlorobenzene	ND	8,300	250
Naphthalene	ND	1,700	250
4-Chloroaniline	ND	8,300	230
Hexachlorobutadiene	ND	8,300	220
4-Chloro-3-methylphenol	ND	8,300	210
2-Methylnaphthalene	ND	1,700	250
Hexachlorocyclopentadiene	ND	17,000	1,900
2,4,6-Trichlorophenol	ND	8,300	310
2,4,5-Trichlorophenol	ND	8,300	210
2-Chloronaphthalene	ND	8,300	220
2-Nitroaniline	ND	17,000	270
Dimethylphthalate	ND	8,300	250
Acenaphthylene	ND	1,700	220
2,6-Dinitrotoluene	ND	8,300	220
3-Nitroaniline	ND	17,000	1,000
Acenaphthene	ND	1,700	250
2,4-Dinitrophenol	ND	17,000	3,700
4-Nitrophenol	ND	17,000	1,800
Dibenzofuran	ND	8,300	260
2,4-Dinitrotoluene	ND	8,300	240
Diethylphthalate	ND	8,300	280
Fluorene	ND	1,700	250
4-Chlorophenyl-phenylether	ND	8,300	240
4-Nitroaniline	ND	17,000	1,000
4,6-Dinitro-2-methylphenol	ND	17,000	1,900
N-Nitrosodiphenylamine	ND	8,300	260
Azobenzene	ND	8,300	210
4-Bromophenyl-phenylether	ND	8,300	260
Hexachlorobenzene	ND	8,300	270
Pentachlorophenol	ND	17,000	3,200
Phenanthrene	ND	1,700	260

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-8-1.5-F	Batch#:	260436
Lab ID:	300550-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
Anthracene	ND	1,700	280
Di-n-butylphthalate	ND	8,300	300
Fluoranthene	ND	1,700	260
Pyrene	ND	1,700	270
Butylbenzylphthalate	ND	8,300	250
3,3'-Dichlorobenzidine	ND	17,000	550
Benzo(a)anthracene	ND	1,700	260
Chrysene	ND	1,700	280
bis(2-Ethylhexyl)phthalate	ND	8,300	330
Di-n-octylphthalate	ND	8,300	250
Benzo(b)fluoranthene	ND	1,700	220
Benzo(k)fluoranthene	ND	1,700	240
Benzo(a)pyrene	ND	1,700	220
Indeno(1,2,3-cd)pyrene	ND	1,700	220
Dibenz(a,h)anthracene	ND	1,700	230
Benzo(g,h,i)perylene	ND	1,700	250

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-9-1.5-F	Batch#:	260436
Lab ID:	300550-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	11
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-9-1.5-F	Batch#:	260436
Lab ID:	300550-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	8.9
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	76	31-121
Phenol-d5	82	31-120
2,4,6-Tribromophenol	82	24-120
Nitrobenzene-d5	66	43-120
2-Fluorobiphenyl	77	44-120
Terphenyl-d14	92	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-10-1.5-F	Batch#:	260436
Lab ID:	300550-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	58
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	11
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	12
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-10-1.5-F	Batch#:	260436
Lab ID:	300550-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	9.0
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	86	31-121
Phenol-d5	86	31-120
2,4,6-Tribromophenol	85	24-120
Nitrobenzene-d5	78	43-120
2-Fluorobiphenyl	84	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-11-1.5-F	Batch#:	260436
Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	8,300	1,200
Phenol	ND	8,300	250
bis(2-Chloroethyl)ether	ND	8,300	1,500
2-Chlorophenol	ND	8,300	250
1,3-Dichlorobenzene	ND	8,300	1,400
1,4-Dichlorobenzene	ND	8,300	250
Benzyl alcohol	ND	8,300	270
1,2-Dichlorobenzene	ND	8,300	250
2-Methylphenol	ND	8,300	340
bis(2-Chloroisopropyl) ether	ND	8,300	250
4-Methylphenol	ND	8,300	250
N-Nitroso-di-n-propylamine	ND	8,300	250
Hexachloroethane	ND	8,300	250
Nitrobenzene	ND	8,300	270
Isophorone	ND	8,300	250
2-Nitrophenol	ND	17,000	250
2,4-Dimethylphenol	ND	8,300	350
Benzoic acid	ND	42,000	11,000
bis(2-Chloroethoxy)methane	ND	8,300	250
2,4-Dichlorophenol	ND	8,300	250
1,2,4-Trichlorobenzene	ND	8,300	250
Naphthalene	ND	1,700	250
4-Chloroaniline	ND	8,300	230
Hexachlorobutadiene	ND	8,300	220
4-Chloro-3-methylphenol	ND	8,300	210
2-Methylnaphthalene	ND	1,700	250
Hexachlorocyclopentadiene	ND	17,000	1,900
2,4,6-Trichlorophenol	ND	8,300	310
2,4,5-Trichlorophenol	ND	8,300	210
2-Chloronaphthalene	ND	8,300	220
2-Nitroaniline	ND	17,000	270
Dimethylphthalate	ND	8,300	250
Acenaphthylene	ND	1,700	220
2,6-Dinitrotoluene	ND	8,300	220
3-Nitroaniline	ND	17,000	1,000
Acenaphthene	ND	1,700	250
2,4-Dinitrophenol	ND	17,000	3,700
4-Nitrophenol	ND	17,000	1,800
Dibenzofuran	ND	8,300	260
2,4-Dinitrotoluene	ND	8,300	240
Diethylphthalate	ND	8,300	280
Fluorene	ND	1,700	250
4-Chlorophenyl-phenylether	ND	8,300	240
4-Nitroaniline	ND	17,000	1,000
4,6-Dinitro-2-methylphenol	ND	17,000	1,900
N-Nitrosodiphenylamine	ND	8,300	260
Azobenzene	ND	8,300	210
4-Bromophenyl-phenylether	ND	8,300	260
Hexachlorobenzene	ND	8,300	270
Pentachlorophenol	ND	17,000	3,200
Phenanthrene	ND	1,700	260

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-11-1.5-F	Batch#:	260436
Lab ID:	300550-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	25.00		

Analyte	Result	RL	MDL
Anthracene	ND	1,700	280
Di-n-butylphthalate	ND	8,300	300
Fluoranthene	ND	1,700	260
Pyrene	ND	1,700	270
Butylbenzylphthalate	ND	8,300	250
3,3'-Dichlorobenzidine	ND	17,000	550
Benzo(a)anthracene	ND	1,700	260
Chrysene	ND	1,700	280
bis(2-Ethylhexyl)phthalate	ND	8,300	330
Di-n-octylphthalate	ND	8,300	250
Benzo(b)fluoranthene	ND	1,700	220
Benzo(k)fluoranthene	ND	1,700	240
Benzo(a)pyrene	ND	1,700	220
Indeno(1,2,3-cd)pyrene	ND	1,700	220
Dibenz(a,h)anthracene	ND	1,700	230
Benzo(g,h,i)perylene	ND	1,700	250

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-12-1.5-F	Batch#:	260436
Lab ID:	300550-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	340	48
Phenol	ND	340	10
bis(2-Chloroethyl)ether	ND	340	60
2-Chlorophenol	ND	340	10
1,3-Dichlorobenzene	ND	340	57
1,4-Dichlorobenzene	ND	340	10
Benzyl alcohol	ND	340	11
1,2-Dichlorobenzene	ND	340	10
2-Methylphenol	ND	340	14
bis(2-Chloroisopropyl) ether	ND	340	10
4-Methylphenol	ND	340	10
N-Nitroso-di-n-propylamine	ND	340	10
Hexachloroethane	ND	340	10
Nitrobenzene	ND	340	11
Isophorone	ND	340	10
2-Nitrophenol	ND	680	10
2,4-Dimethylphenol	ND	340	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	340	10
2,4-Dichlorophenol	ND	340	10
1,2,4-Trichlorobenzene	ND	340	10
Naphthalene	ND	68	10
4-Chloroaniline	ND	340	9.5
Hexachlorobutadiene	ND	340	9.0
4-Chloro-3-methylphenol	ND	340	8.5
2-Methylnaphthalene	ND	68	10
Hexachlorocyclopentadiene	ND	680	76
2,4,6-Trichlorophenol	ND	340	13
2,4,5-Trichlorophenol	ND	340	8.5
2-Chloronaphthalene	ND	340	9.1
2-Nitroaniline	ND	680	11
Dimethylphthalate	ND	340	10
Acenaphthylene	ND	68	9.1
2,6-Dinitrotoluene	ND	340	9.1
3-Nitroaniline	ND	680	43
Acenaphthene	ND	68	10
2,4-Dinitrophenol	ND	680	150
4-Nitrophenol	ND	680	72
Dibenzofuran	ND	340	10
2,4-Dinitrotoluene	ND	340	9.8
Diethylphthalate	ND	340	11
Fluorene	ND	68	10
4-Chlorophenyl-phenylether	ND	340	9.8
4-Nitroaniline	ND	680	43
4,6-Dinitro-2-methylphenol	ND	680	78
N-Nitrosodiphenylamine	ND	340	11
Azobenzene	ND	340	8.7
4-Bromophenyl-phenylether	ND	340	11
Hexachlorobenzene	ND	340	11
Pentachlorophenol	ND	680	130
Phenanthrene	ND	68	11
Anthracene	ND	68	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-12-1.5-F	Batch#:	260436
Lab ID:	300550-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	340	12
Fluoranthene	ND	68	10
Pyrene	ND	68	11
Butylbenzylphthalate	ND	340	10
3,3'-Dichlorobenzidine	ND	680	22
Benzo(a)anthracene	ND	68	10
Chrysene	ND	68	11
bis(2-Ethylhexyl)phthalate	ND	340	13
Di-n-octylphthalate	ND	340	10
Benzo(b)fluoranthene	ND	68	9.1
Benzo(k)fluoranthene	ND	68	9.6
Benzo(a)pyrene	ND	68	8.9
Indeno(1,2,3-cd)pyrene	ND	68	8.9
Dibenz(a,h)anthracene	ND	68	9.5
Benzo(g,h,i)perylene	ND	68	10

Surrogate	%REC	Limits
2-Fluorophenol	78	31-121
Phenol-d5	78	31-120
2,4,6-Tribromophenol	83	24-120
Nitrobenzene-d5	69	43-120
2-Fluorobiphenyl	79	44-120
Terphenyl-d14	92	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-13-1.5-F	Batch#:	260436
Lab ID:	300550-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,300	470
Phenol	ND	3,300	100
bis(2-Chloroethyl)ether	ND	3,300	600
2-Chlorophenol	ND	3,300	100
1,3-Dichlorobenzene	ND	3,300	570
1,4-Dichlorobenzene	ND	3,300	100
Benzyl alcohol	ND	3,300	110
1,2-Dichlorobenzene	ND	3,300	100
2-Methylphenol	ND	3,300	140
bis(2-Chloroisopropyl) ether	ND	3,300	100
4-Methylphenol	ND	3,300	100
N-Nitroso-di-n-propylamine	ND	3,300	100
Hexachloroethane	ND	3,300	100
Nitrobenzene	ND	3,300	110
Isophorone	ND	3,300	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,300	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,300	100
2,4-Dichlorophenol	ND	3,300	100
1,2,4-Trichlorobenzene	ND	3,300	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,300	94
Hexachlorobutadiene	ND	3,300	89
4-Chloro-3-methylphenol	ND	3,300	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	750
2,4,6-Trichlorophenol	ND	3,300	130
2,4,5-Trichlorophenol	ND	3,300	84
2-Chloronaphthalene	ND	3,300	90
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,300	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,300	90
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,300	100
2,4-Dinitrotoluene	ND	3,300	97
Diethylphthalate	ND	3,300	110
Fluorene	ND	670	99
4-Chlorophenyl-phenylether	ND	3,300	97
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	770
N-Nitrosodiphenylamine	ND	3,300	110
Azobenzene	ND	3,300	86
4-Bromophenyl-phenylether	ND	3,300	110
Hexachlorobenzene	ND	3,300	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-13-1.5-F	Batch#:	260436
Lab ID:	300550-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,300	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,300	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,300	130
Di-n-octylphthalate	ND	3,300	100
Benzo(b)fluoranthene	ND	670	90
Benzo(k)fluoranthene	ND	670	95
Benzo(a)pyrene	ND	670	88
Indeno(1,2,3-cd)pyrene	ND	670	88
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-14-1.5-F	Batch#:	260436
Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,400	480
Phenol	ND	3,400	100
bis(2-Chloroethyl)ether	ND	3,400	600
2-Chlorophenol	ND	3,400	100
1,3-Dichlorobenzene	ND	3,400	570
1,4-Dichlorobenzene	ND	3,400	100
Benzyl alcohol	ND	3,400	110
1,2-Dichlorobenzene	ND	3,400	100
2-Methylphenol	ND	3,400	140
bis(2-Chloroisopropyl) ether	ND	3,400	100
4-Methylphenol	ND	3,400	100
N-Nitroso-di-n-propylamine	ND	3,400	100
Hexachloroethane	ND	3,400	100
Nitrobenzene	ND	3,400	110
Isophorone	ND	3,400	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,400	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,400	100
2,4-Dichlorophenol	ND	3,400	100
1,2,4-Trichlorobenzene	ND	3,400	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,400	95
Hexachlorobutadiene	ND	3,400	90
4-Chloro-3-methylphenol	ND	3,400	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	760
2,4,6-Trichlorophenol	ND	3,400	130
2,4,5-Trichlorophenol	ND	3,400	85
2-Chloronaphthalene	ND	3,400	91
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,400	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,400	91
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,400	100
2,4-Dinitrotoluene	ND	3,400	97
Diethylphthalate	ND	3,400	110
Fluorene	ND	670	100
4-Chlorophenyl-phenylether	ND	3,400	98
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	780
N-Nitrosodiphenylamine	ND	3,400	110
Azobenzene	ND	3,400	87
4-Bromophenyl-phenylether	ND	3,400	110
Hexachlorobenzene	ND	3,400	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-14-1.5-F	Batch#:	260436
Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,400	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,400	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,400	130
Di-n-octylphthalate	ND	3,400	100
Benzo(b)fluoranthene	ND	670	91
Benzo(k)fluoranthene	ND	670	96
Benzo(a)pyrene	ND	670	89
Indeno(1,2,3-cd)pyrene	ND	670	89
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-15-1.5-F	Batch#:	260436
Lab ID:	300550-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	16.67		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	5,500	780
Phenol	ND	5,500	160
bis(2-Chloroethyl)ether	ND	5,500	980
2-Chlorophenol	ND	5,500	160
1,3-Dichlorobenzene	ND	5,500	930
1,4-Dichlorobenzene	ND	5,500	160
Benzyl alcohol	ND	5,500	180
1,2-Dichlorobenzene	ND	5,500	160
2-Methylphenol	ND	5,500	220
bis(2-Chloroisopropyl) ether	ND	5,500	160
4-Methylphenol	ND	5,500	160
N-Nitroso-di-n-propylamine	ND	5,500	160
Hexachloroethane	ND	5,500	160
Nitrobenzene	ND	5,500	180
Isophorone	ND	5,500	160
2-Nitrophenol	ND	11,000	160
2,4-Dimethylphenol	ND	5,500	230
Benzoic acid	ND	27,000	7,200
bis(2-Chloroethoxy)methane	ND	5,500	160
2,4-Dichlorophenol	ND	5,500	160
1,2,4-Trichlorobenzene	ND	5,500	160
Naphthalene	ND	1,100	160
4-Chloroaniline	ND	5,500	150
Hexachlorobutadiene	ND	5,500	150
4-Chloro-3-methylphenol	ND	5,500	140
2-Methylnaphthalene	ND	1,100	160
Hexachlorocyclopentadiene	ND	11,000	1,200
2,4,6-Trichlorophenol	ND	5,500	210
2,4,5-Trichlorophenol	ND	5,500	140
2-Chloronaphthalene	ND	5,500	150
2-Nitroaniline	ND	11,000	180
Dimethylphthalate	ND	5,500	160
Acenaphthylene	ND	1,100	150
2,6-Dinitrotoluene	ND	5,500	150
3-Nitroaniline	ND	11,000	690
Acenaphthene	ND	1,100	160
2,4-Dinitrophenol	ND	11,000	2,500
4-Nitrophenol	ND	11,000	1,200
Dibenzofuran	ND	5,500	170
2,4-Dinitrotoluene	ND	5,500	160
Diethylphthalate	ND	5,500	190
Fluorene	ND	1,100	160
4-Chlorophenyl-phenylether	ND	5,500	160
4-Nitroaniline	ND	11,000	690
4,6-Dinitro-2-methylphenol	ND	11,000	1,300
N-Nitrosodiphenylamine	ND	5,500	170
Azobenzene	ND	5,500	140
4-Bromophenyl-phenylether	ND	5,500	170
Hexachlorobenzene	ND	5,500	180
Pentachlorophenol	ND	11,000	2,100
Phenanthrene	ND	1,100	170

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-15-1.5-F	Batch#:	260436
Lab ID:	300550-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	16.67		

Analyte	Result	RL	MDL
Anthracene	ND	1,100	190
Di-n-butylphthalate	ND	5,500	200
Fluoranthene	ND	1,100	170
Pyrene	ND	1,100	180
Butylbenzylphthalate	ND	5,500	170
3,3'-Dichlorobenzidine	ND	11,000	360
Benzo(a)anthracene	ND	1,100	170
Chrysene	ND	1,100	190
bis(2-Ethylhexyl)phthalate	ND	5,500	210
Di-n-octylphthalate	ND	5,500	160
Benzo(b)fluoranthene	ND	1,100	150
Benzo(k)fluoranthene	ND	1,100	160
Benzo(a)pyrene	ND	1,100	140
Indeno(1,2,3-cd)pyrene	ND	1,100	150
Dibenz(a,h)anthracene	ND	1,100	150
Benzo(g,h,i)perylene	ND	1,100	170

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-16-1.5-F	Batch#:	260436
Lab ID:	300550-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	59
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	56
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	660	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	66	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	66	10
Hexachlorocyclopentadiene	ND	660	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.3
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	660	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	66	8.9
2,6-Dinitrotoluene	ND	330	8.9
3-Nitroaniline	ND	660	42
Acenaphthene	ND	66	10
2,4-Dinitrophenol	ND	660	150
4-Nitrophenol	ND	660	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	66	9.9
4-Chlorophenyl-phenylether	ND	330	9.6
4-Nitroaniline	ND	660	42
4,6-Dinitro-2-methylphenol	ND	660	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.5
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	660	130
Phenanthrene	ND	66	10

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-16-1.5-F	Batch#:	260436
Lab ID:	300550-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/20/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Anthracene	ND	66	11
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	66	10
Pyrene	ND	66	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	660	22
Benzo(a)anthracene	ND	66	10
Chrysene	ND	66	11
bis(2-Ethylhexyl)phthalate	15 J	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	66	9.0
Benzo(k)fluoranthene	ND	66	9.5
Benzo(a)pyrene	ND	66	8.7
Indeno(1,2,3-cd)pyrene	ND	66	8.8
Dibenz(a,h)anthracene	ND	66	9.3
Benzo(g,h,i)perylene	ND	66	10

Surrogate	%REC	Limits
2-Fluorophenol	78	31-121
Phenol-d5	78	31-120
2,4,6-Tribromophenol	90	24-120
Nitrobenzene-d5	74	43-120
2-Fluorobiphenyl	79	44-120
Terphenyl-d14	86	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC935645	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	8.9
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11
Di-n-butylphthalate	ND	330	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935645	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.3
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	80	31-121
Phenol-d5	77	31-120
2,4,6-Tribromophenol	89	24-120
Nitrobenzene-d5	74	43-120
2-Fluorobiphenyl	81	44-120
Terphenyl-d14	90	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	2.000
Lab ID:	QC935646	Batch#:	260436
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Spiked	Result	%REC	Limits
Phenol	2,667	3,142	118	40-120
2-Chlorophenol	2,667	2,888	108	51-120
1,4-Dichlorobenzene	2,667	2,858	107	55-120
N-Nitroso-di-n-propylamine	2,667	2,895	109	27-122
1,2,4-Trichlorobenzene	2,667	2,897	109	58-120
4-Chloro-3-methylphenol	2,667	3,151	118	55-136
Acenaphthene	1,000	1,156	116	53-120
4-Nitrophenol	2,667	3,376	127 *	46-121
2,4-Dinitrotoluene	2,667	3,275	123 *	56-120
Pentachlorophenol	2,667	2,679	100	18-120
Pyrene	1,000	1,150	115	53-124

Surrogate	%REC	Limits
2-Fluorophenol	92	31-121
Phenol-d5	93	31-120
2,4,6-Tribromophenol	99	24-120
Nitrobenzene-d5	90	43-120
2-Fluorobiphenyl	101	44-120
Terphenyl-d14	108	44-120

*= Value outside of QC limits; see narrative

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-2-0.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-001	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.3
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.8
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	87	26-153

Field ID:	SB-3-0.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-002	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.3
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.8
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	75	26-153

Field ID:	SB-4-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-003	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	76	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-5-0.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-004	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	95	26-153

Field ID:	SB-6-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-005	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	101	26-153

Field ID:	SB-7-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-006	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	93	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-8-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-007	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.7	2.4
Aroclor-1221	ND	13	6.4
Aroclor-1232	ND	6.7	3.1
Aroclor-1242	ND	6.7	2.9
Aroclor-1248	ND	6.7	3.1
Aroclor-1254	ND	6.7	2.4
Aroclor-1260	ND	6.7	1.6

Surrogate	%REC	Limits
Decachlorobiphenyl	66	26-153

Field ID:	SB-9-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-008	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.7	2.4
Aroclor-1221	ND	13	6.4
Aroclor-1232	ND	6.7	3.1
Aroclor-1242	ND	6.7	2.9
Aroclor-1248	ND	6.7	3.0
Aroclor-1254	ND	6.7	2.4
Aroclor-1260	ND	6.7	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	89	26-153

Field ID:	SB-10-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/30/18
Lab ID:	300550-009	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	104	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-11-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-010	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.6	2.4
Aroclor-1221	ND	13	6.3
Aroclor-1232	ND	6.6	3.1
Aroclor-1242	ND	6.6	2.9
Aroclor-1248	ND	6.6	3.0
Aroclor-1254	ND	6.6	2.4
Aroclor-1260	ND	6.6	1.5

Surrogate	%REC	Limits
Decachlorobiphenyl	68	26-153

Field ID:	SB-12-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-011	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	1.2 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	105	26-153

Field ID:	SB-13-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-012	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	0.78 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	94	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Field ID:	SB-14-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-013	Analyzed:	06/18/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	1.0 J	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	97	26-153

Field ID:	SB-15-1.5-F	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-014	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	6.8	2.4
Aroclor-1221	ND	14	6.5
Aroclor-1232	ND	6.8	3.1
Aroclor-1242	ND	6.8	2.9
Aroclor-1248	ND	6.8	3.1
Aroclor-1254	ND	6.8	2.5
Aroclor-1260	ND	6.8	1.6

Surrogate	%REC	Limits
Decachlorobiphenyl	75	26-153

Field ID:	SB-16-1.5-F	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	05/29/18
Lab ID:	300550-015	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	109	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260410
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/12/18

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935533	Analyzed:	06/12/18

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	83	26-153

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935534	Batch#:	260410
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/12/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	75.14	90	56-152
Aroclor-1260	83.33	69.57	83	52-165

Surrogate	%REC	Limits
Decachlorobiphenyl	50	26-153

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-2-0.5-F	Basis:	as received
Lab ID:	300550-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.8	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	260	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	23	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.018	0.0031	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.30	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.069	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.60 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	53	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-3-0.5-F	Basis:	as received
Lab ID:	300550-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.2	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	290	0.24	0.028	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.67	0.096	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.28	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	40	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	13	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	23	0.24	0.053	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.96	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.020	0.016	0.0028	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.17 J	0.24	0.053	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	45	0.24	0.066	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.63 J	1.9	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.48	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	52	0.24	0.048	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	0.96	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-4-1.5-F	Basis:	as received
Lab ID:	300550-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.25	0.030	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.7	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.025	0.016	0.0027	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.36	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.070	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.50 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.51	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.25	0.051	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-5-0.5-F	Basis:	as received
Lab ID:	300550-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.5	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	300	0.23	0.027	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.67	0.093	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.27	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	40	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	13	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.23	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.93	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.024	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.083 J	0.23	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	40	0.23	0.065	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.54 J	1.9	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	55	0.23	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	46	0.93	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-6-1.5-F	Basis:	as received
Lab ID:	300550-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.8	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	260	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.68	0.10	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	24	0.25	0.056	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.26	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.25	0.069	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.73 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	53	0.25	0.050	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	49	1.0	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-7-1.5-F	Basis:	as received
Lab ID:	300550-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.7	1.5	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	270	0.27	0.032	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.65	0.11	0.022	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.32	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	41	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.27	0.060	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.9	1.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.22 J	0.27	0.060	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	42	0.27	0.075	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.41 J	2.0	0.24	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	52	0.27	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	47	1.1	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-8-1.5-F	Basis:	as received
Lab ID:	300550-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.1	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	330	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.66	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.26	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.016	0.0027	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	41	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.66 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	56	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	50	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-9-1.5-F	Basis:	as received
Lab ID:	300550-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	4.7	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	320	0.24	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.73	0.097	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.25	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	43	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	21	0.24	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	0.97	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.19 J	0.24	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	40	0.24	0.067	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.72 J	1.9	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.49	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	51	0.24	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	50	0.97	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-10-1.5-F	Basis:	as received
Lab ID:	300550-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.0	1.5	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	340	0.25	0.029	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.73	0.098	0.020	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	42	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	22	0.25	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	0.98	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.017 J	0.017	0.0030	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.17 J	0.25	0.054	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	37	0.25	0.068	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.48 J	2.0	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.49	0.15	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	55	0.25	0.049	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	47	0.98	0.20	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-11-1.5-F	Basis:	as received
Lab ID:	300550-010	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.3	1.5	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	210	0.27	0.032	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.58	0.11	0.022	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.27 J	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	38	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.27	0.061	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	10	1.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.034	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.37	0.27	0.061	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	39	0.27	0.076	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.58 J	2.0	0.25	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.55	0.17	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	46	0.27	0.055	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	56	1.1	0.22	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-12-1.5-F	Basis:	as received
Lab ID:	300550-011	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	5.4	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.32	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	36	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	19	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.9	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.018	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.15 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	37	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.48 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	46	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	44	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-13-1.5-F	Basis:	as received
Lab ID:	300550-012	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.9	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.0	1.4	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	270	0.24	0.028	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.55	0.094	0.019	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.31	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	36	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	9.7	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	19	0.24	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.8	0.94	0.12	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.019	0.016	0.0028	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.23 J	0.24	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	34	0.24	0.065	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.51 J	1.9	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	48	0.24	0.047	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	46	0.94	0.19	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-14-1.5-F	Basis:	as received
Lab ID:	300550-013	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.1	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	280	0.26	0.030	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.59	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	35	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	12	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.26	0.057	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	9.0	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.018	0.0031	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.22 J	0.26	0.057	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	35	0.26	0.071	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.60 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	48	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-15-1.5-F	Basis:	as received
Lab ID:	300550-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	250	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.66	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.33	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	48	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	26	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	11	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.027	0.016	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.34	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	46	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.57 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	54	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	61	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300550	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-16-1.5-F	Basis:	as received
Lab ID:	300550-015	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/29/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.14	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Barium	240	0.26	0.031	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Beryllium	0.56	0.10	0.021	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cadmium	0.34	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Chromium	38	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Copper	20	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Lead	8.6	1.0	0.13	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Mercury	0.021	0.017	0.0029	260762	06/22/18	06/22/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.26	0.058	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Nickel	38	0.26	0.072	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Selenium	0.44 J	2.0	0.23	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.16	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Vanadium	45	0.26	0.052	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B
Zinc	45	1.0	0.21	260616	06/19/18	06/19/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC936393	Batch#:	260616
Matrix:	Soil	Prepared:	06/19/18
Units:	mg/Kg	Analyzed:	06/19/18

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.14
Arsenic	ND	1.5	0.21
Barium	ND	0.27	0.031
Beryllium	ND	0.11	0.021
Cadmium	ND	0.27	0.053
Chromium	0.24 J	0.27	0.053
Cobalt	ND	0.27	0.053
Copper	0.26 J	0.27	0.059
Lead	ND	1.0	0.14
Molybdenum	0.063 J	0.27	0.059
Nickel	0.27 J	0.27	0.074
Selenium	ND	2.0	0.24
Silver	ND	0.27	0.053
Thallium	ND	0.53	0.16
Vanadium	ND	0.27	0.053
Zinc	ND	1.1	0.21

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260616
Units:	mg/Kg	Prepared:	06/19/18
Diln Fac:	1.000	Analyzed:	06/19/18

Type: BS Lab ID: QC936394

Analyte	Spiked	Result	%REC	Limits
Antimony	46.73	47.84	102	80-120
Arsenic	46.73	48.97	105	80-120
Barium	46.73	47.36	101	80-120
Beryllium	23.36	23.85	102	80-120
Cadmium	46.73	46.46	99	80-120
Chromium	46.73	49.32	106	80-120
Cobalt	46.73	47.46	102	80-120
Copper	46.73	47.97	103	80-120
Lead	46.73	50.65	108	80-120
Molybdenum	46.73	46.03	99	80-120
Nickel	46.73	44.55	95	80-120
Selenium	46.73	47.87	102	80-120
Silver	4.673	4.229	90	80-120
Thallium	46.73	49.78	107	80-120
Vanadium	46.73	49.79	107	80-120
Zinc	46.73	47.70	102	80-120

Type: BSD Lab ID: QC936395

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	49.02	51.24	105	80-120	2	20
Arsenic	49.02	51.73	106	80-120	1	20
Barium	49.02	49.65	101	80-120	0	20
Beryllium	24.51	25.32	103	80-120	1	20
Cadmium	49.02	48.94	100	80-120	0	20
Chromium	49.02	52.24	107	80-120	1	20
Cobalt	49.02	50.02	102	80-120	0	20
Copper	49.02	50.53	103	80-120	0	20
Lead	49.02	53.60	109	80-120	1	20
Molybdenum	49.02	48.30	99	80-120	0	20
Nickel	49.02	47.00	96	80-120	1	20
Selenium	49.02	50.70	103	80-120	1	20
Silver	4.902	4.500	92	80-120	1	22
Thallium	49.02	52.51	107	80-120	1	20
Vanadium	49.02	52.32	107	80-120	0	20
Zinc	49.02	51.73	106	80-120	3	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	SB-14-1.5-F	Batch#:	260616
MSS Lab ID:	300550-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/19/18
Basis:	as received	Analyzed:	06/19/18
Diln Fac:	1.000		

Type: MS Lab ID: QC936396

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1358	51.02	14.04	28	1-120
Arsenic	6.129	51.02	59.35	104	71-123
Barium	276.1	51.02	338.0	121 NM	48-155
Beryllium	0.5887	25.51	25.91	99	80-120
Cadmium	0.3284	51.02	53.04	103	78-120
Chromium	35.26	51.02	90.66	109	64-135
Cobalt	11.62	51.02	58.40	92	65-120
Copper	19.61	51.02	75.97	110	75-132
Lead	8.979	51.02	58.43	97	53-128
Molybdenum	0.2228	51.02	42.59	83	68-120
Nickel	34.93	51.02	80.97	90	56-128
Selenium	0.6019	51.02	52.82	102	59-120
Silver	<0.05155	5.102	4.072	80	36-123
Thallium	<0.1552	51.02	46.37	91	55-120
Vanadium	54.18	51.02	109.9	109	73-129
Zinc	48.23	51.02	98.12	98	49-138

Type: MSD Lab ID: QC936397

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	47.17	10.68	23	1-120	19	50
Arsenic	47.17	55.60	105	71-123	0	27
Barium	47.17	340.3	136 NM	48-155	2	41
Beryllium	23.58	23.63	98	80-120	2	20
Cadmium	47.17	48.45	102	78-120	1	21
Chromium	47.17	88.89	114	64-135	3	37
Cobalt	47.17	53.85	90	65-120	2	32
Copper	47.17	72.28	112	75-132	1	33
Lead	47.17	54.33	96	53-128	1	48
Molybdenum	47.17	37.54	79	68-120	5	23
Nickel	47.17	82.35	101	56-128	6	38
Selenium	47.17	48.03	101	59-120	2	30
Silver	4.717	3.655	77	36-123	3	47
Thallium	47.17	41.84	89	55-120	2	22
Vanadium	47.17	107.4	113	73-129	1	27
Zinc	47.17	93.43	96	49-138	1	39

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260762
Lab ID:	QC936960	Prepared:	06/22/18
Matrix:	Soil	Analyzed:	06/22/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0030

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260762
Matrix:	Soil	Prepared:	06/22/18
Units:	mg/Kg	Analyzed:	06/22/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC936961	0.1724	0.1704	99	80-126		
BSD	QC936962	0.1587	0.1592	100	80-126	1	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300550	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260762
MSS Lab ID:	300835-001	Sampled:	06/19/18
Matrix:	Soil	Received:	06/19/18
Units:	mg/Kg	Prepared:	06/22/18
Basis:	as received	Analyzed:	06/22/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC936963	0.1549	0.1563	0.3658	135	61-157		
MSD	QC936964		0.1724	0.3196	96	61-157	19	57

RPD= Relative Percent Difference

Laboratory Job Number 300550

Subcontracted Products

Forensic Analytical

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-2-0.5-F	12045832	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-3-0.5-F	12045833	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-4-1.5-F	12045834	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-5-0.5-F	12045835	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-42

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-6-1.5-F	12045836	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-7-1.5-F	12045837	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-8-1.5-F	12045838	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-9-1.5-F	12045839	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-10-1.5-F	12045840	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-11-1.5-F	12045841	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-12-1.5-F	12045842	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-13-1.5-F	12045843	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010694
Date Received: 06/19/18
Date Analyzed: 06/22/18
Date Printed: 06/22/18

Job ID/Site: 300550 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 15
Total Samples Analyzed: 15

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-14-1.5-F	12045844	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-15-1.5-F	12045845	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Sample ID	Lab Number	Layer Description
SB-16-1.5-F	12045846	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300574
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
SB-2-1.5-N	300574-001
SB-3-1.5-N	300574-002
SB-4-5-N	300574-003
SB-5-1.5-N	300574-004
SB-6-5-N	300574-005
SB-7-5-N	300574-006
SB-8-5-N	300574-007
SB-9-5-N	300574-008
SB-10-5-N	300574-009
SB-11-5-N	300574-010
SB-12-5-N	300574-011
SB-13-5-N	300574-012
SB-14-5-N	300574-013
SB-15-5-N	300574-014
SB-16-5-N	300574-015

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/25/2018

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236 ext 13115

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300574**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**06/18/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for fifteen soil samples, requested for the above referenced project on 06/18/18. The samples were received cold and intact.

Pesticides (EPA 8081A):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. Matrix spikes QC935601,QC935602 (batch 260424) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300574)

3 messages

Daren Roth <daren.roth@terraphase.com> Fri, Jun 15, 2018 at 6:37 PM
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

We would like to proceed with analyzing the extracts for all the samples presented in the login below (300574) for the following analyte:

- OCPs by 8081

We would also like to analyze this same list of samples for the following:

- Arsenic by 6010

We would like these analyzed on a standard turn around time.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Tuesday, June 12, 2018 9:14 AM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <michael.murphy@terraphase.com>; Seth Stroika <seth.stroika@terraphase.com>
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300574)

MONTROSE

Tracy Babjar <tbabjar@montrose-env.com>

RE: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300213)

1 message

Daren Roth <daren.roth@terraphase.com>
To: Tracy Babjar <tracy.babjar@enthalpy.com>

Hi Tracy,

Please extract for OCPs from all the following samples that will still be within hold time. Do not complete the extraction for any

1- • SB-2-1.5-N -030
2- • SB-3-1.5-N -031
3- • SB-4-5-N - 032
4- • SB-5-1.5-N -024
5- • SB-6-5-N - 023
6- • SB-7-5-N -022
7- • SB-8-5-N -021
8- • SB-9-5-N -013
9- • SB-10-5-N -014
10- • SB-11-5-N -015
11- • SB-12-5-N -016
12- • SB-13-5-N -005
13- • SB-14-5-N -006
14- • SB-15-5-N -007
15- • SB-16-5-N -002

Let me know if you have any questions.

Thanks,

Daren

Daren Roth

phone: 510.645.1850 ext. 38 | cell: 925.719.5496

daren.roth@terraphase.com

From: C&T Sample Control <sample.control@ctberk.com>
Sent: Thursday, May 31, 2018 1:41 PM
To: Daren Roth <daren.roth@terraphase.com>; Joseph Luchette <joseph.luchette@terraphase.com>; Michael Murphy <miche
Subject: 0098.003.001 - Enthalpy (Berkeley) Login Summary (300213)

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 200213

Project No: 0098.003.001 Sampler: Seth Stranka
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST																		
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	Hold											
	SB-13-1.5-F	5/24/18	1130		X			2					X	X	X	X	X	X	X	T		} COMP-13-16-F										
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X	T												
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X	T												
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	T												
	SB-13-5-N	5/29/18	1140		X			2					X	X	X					T		} COMP-13-16-N										
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					T												
	SB-15-5-N	5/29/18	0910		X			2					X	X	X					T												
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					T												
	SB-9-1.5-F	5/30/18	1510		X			2					X	X	X	X	X	X	X	T		} COMP-9-12-F										
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X	T												
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X	T												
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	T												
					X																											

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF COUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
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Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 300213

Page 2 of 3
Chain of Custody #

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING Date Collected	Time Collected	MATRIX Water	Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	T.the 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOC (8270)	Asbestos (CARB 435)	COMPOSITE	ANALYTICAL REQUEST
	SB-9-5-N	5/29/18	1520		X			2					X	X	X						COMP-9-12-N
	SB-10-5-N	5/30/18	0745		X			2					X	X	X						COMP-9-12-N
	SB-11-5-N	5/29/18	1405		X			2					X	X	X						COMP-9-12-N
	SB-12-5-N	5/29/18	1215		X			2					X	X	X						COMP-9-12-N
	SB-9-1.5-F	5/29/18	1435		X			2					X	X	X	X	X	X	X		COMP-5-8-F
	SB-7-1.5-F	5/30/18	1020		X			2					X	X	X	X	X	X	X		COMP-5-8-F
	SB-6-1.5-F	5/30/18	0905		X			2					X	X	X	X	X	X	X		COMP-5-8-F
	SB-5-0.5-F	5/30/18	1105		X			2					X	X	X	X	X	X	X		COMP-5-8-F
	SB-8-5-N	5/29/18	1445		X			2					X	X	X						COMP-5-8-N
	SB-7-5-N	5/30/18	1030		X			2					X	X	X						COMP-5-8-N
	SB-6-5-N	5/30/18	0920		X			2					X	X	X						COMP-5-8-N
	SB-5-15-N	5/30/18	1105		X			2					X	X	X						COMP-5-8-N
	SB-5-5-N	5/30/18	1110		X			2					X	HOLD							

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY: [signature] DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY: [signature] DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
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C&T LOGIN # 300213

Chain of Custody #

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid			# of Containers	HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE	
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	T	COMP-2-4-F
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X		
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	⊥	
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	T	COMP-1-4-N
	SB-2-1.5-N	5/30/18	1205		X			2					X	X	X						
	SB-3-1.5-N	5/30/18	1135		X			2					X	X	X						
	SB-4-5-N	5/30/18	0840		X			2					X	X	X					⊥	
	SB-1-5-N	5/30/18	1235		X			2					X	HOLD							
	SB-2-5-N	5/30/18	1210		X			2					X	HOLD							
	SB-3-5-N	5/30/18	1140		X			2					X	HOLD							

Notes:
Hold all discrete samples pending analysis; only analyze COMP
SB-1-1.5-N run for
All [illegible]

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/31/18	1615	[signature]	5/31/18	16:15

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 305213 Client: Terraphase

Date Received: 5.30.18 Project: DVSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (skip Section 3 below)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5.30.18 By (print) KP (sign) KP

Shipping Info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: *Important*: Notify PM if temperature exceeds 6°C or arrive frozen.

Packing in cooler: (If other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☒ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? By Date:			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (If N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 (3 samples) time doesn't match COC → TD & date matched

Sample 20 - sample time doesn't match COC → TD & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "-N"

sample 30 & 54 - sample labels were wrong, called client to figure out which sample was which since the 2 small jars had the same lid & 2 large jars had same label instead of 1 large jar & 1 small jar per the

Date Logged in 5/31/18 By (print) KG (sign) KG

Date Labeled 5/31/18 By (print) TM KP (sign) TM KP

ENTHALPY ANALYTICAL

Detections Summary for 300574

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-2-1.5-N Laboratory Sample ID : 300574-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-Chlordane	0.14	J	0.85	0.074	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	7.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-1.5-N Laboratory Sample ID : 300574-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.99	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.5		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-4-5-N Laboratory Sample ID : 300574-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	6.1		1.5	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-5-1.5-N Laboratory Sample ID : 300574-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	4.0		1.4	0.18	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-6-5-N Laboratory Sample ID : 300574-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.6		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-7-5-N Laboratory Sample ID : 300574-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	1.2	#,J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	3.6		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-8-5-N Laboratory Sample ID : 300574-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.92	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.2		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-9-5-N Laboratory Sample ID : 300574-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	5.2		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-10-5-N Laboratory Sample ID : 300574-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	5.9		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-11-5-N Laboratory Sample ID : 300574-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.99	#,J	1.7	0.43	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.0		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-12-5-N Laboratory Sample ID : 300574-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.3		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-13-5-N Laboratory Sample ID : 300574-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-14-5-N Laboratory Sample ID : 300574-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.42	J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	2.9		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-15-5-N Laboratory Sample ID : 300574-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	4.1		1.5	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-16-5-N Laboratory Sample ID : 300574-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endrin aldehyde	0.43	J	1.6	0.42	ug/Kg	As Recd	1.000	EPA 8081A	EPA 3550C
Arsenic	4.2		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

= CCV drift outside limits; average CCV drift within limits per method requirements
J = Estimated value

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-2-1.5-N	Batch#:	260424
Lab ID:	300574-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.10
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	0.14 J	0.85	0.074
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	111	30-127
Decachlorobiphenyl	82	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-3-1.5-N	Batch#:	260424
Lab ID:	300574-002	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.10
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	0.99 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	111	30-127
Decachlorobiphenyl	92	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-4-5-N	Batch#:	260424
Lab ID:	300574-003	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.095
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.3
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	97	30-127
Decachlorobiphenyl	82	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-5-1.5-N	Batch#:	260424
Lab ID:	300574-004	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	94	30-127
Decachlorobiphenyl	75	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-6-5-N	Batch#:	260424
Lab ID:	300574-005	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	94	30-127
Decachlorobiphenyl	77	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-7-5-N	Batch#:	260424
Lab ID:	300574-006	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	1.2 J #	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	122	30-127
Decachlorobiphenyl	102	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-8-5-N	Batch#:	260424
Lab ID:	300574-007	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.096
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.088
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	0.92 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.3
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	104	30-127
Decachlorobiphenyl	106	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-9-5-N	Batch#:	260424
Lab ID:	300574-008	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	106	30-127
Decachlorobiphenyl	103	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-10-5-N	Batch#:	260424
Lab ID:	300574-009	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	72	30-127
Decachlorobiphenyl	114	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-11-5-N	Batch#:	260424
Lab ID:	300574-010	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	0.99 J #	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	51	30-127
Decachlorobiphenyl	112	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-12-5-N	Batch#:	260424
Lab ID:	300574-011	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	86	30-127
Decachlorobiphenyl	123	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-13-5-N	Batch#:	260424
Lab ID:	300574-012	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	68	30-127
Decachlorobiphenyl	106	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-14-5-N	Batch#:	260424
Lab ID:	300574-013	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.094
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	0.42 J	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	85	30-127
Decachlorobiphenyl	132	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-15-5-N	Batch#:	260424
Lab ID:	300574-014	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	108	30-127
Decachlorobiphenyl	130	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-16-5-N	Batch#:	260424
Lab ID:	300574-015	Sampled:	05/29/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/12/18
Basis:	as received	Analyzed:	06/23/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.098
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.095
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.25
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	0.43 J	1.6	0.42
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	60	30-127
Decachlorobiphenyl	112	33-136

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC935599	Batch#:	260424
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg	Analyzed:	06/13/18

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.096
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	110	30-127
Decachlorobiphenyl	116	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC935600	Batch#:	260424
Matrix:	Soil	Prepared:	06/12/18
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits	Analyzed
gamma-BHC	6.667	7.956	119	41-127	06/14/18
Heptachlor	6.667	8.079	121	33-134	06/14/18
Aldrin	6.667	7.513	113	39-130	06/14/18
Dieldrin	6.667	8.869 #	133	44-139	06/14/18
Endrin	6.667	8.461 #	127	39-150	06/13/18
4,4'-DDT	6.667	7.953	119	38-141	06/14/18

Surrogate	%REC	Limits	Analyzed
TCMX	104	30-127	06/14/18
Decachlorobiphenyl	109	33-136	06/14/18

#= CCV drift outside limits; average CCV drift within limits per method requirements

ENTHALPY ANALYTICAL

Arsenic

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	260589
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/18/18
Basis:	as received	Analyzed:	06/18/18
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result	RL	MDL	Sampled
SB-2-1.5-N	SAMPLE	300574-001	7.1	1.5	0.21	05/30/18
SB-3-1.5-N	SAMPLE	300574-002	4.5	1.4	0.19	05/30/18
SB-4-5-N	SAMPLE	300574-003	6.1	1.5	0.22	05/30/18
SB-5-1.5-N	SAMPLE	300574-004	4.0	1.4	0.18	05/30/18
SB-6-5-N	SAMPLE	300574-005	3.6	1.4	0.19	05/30/18
SB-7-5-N	SAMPLE	300574-006	3.6	1.5	0.21	05/30/18
SB-8-5-N	SAMPLE	300574-007	4.2	1.5	0.20	05/29/18
SB-9-5-N	SAMPLE	300574-008	5.2	1.5	0.20	05/29/18
SB-10-5-N	SAMPLE	300574-009	5.9	1.5	0.21	05/30/18
SB-11-5-N	SAMPLE	300574-010	4.0	1.4	0.19	05/29/18
SB-12-5-N	SAMPLE	300574-011	3.3	1.5	0.21	05/29/18
SB-13-5-N	SAMPLE	300574-012	3.1	1.5	0.21	05/29/18
SB-14-5-N	SAMPLE	300574-013	2.9	1.5	0.21	05/29/18
SB-15-5-N	SAMPLE	300574-014	4.1	1.5	0.21	05/29/18
SB-16-5-N	SAMPLE	300574-015	4.2	1.4	0.19	05/29/18
	BLANK	QC936275	ND	1.4	0.19	

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Arsenic

Lab #:	300574	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Field ID:	SB-2-1.5-N	Batch#:	260589
MSS Lab ID:	300574-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	06/18/18
Basis:	as received	Analyzed:	06/18/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC936276		51.55	52.26	101	80-120		
BSD	QC936277		46.73	48.91	105	80-120	3	20
MS	QC936278	7.066	48.08	58.98	108	71-123		
MSD	QC936279		51.55	58.47	100	71-123	7	27

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300213
ANALYTICAL REPORT

Terraphase Engineering
1404 Franklin Street
Oakland, CA 94612

Project : 0098.003.001
Location : DUSD Promenade
Level : II

Sample ID	Lab ID	Sample ID	Lab ID
SB-13-1.5-F	300213-001	SB-6-5-N	300213-023
SB-14-1.5-F	300213-002	SB-5-1.5-N	300213-024
SB-15-1.5-F	300213-003	SB-5-5-N	300213-025
SB-16-1.5-F	300213-004	SB-4-1.5-F	300213-026
SB-13-5-N	300213-005	SB-3-0.5-F	300213-027
SB-14-5-N	300213-006	SB-2-0.5-F	300213-028
SB-15-5-N	300213-007	SB-1-1.5-N	300213-029
SB-16-5-N	300213-008	SB-2-1.5-N	300213-030
SB-9-1.5-F	300213-009	SB-3-1.5-N	300213-031
SB-10-1.5-F	300213-010	SB-4-5-N	300213-032
SB-11-1.5-F	300213-011	SB-1-5-N	300213-033
SB-12-1.5-F	300213-012	SB-2-5-N	300213-034
SB-9-5-N	300213-013	SB-3-5-N	300213-035
SB-10-5-N	300213-014	COMP-13-16-F	300213-036
SB-11-5-N	300213-015	COMP-13-16-N	300213-037
SB-12-5-N	300213-016	COMP-9-12-F	300213-038
SB-8-1.5-F	300213-017	COMP-9-12-N	300213-039
SB-7-1.5-F	300213-018	COMP-5-8-F	300213-040
SB-6-1.5-F	300213-019	COMP-5-8-N	300213-041
SB-5-0.5-F	300213-020	COMP-2-4-F	300213-042
SB-8-5-N	300213-021	COMP-1-4-N	300213-043
SB-7-5-N	300213-022		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/06/2018

Mike Dahlquist
Project Manager
mike.dahlquist@enthalpy.com
(510) 204-2225 Ext 13101

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300213**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for seven four-point soil composites, one soil sample, and one three-point soil composite, requested for the above referenced project on 05/30/18. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
COMP-13-16-F (lab # 300213-036) and COMP-9-12-F (lab # 300213-038) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
High recovery was observed for 4-chloro-3-methylphenol in the MSD for batch 260145; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. High surrogate recovery was observed for 2-fluorophenol in COMP-2-4-F (lab # 300213-042); no target analytes were detected in the sample. High surrogate recovery was observed for phenol-d5 in COMP-2-4-F (lab # 300213-042); no target analytes were detected in the sample. A number of samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. High responses were observed for many analytes in the CCV analyzed 06/04/18 15:19; affected data was qualified with "b". Matrix spikes QC934355,QC934356 (batch 260118) were not reported because the parent sample required a dilution that would have diluted out the spikes. COMP-13-16-F (lab # 300213-036) and COMP-5-8-F (lab # 300213-040) were diluted due to the color of the sample extracts. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Zinc was detected above the RL in the method blank for batch 260140; this analyte was detected in samples at a level at least 10 times that of the blank. Arsenic, chromium, and nickel were detected between the MDL and the RL

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300213**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

Metals (EPA 6010B and EPA 7471A):
in the method blank for batch 260140; these analytes were detected in samples at a level at least 10 times that of the blank. No other analytical problems were encountered.

CARB 435 Asbestos (CARB 435):
Forensic Analytical in Hayward, CA performed the analysis (not NELAP certified). Please see the Forensic Analytical case narrative.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 | Sampler: Seth Stroika
Project Name: DUSD Promenade | Report To: Daren Roth
Project P. O. No: | Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV | Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH ☒ Standard | Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST															
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 metals (6010)	OCPs (8081)	PCBs (8082)	TPHd, mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	Composite	HOLD									
	SB-13-1.5-F	5/29/18	1130		X			2					X	X	X	X	X	X	X	T										
	SB-14-1.5-F	5/29/18	1010		X			2					X	X	X	X	X	X	X		}	COMP-13-16-F								
	SB-15-1.5-F	5/29/18	0850		X			2					X	X	X	X	X	X	X											
	SB-16-1.5-F	5/29/18	1320		X			2					X	X	X	X	X	X	X	I										
	SB-13-5-N	5/29/18	1140		X			2					X	X	X															
	SB-14-5-N	5/29/18	1035		X			2					X	X	X					I	}	COMP-13-16-N								
	SB-15-5-N	5/29/18	0910		X			2					X	X	X															
	SB-16-5-N	5/29/18	1335		X			2					X	X	X					I										
	SB-9-1.5-F	5/29/18	1510		X			2					X	X	X	X	X	X	X	T										
	SB-10-1.5-F	5/30/18	0735		X			2					X	X	X	X	X	X	X		}	COMP-9-12-F								
	SB-11-1.5-F	5/29/18	1400		X			2					X	X	X	X	X	X	X											
	SB-12-1.5-F	5/29/18	1200		X			2					X	X	X	X	X	X	X	I										
					X																									

Notes:
Hold all discrete samples for potential future analysis; Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY: _____ DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY: _____ DATE: 5/31/18 TIME: 16:15
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

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Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # 3

C&T LOGIN # 300213

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST									
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPH d/mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE			
	SB-9-5-N	5/29/18	1520		X			2					X	X	X								
	SB-10-5-N	5/30/18	0745		X			2					X	X	X								COMP-9-12-N
	SB-11-5-N	5/29/18	1405		X			2					X	X	X								
	SB-12-5-N	5/29/18	1215		X			2					X	X	X								
	SB-8-1.5-F	5/29/18	1435		X			2					X	X	X	X	X	X					
	SB-7-1.5-F	5/30/18	1020		X			2					X	X	X	X	X	X					COMP-5-8-F
	SB-6-1.5-F	5/30/18	0905		X			2					X	X	X	X	X	X					
	SB-5-0.5-F	5/30/18	1105		X			2					X	X	X	X	X	X					
	SB-8-5-N	5/29/18	1445		X			2					X	X	X								
	SB-7-5-N	5/30/18	1030		X			2					X	X	X								COMP-5-8-N
	SB-6-5-N	5/30/18	0920		X			2					X	X	X								
	SB-5-1.5-N	5/30/18	1105		X			2					X	X	X								
	SB-5-5-N	5/30/18	1110		X			2					X	HOLD									

Notes:
Hold all discrete samples for potential future analysis, Only analyze COMP at this time

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 300213

Project No: 0098.003.001 Sampler: Seth Stoika
Project Name: DUSD Promenade Report To: Daren Roth
Project P. O. No: Company: Terraphase
EDD Format: Report Level ☐ II ☐ III ☐ IV Telephone: (925) 719-5496
Turnaround Time: ☐ RUSH _____ ☒ Standard Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST								
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	Title 22 Metals (6010)	OCPs (8081)	PCBs (8082)	TPHd,mo (8015)	SVOCs (8270)	Asbestos (CARB 435)	COMPOSITE		
	SB-4-1.5-F	5/30/18	0815		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-3-0.5-F	5/30/18	1130		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-2-0.5-F	5/30/18	1200		X			2					X	X	X	X	X	X	X	T	COMP-1-4-F	
	SB-1-1.5-N	5/30/18	1230		X			2					X	X	X	X	X	X	X	T	COMP-1-4-N	
	SB-2-1.5-N	5/30/18	1205		X			2					X	X	X					T	COMP-1-4-N	
	SB-3-1.5-N	5/30/18	1135		X			2					X	X	X					T	COMP-1-4-N	
	SB-4-5-N	5/30/18	0840		X			2					X	X	X					T	COMP-1-4-N	
	SB-1-5-N	5/30/18	1235		X			2					X	HOLD								
	SB-2-5-N	5/30/18	1210		X			2					X	H	O	L	D					
	SB-3-5-N	5/30/18	1140		X			2					X	H	O	L	D					

Notes:
Hold all discrete samples pending analysis; only Analyze COMP SB-1-1.5-N run for All analytes as discrete
COMP-1-4-N for Title 22 and OCPs only

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/30/18 TIME: 1615
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300213 Client: Terraphase

Date Received: 5-30-18 Project: DUSD Promenade

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5-30-18 By (print) kp (sign) kp

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used: ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☑ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?		X	
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm absent in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			X
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: Sample 2 - time (sample) doesn't match COC → ID & date matched

Sample 20 - sample time doesn't match COC → ID & date matched

Sample 24 & 25 - sample ID doesn't completely match COC, missing "-N"

Sample 30 & 34 - sample labels were wrong, called client to figure out which sample was ~~which~~ which since the 2 small jars had the same label & 2 large jars had same label instead of 1 large jar & 1 small jar per the rest of the job.

Date Logged in 5/31/18 **By (print)** VG **(sign)** VG

Date Labeled 5/31/18 **By (print)** VG kp **(sign)** VG kp

ENTHALPY ANALYTICAL

Detections Summary for 300213

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : SB-1-1.5-N Laboratory Sample ID : 300213-029

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12	Z	5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.54	J	2.0	0.072	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	4.3		1.5	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	390		0.26	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.62		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.14	J	0.26	0.017	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.26	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.26	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.26	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.7		1.0	0.059	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Molybdenum	0.30		0.26	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.26	0.045	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.26	0.055	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		1.1	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-13-16-F Laboratory Sample ID : 300213-036

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.0	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	79		10	3.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Antimony	0.77	J	2.0	0.075	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	6.5		1.5	0.073	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	250		0.27	0.033	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.11	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.22	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.27	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.063	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.3		1.0	0.062	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.018		0.018	0.0053	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.27	J	0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	44		0.27	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.27	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	53		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-13-16-N Laboratory Sample ID : 300213-037

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.73	J	2.0	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	2.3		1.5	0.066	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.25	0.030	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.099	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.15	J	0.25	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	27		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	9.6		0.25	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	19		0.25	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.8		0.99	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.0087	J	0.017	0.0050	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.084	J	0.25	0.026	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.25	0.042	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	22		0.25	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	36		0.99	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-9-12-F Laboratory Sample ID : 300213-038

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.6	Y,Z	2.0	0.62	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	64		10	3.1	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Antimony	0.66	J	2.0	0.074	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.0		1.5	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	230		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.45		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.13	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.27	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.1		1.0	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.022		0.018	0.0054	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.31		0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	50		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-9-12-N Laboratory Sample ID : 300213-039

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.62	J	1.9	0.064	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	4.4		1.4	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	210		0.23	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.093	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.11	J	0.23	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.23	0.045	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.23	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	21		0.23	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.5		0.93	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.011	J	0.016	0.0049	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.49		0.23	0.024	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.23	0.040	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	35		0.23	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	45		0.93	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-5-8-F Laboratory Sample ID : 300213-040

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.8	Y,Z	0.99	0.30	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	46		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.71	J	2.0	0.073	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.4		1.5	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.15	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.27	0.052	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.27	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.0		1.0	0.060	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.035		0.017	0.0051	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.24	J	0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	43		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-5-8-N Laboratory Sample ID : 300213-041

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.68	J	2.0	0.074	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	3.6		1.5	0.071	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	270		0.27	0.032	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.63		0.11	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.13	J	0.27	0.018	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.27	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.27	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.27	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.2		1.0	0.061	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.0088	J	0.015	0.0046	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.13	J	0.27	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.27	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.27	0.056	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	43		1.1	0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-2-4-F Laboratory Sample ID : 300213-042

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.6	Y,Z	1.0	0.31	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	45		5.0	1.5	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Antimony	0.76	J	2.0	0.070	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.3		1.5	0.068	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	260		0.26	0.031	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.53		0.10	0.013	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.16	J	0.26	0.017	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.26	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.015	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	24		0.26	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	8.4		1.0	0.058	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.024		0.016	0.0049	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.27		0.26	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.26	0.044	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.26	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	49		1.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : COMP-1-4-N Laboratory Sample ID : 300213-043

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	0.50	J	1.9	0.065	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Arsenic	5.3		1.4	0.062	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	230		0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.49		0.094	0.012	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.16	J	0.24	0.016	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.24	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.24	0.014	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	23		0.24	0.054	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.7		0.94	0.053	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.028		0.017	0.0050	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.31		0.24	0.025	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.24	0.040	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	48		0.94	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

J = Estimated value
Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks

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Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Batch#:	260102		

Field ID: SB-1-1.5-N
Type: SAMPLE
Lab ID: 300213-029
Diln Fac: 1.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	1.6 Y Z	1.0	0.31
Motor Oil C24-C36	12 Z	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: COMP-13-16-F
Type: SAMPLE
Lab ID: 300213-036
Diln Fac: 2.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	8.0 Y Z	2.0	0.62
Motor Oil C24-C36	79	10	3.0

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Field ID: COMP-9-12-F
Type: SAMPLE
Lab ID: 300213-038
Diln Fac: 2.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	5.6 Y Z	2.0	0.62
Motor Oil C24-C36	64	10	3.1

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: COMP-5-8-F
Type: SAMPLE
Lab ID: 300213-040
Diln Fac: 1.000
Analyzed: 06/04/18

Analyte	Result	RL	MDL
Diesel C10-C24	3.8 Y Z	0.99	0.30
Motor Oil C24-C36	46	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	108	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Batch#:	260102		

Field ID:	COMP-2-4-F	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	06/04/18
Lab ID:	300213-042		

Analyte	Result	RL	MDL
Diesel C10-C24	4.6 Y Z	1.0	0.31
Motor Oil C24-C36	45	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934277	Analyzed:	06/01/18

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	92	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934278	Batch#:	260102
Matrix:	Soil	Prepared:	06/01/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	44.99	90	51-137

Surrogate	%REC	Limits
o-Terphenyl	88	55-133

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Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	260102
MSS Lab ID:	300217-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/31/18
Units:	mg/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	2.000		

Type: MS Lab ID: QC934279

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.964	49.70	46.91	80	36-143

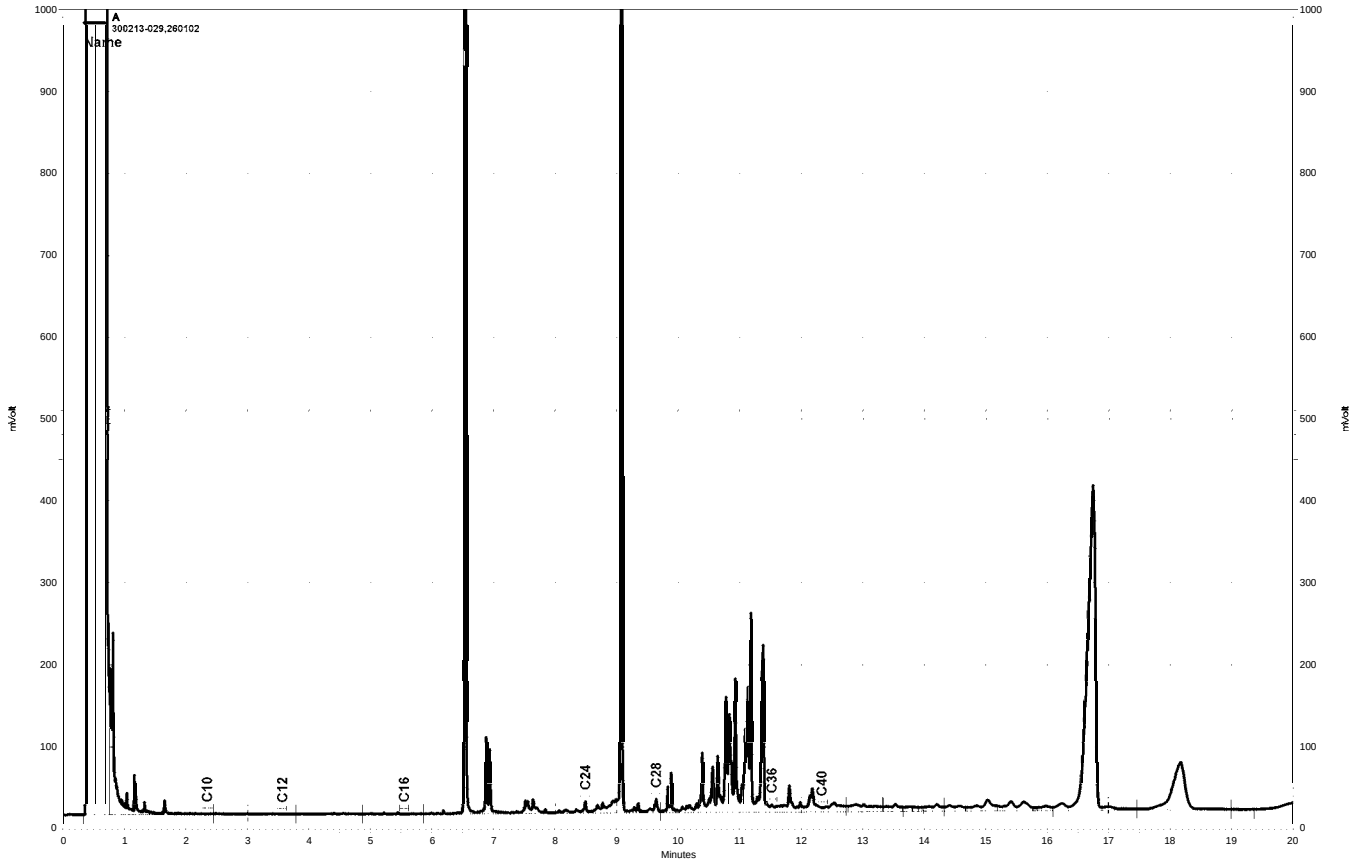
Surrogate	%REC	Limits
o-Terphenyl	84	55-133

Type: MSD Lab ID: QC934280

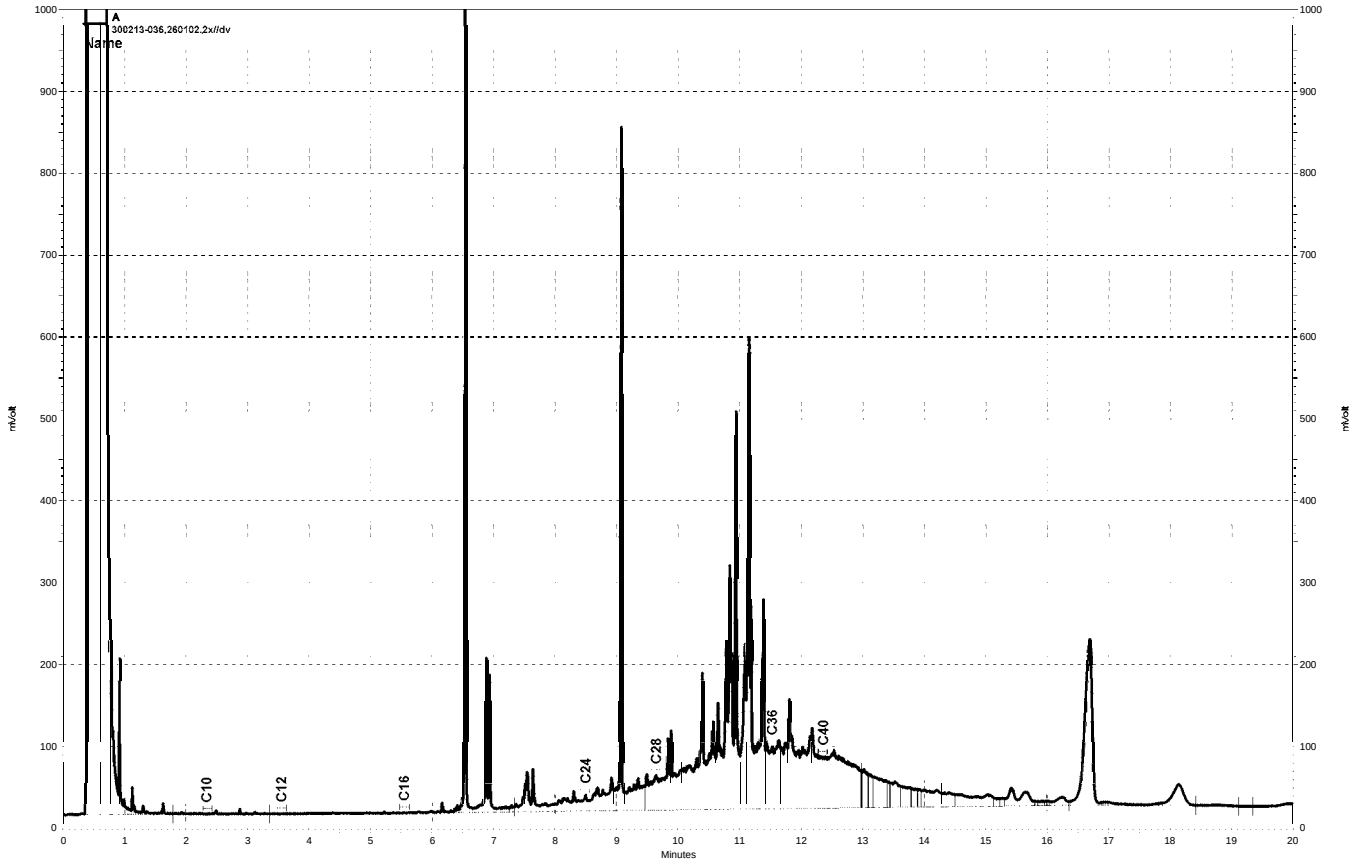
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.02	49.90	86	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl	87	55-133

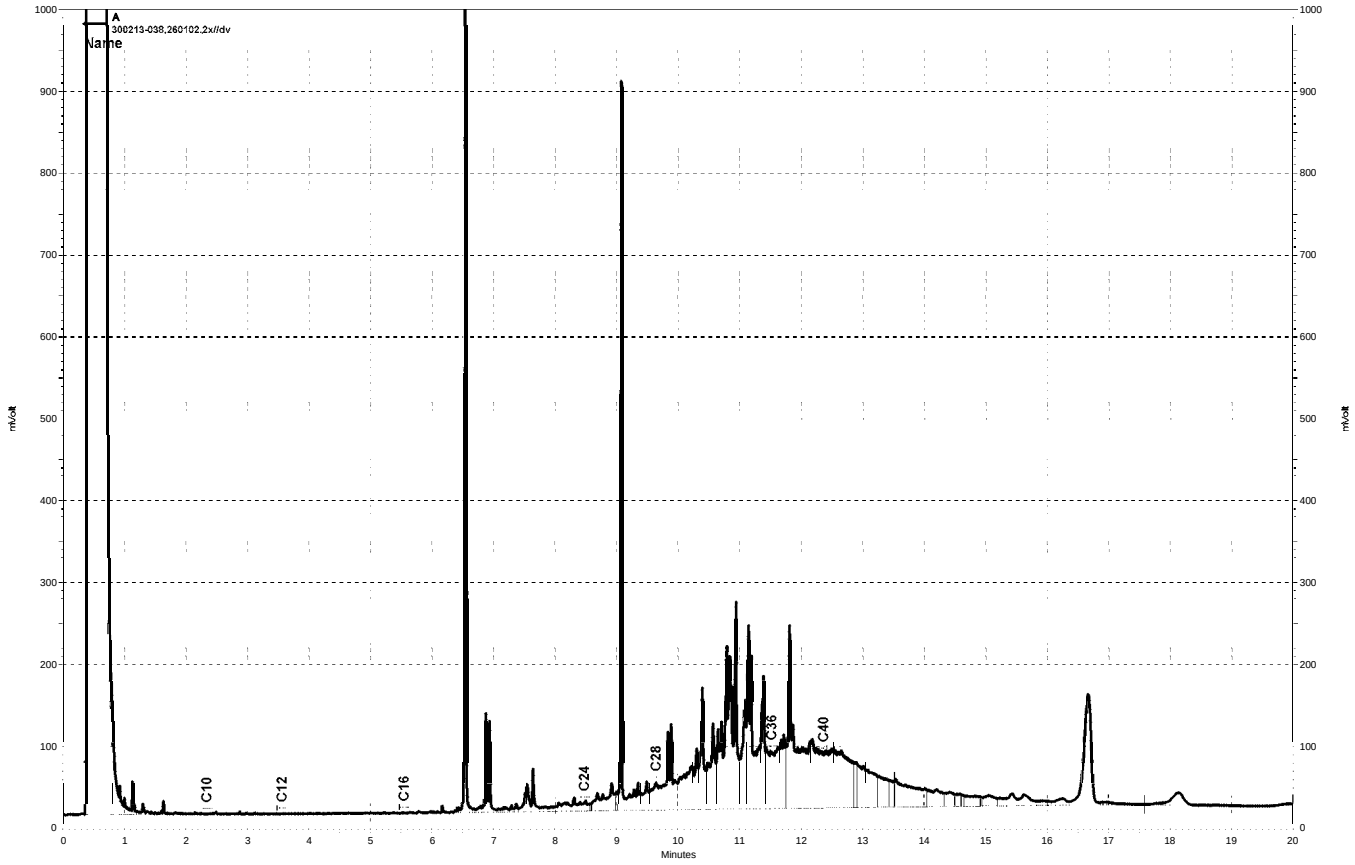
RPD= Relative Percent Difference



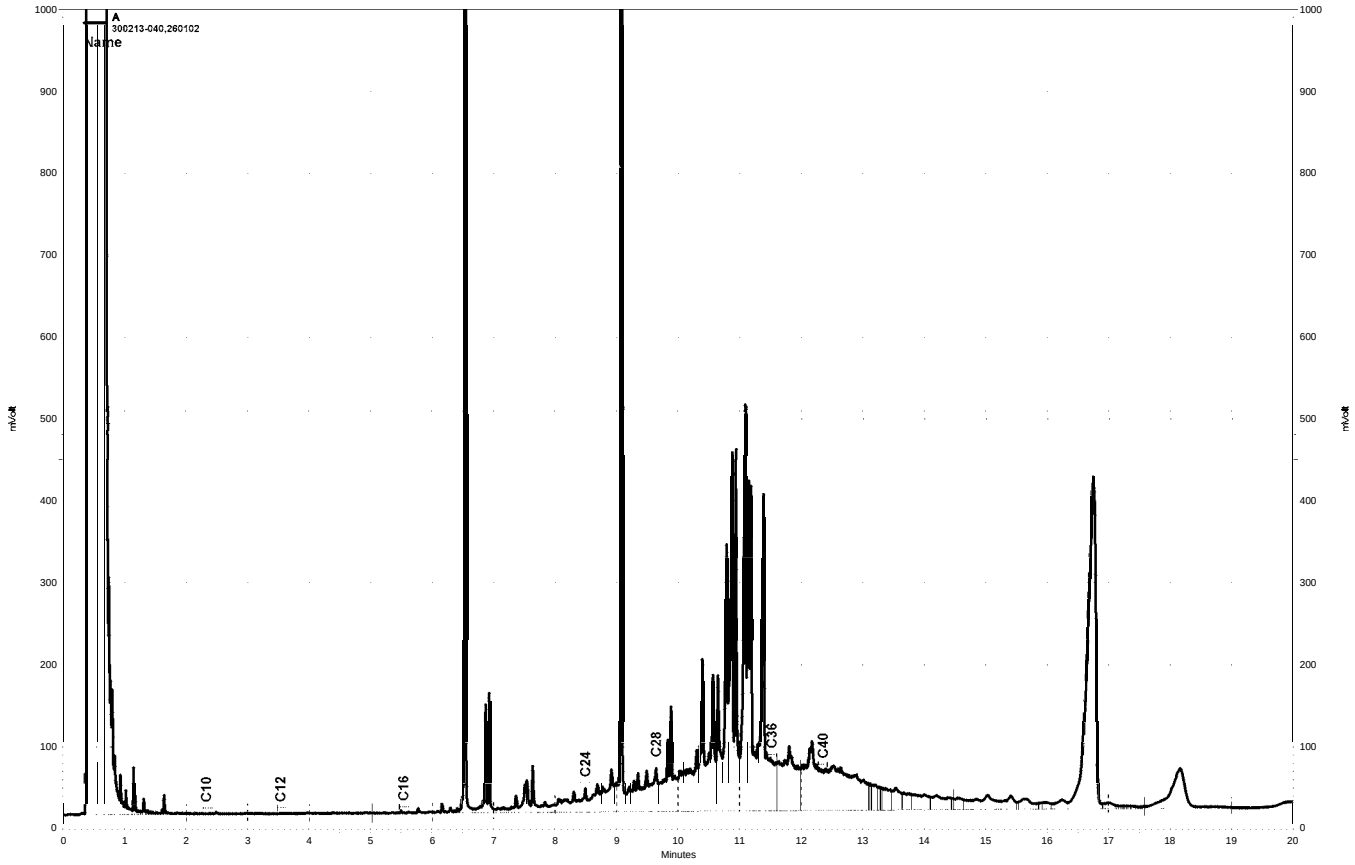
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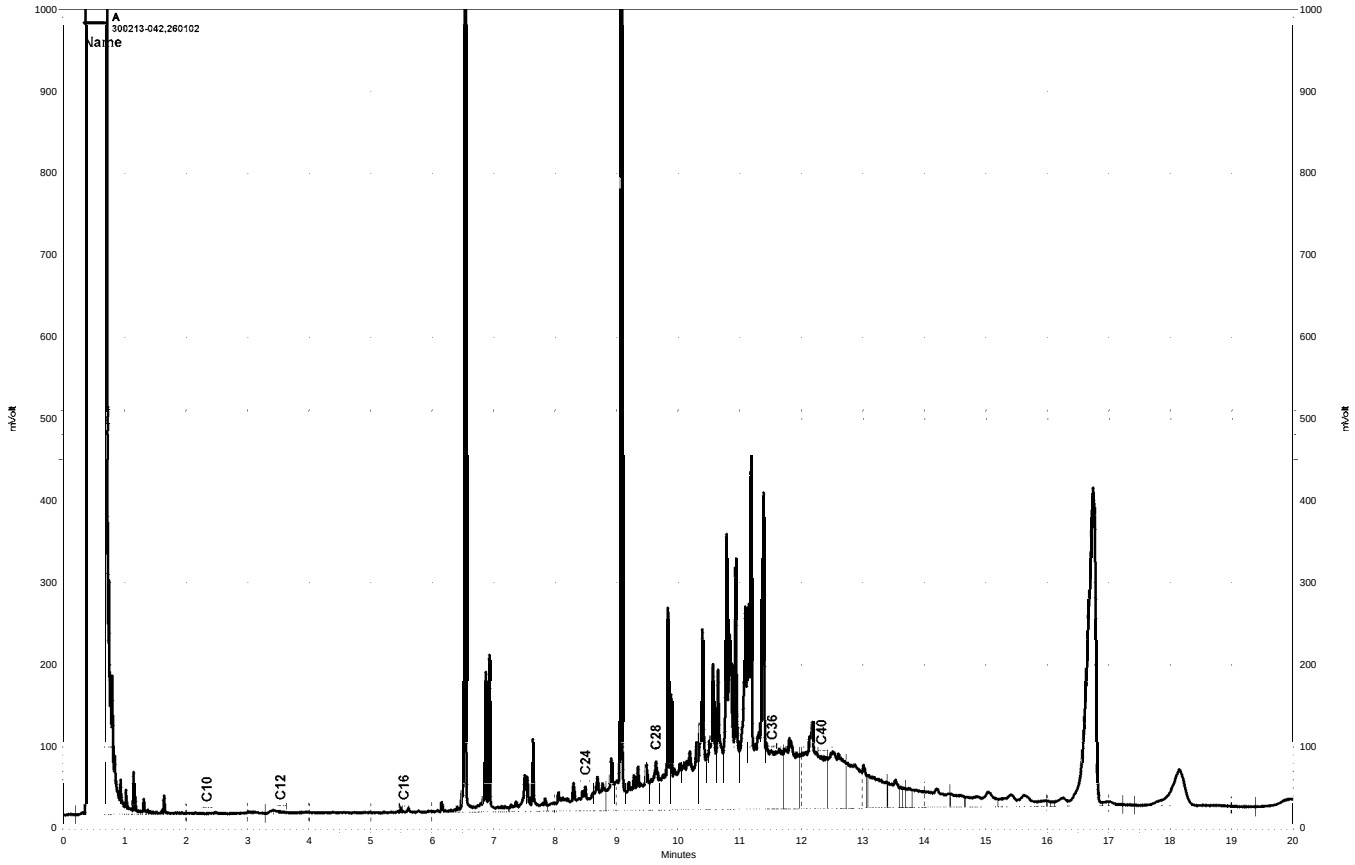
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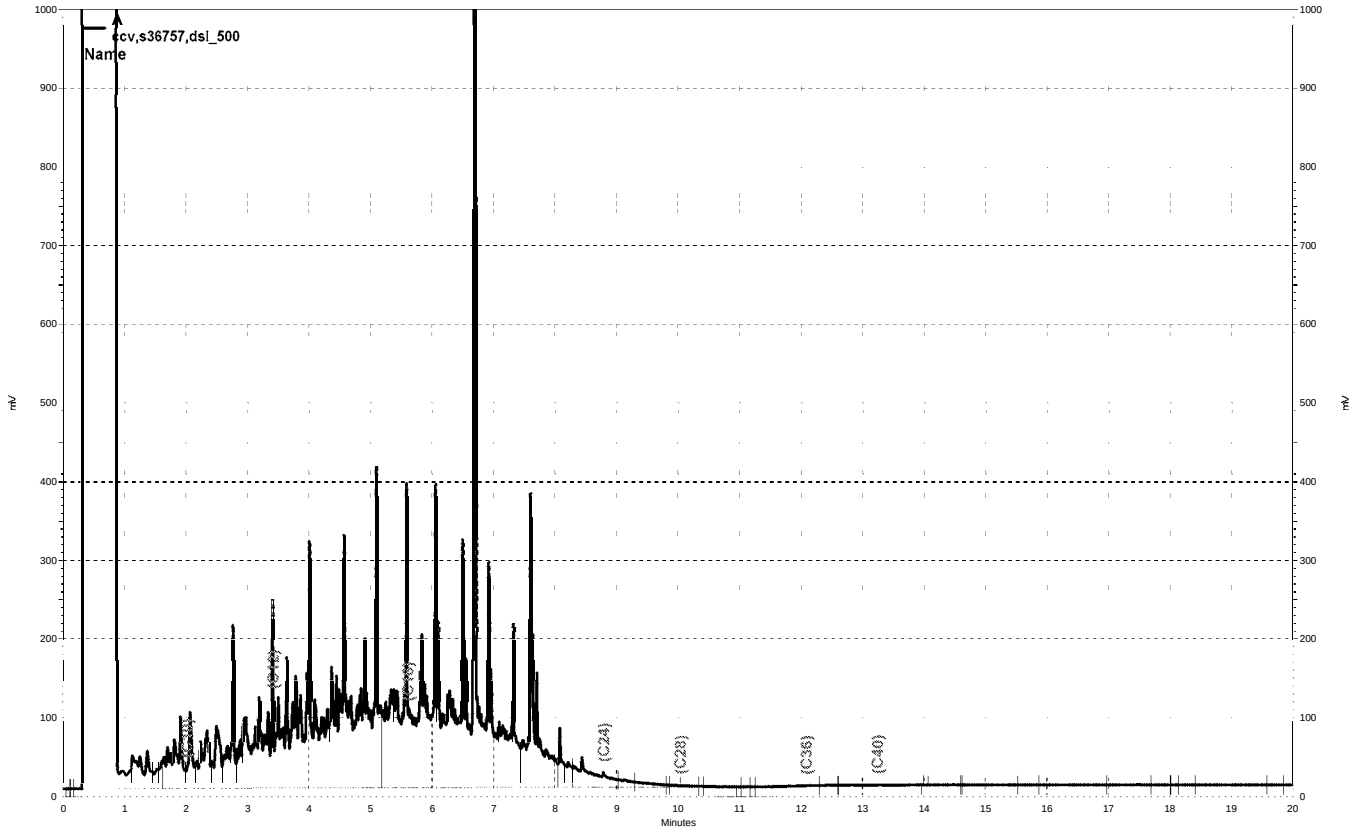
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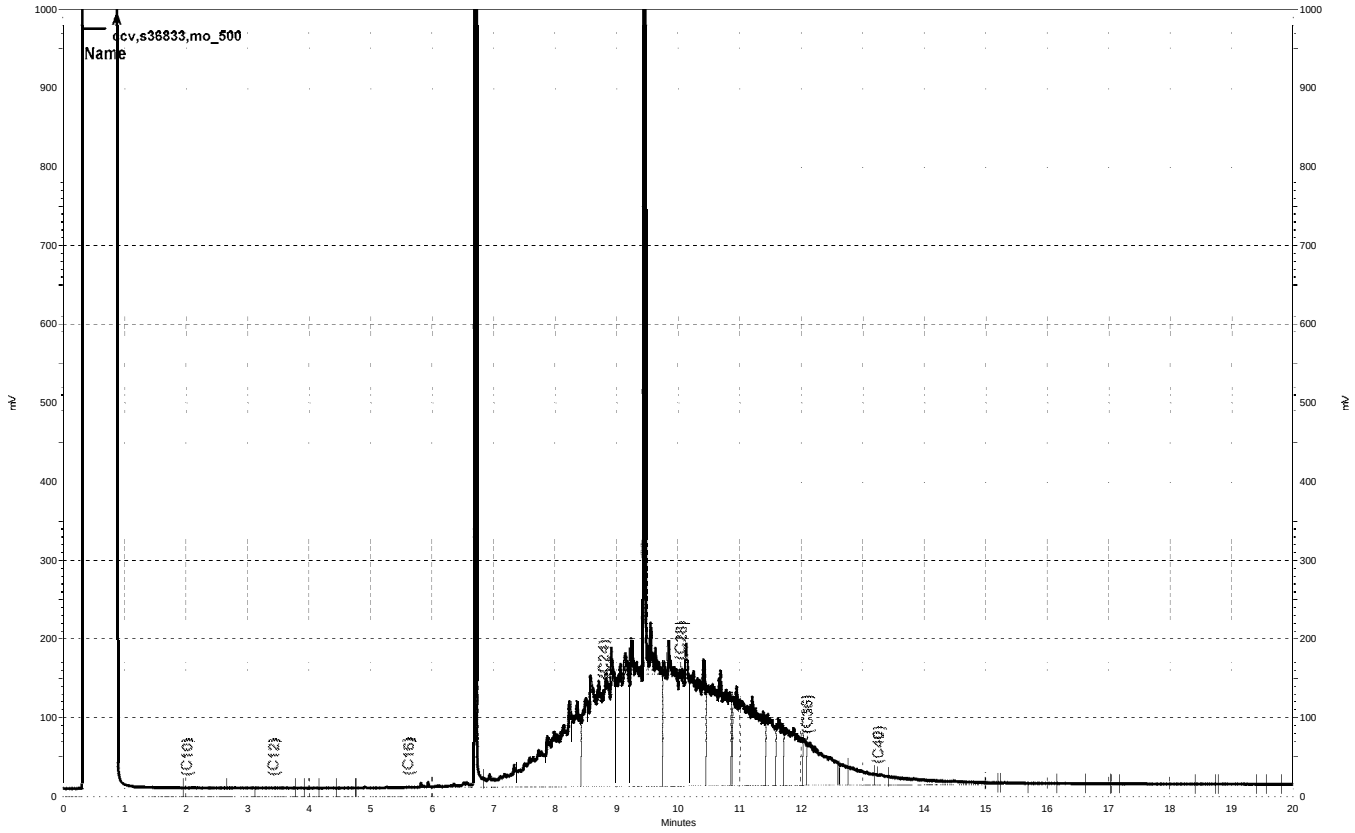
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ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-1-1.5-N	Batch#:	260145
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.4
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	9.0
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	SB-1-1.5-N	Batch#:	260145
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	330	12
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.4
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	63	31-121
Phenol-d5	72	31-120
2,4,6-Tribromophenol	86	24-120
Nitrobenzene-d5	53	43-120
2-Fluorobiphenyl	62	44-120
Terphenyl-d14	90	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-13-16-F	Batch#:	260145
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,400	480
Phenol	ND	3,400	100
bis(2-Chloroethyl)ether	ND	3,400	600
2-Chlorophenol	ND	3,400	100
1,3-Dichlorobenzene	ND	3,400	570
1,4-Dichlorobenzene	ND	3,400	100
Benzyl alcohol	ND	3,400	110
1,2-Dichlorobenzene	ND	3,400	100
2-Methylphenol	ND	3,400	140
bis(2-Chloroisopropyl) ether	ND	3,400	100
4-Methylphenol	ND	3,400	100
N-Nitroso-di-n-propylamine	ND	3,400	100
Hexachloroethane	ND	3,400	100
Nitrobenzene	ND	3,400	110
Isophorone	ND	3,400	100
2-Nitrophenol	ND	6,700	100
2,4-Dimethylphenol	ND	3,400	140
Benzoic acid	ND	17,000	4,400
bis(2-Chloroethoxy)methane	ND	3,400	100
2,4-Dichlorophenol	ND	3,400	100
1,2,4-Trichlorobenzene	ND	3,400	100
Naphthalene	ND	670	100
4-Chloroaniline	ND	3,400	95
Hexachlorobutadiene	ND	3,400	90
4-Chloro-3-methylphenol	ND	3,400	84
2-Methylnaphthalene	ND	670	100
Hexachlorocyclopentadiene	ND	6,700	760
2,4,6-Trichlorophenol	ND	3,400	130
2,4,5-Trichlorophenol	ND	3,400	85
2-Chloronaphthalene	ND	3,400	91
2-Nitroaniline	ND	6,700	110
Dimethylphthalate	ND	3,400	100
Acenaphthylene	ND	670	90
2,6-Dinitrotoluene	ND	3,400	91
3-Nitroaniline	ND	6,700	420
Acenaphthene	ND	670	100
2,4-Dinitrophenol	ND	6,700	1,500
4-Nitrophenol	ND	6,700	720
Dibenzofuran	ND	3,400	100
2,4-Dinitrotoluene	ND	3,400	97
Diethylphthalate	ND	3,400	110
Fluorene	ND	670	100
4-Chlorophenyl-phenylether	ND	3,400	98
4-Nitroaniline	ND	6,700	420
4,6-Dinitro-2-methylphenol	ND	6,700	780
N-Nitrosodiphenylamine	ND	3,400	110
Azobenzene	ND	3,400	87
4-Bromophenyl-phenylether	ND	3,400	110
Hexachlorobenzene	ND	3,400	110
Pentachlorophenol	ND	6,700	1,300
Phenanthrene	ND	670	110

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-13-16-F	Batch#:	260145
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	670	110
Di-n-butylphthalate	ND	3,400	120
Fluoranthene	ND	670	100
Pyrene	ND	670	110
Butylbenzylphthalate	ND	3,400	100
3,3'-Dichlorobenzidine	ND	6,700	220
Benzo(a)anthracene	ND	670	100
Chrysene	ND	670	110
bis(2-Ethylhexyl)phthalate	ND	3,400	130
Di-n-octylphthalate	ND	3,400	100
Benzo(b)fluoranthene	ND	670	91
Benzo(k)fluoranthene	ND	670	96
Benzo(a)pyrene	ND	670	89
Indeno(1,2,3-cd)pyrene	ND	670	89
Dibenz(a,h)anthracene	ND	670	94
Benzo(g,h,i)perylene	ND	670	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-9-12-F	Batch#:	260145
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	3,300	470
Phenol	ND	3,300	99
bis(2-Chloroethyl)ether	ND	3,300	590
2-Chlorophenol	ND	3,300	99
1,3-Dichlorobenzene	ND	3,300	560
1,4-Dichlorobenzene	ND	3,300	99
Benzyl alcohol	ND	3,300	110
1,2-Dichlorobenzene	ND	3,300	99
2-Methylphenol	ND	3,300	140
bis(2-Chloroisopropyl) ether	ND	3,300	99
4-Methylphenol	ND	3,300	99
N-Nitroso-di-n-propylamine	ND	3,300	99
Hexachloroethane	ND	3,300	99
Nitrobenzene	ND	3,300	110
Isophorone	ND	3,300	99
2-Nitrophenol	ND	6,600	99
2,4-Dimethylphenol	ND	3,300	140
Benzoic acid	ND	17,000	4,300
bis(2-Chloroethoxy)methane	ND	3,300	99
2,4-Dichlorophenol	ND	3,300	99
1,2,4-Trichlorobenzene	ND	3,300	99
Naphthalene	ND	660	99
4-Chloroaniline	ND	3,300	93
Hexachlorobutadiene	ND	3,300	88
4-Chloro-3-methylphenol	ND	3,300	83
2-Methylnaphthalene	ND	660	99
Hexachlorocyclopentadiene	ND	6,600	740
2,4,6-Trichlorophenol	ND	3,300	120
2,4,5-Trichlorophenol	ND	3,300	83
2-Chloronaphthalene	ND	3,300	89
2-Nitroaniline	ND	6,600	110
Dimethylphthalate	ND	3,300	99
Acenaphthylene	ND	660	89
2,6-Dinitrotoluene	ND	3,300	89
3-Nitroaniline	ND	6,600	420
Acenaphthene	ND	660	99
2,4-Dinitrophenol	ND	6,600	1,500
4-Nitrophenol	ND	6,600	710
Dibenzofuran	ND	3,300	100
2,4-Dinitrotoluene	ND	3,300	95
Diethylphthalate	ND	3,300	110
Fluorene	ND	660	98
4-Chlorophenyl-phenylether	ND	3,300	96
4-Nitroaniline	ND	6,600	420
4,6-Dinitro-2-methylphenol	ND	6,600	760
N-Nitrosodiphenylamine	ND	3,300	100
Azobenzene	ND	3,300	85
4-Bromophenyl-phenylether	ND	3,300	100
Hexachlorobenzene	ND	3,300	110
Pentachlorophenol	ND	6,600	1,300
Phenanthrene	ND	660	100

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-9-12-F	Batch#:	260145
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	10.00		

Analyte	Result	RL	MDL
Anthracene	ND	660	110
Di-n-butylphthalate	ND	3,300	120
Fluoranthene	ND	660	100
Pyrene	ND	660	110
Butylbenzylphthalate	ND	3,300	99
3,3'-Dichlorobenzidine	ND	6,600	220
Benzo(a)anthracene	ND	660	100
Chrysene	ND	660	110
bis(2-Ethylhexyl)phthalate	ND	3,300	130
Di-n-octylphthalate	ND	3,300	99
Benzo(b)fluoranthene	ND	660	89
Benzo(k)fluoranthene	ND	660	94
Benzo(a)pyrene	ND	660	87
Indeno(1,2,3-cd)pyrene	ND	660	87
Dibenz(a,h)anthracene	ND	660	92
Benzo(g,h,i)perylene	ND	660	100

Surrogate	%REC	Limits
2-Fluorophenol	DO	31-121
Phenol-d5	DO	31-120
2,4,6-Tribromophenol	DO	24-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-5-8-F	Batch#:	260145
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	1,700	230
Phenol	ND	1,700	50
bis(2-Chloroethyl)ether	ND	1,700	290
2-Chlorophenol	ND	1,700	50
1,3-Dichlorobenzene	ND	1,700	280
1,4-Dichlorobenzene	ND	1,700	50
Benzyl alcohol	ND	1,700	54
1,2-Dichlorobenzene	ND	1,700	50
2-Methylphenol	ND	1,700	68
bis(2-Chloroisopropyl) ether	ND	1,700	50
4-Methylphenol	ND	1,700	50
N-Nitroso-di-n-propylamine	ND	1,700	50
Hexachloroethane	ND	1,700	50
Nitrobenzene	ND	1,700	54
Isophorone	ND	1,700	50
2-Nitrophenol	ND	3,300	50
2,4-Dimethylphenol	ND	1,700	69
Benzoic acid	ND	8,300	2,200
bis(2-Chloroethoxy)methane	ND	1,700	50
2,4-Dichlorophenol	ND	1,700	50
1,2,4-Trichlorobenzene	ND	1,700	50
Naphthalene	ND	330	50
4-Chloroaniline	ND	1,700	47
Hexachlorobutadiene	ND	1,700	44
4-Chloro-3-methylphenol	ND	1,700	41
2-Methylnaphthalene	ND	330	50
Hexachlorocyclopentadiene	ND	3,300	370
2,4,6-Trichlorophenol	ND	1,700	62
2,4,5-Trichlorophenol	ND	1,700	41
2-Chloronaphthalene	ND	1,700	44
2-Nitroaniline	ND	3,300	53
Dimethylphthalate	ND	1,700	50
Acenaphthylene	ND	330	44
2,6-Dinitrotoluene	ND	1,700	44
3-Nitroaniline	ND	3,300	210
Acenaphthene	ND	330	50
2,4-Dinitrophenol	ND	3,300	740
4-Nitrophenol	ND	3,300	350
Dibenzofuran	ND	1,700	51
2,4-Dinitrotoluene	ND	1,700	48
Diethylphthalate	ND	1,700	56
Fluorene	ND	330	49
4-Chlorophenyl-phenylether	ND	1,700	48
4-Nitroaniline	ND	3,300	210
4,6-Dinitro-2-methylphenol	ND	3,300	380
N-Nitrosodiphenylamine	ND	1,700	52
Azobenzene	ND	1,700	42
4-Bromophenyl-phenylether	ND	1,700	52
Hexachlorobenzene	ND	1,700	53
Pentachlorophenol	ND	3,300	630
Phenanthrene	ND	330	52
Anthracene	ND	330	56

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-5-8-F	Batch#:	260145
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	1,700	60
Fluoranthene	ND	330	51
Pyrene	ND	330	54
Butylbenzylphthalate	ND	1,700	50
3,3'-Dichlorobenzidine	ND	3,300	110
Benzo(a)anthracene	ND	330	51
Chrysene	ND	330	56
bis(2-Ethylhexyl)phthalate	ND	1,700	65
Di-n-octylphthalate	ND	1,700	50
Benzo(b)fluoranthene	ND	330	45
Benzo(k)fluoranthene	ND	330	47
Benzo(a)pyrene	ND	330	43
Indeno(1,2,3-cd)pyrene	ND	330	44
Dibenz(a,h)anthracene	ND	330	46
Benzo(g,h,i)perylene	ND	330	50

Surrogate	%REC	Limits
2-Fluorophenol	67	31-121
Phenol-d5	70	31-120
2,4,6-Tribromophenol	70	24-120
Nitrobenzene-d5	63	43-120
2-Fluorobiphenyl	82	44-120
Terphenyl-d14	96	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-2-4-F	Batch#:	260145
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	3.000		

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	990	120
Phenol	ND	990	51
bis(2-Chloroethyl)ether	ND	990	37
2-Chlorophenol	ND	990	49
1,3-Dichlorobenzene	ND	990	36
1,4-Dichlorobenzene	ND	990	30
Benzyl alcohol	ND	990	46
1,2-Dichlorobenzene	ND	990	28
2-Methylphenol	ND	990	46
bis(2-Chloroisopropyl) ether	ND	990	120
4-Methylphenol	ND	990	52
N-Nitroso-di-n-propylamine	ND	990	98
Hexachloroethane	ND	990	36
Nitrobenzene	ND	990	36
Isophorone	ND	990	32
2-Nitrophenol	ND	2,000	30
2,4-Dimethylphenol	ND	990	41
Benzoic acid	ND	5,000	1,500
bis(2-Chloroethoxy)methane	ND	990	34
2,4-Dichlorophenol	ND	990	37
1,2,4-Trichlorobenzene	ND	990	29
Naphthalene	ND	200	26
4-Chloroaniline	ND	990	120
Hexachlorobutadiene	ND	990	180
4-Chloro-3-methylphenol	ND	990	44
2-Methylnaphthalene	ND	200	29
Hexachlorocyclopentadiene	ND	2,000	180
2,4,6-Trichlorophenol	ND	990	41
2,4,5-Trichlorophenol	ND	990	26
2-Chloronaphthalene	ND	990	160
2-Nitroaniline	ND	2,000	98
Dimethylphthalate	ND	990	28
Acenaphthylene	ND	200	25
2,6-Dinitrotoluene	ND	990	26
3-Nitroaniline	ND	2,000	120
Acenaphthene	ND	200	36
2,4-Dinitrophenol	ND	2,000	480
4-Nitrophenol	ND	2,000	200
Dibenzofuran	ND	990	26
2,4-Dinitrotoluene	ND	990	29
Diethylphthalate	ND	990	25
Fluorene	ND	200	26
4-Chlorophenyl-phenylether	ND	990	29
4-Nitroaniline	ND	2,000	120
4,6-Dinitro-2-methylphenol	ND	2,000	120
N-Nitrosodiphenylamine	ND	990	170
Azobenzene	ND	990	36
4-Bromophenyl-phenylether	ND	990	170
Hexachlorobenzene	ND	990	36
Pentachlorophenol	ND	2,000	440
Phenanthrene	ND	200	28

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	COMP-2-4-F	Batch#:	260145
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	3.000		

Analyte	Result	RL	MDL
Anthracene	ND	200	36
Di-n-butylphthalate	ND	990	36
Fluoranthene	ND	200	26
Pyrene	ND	200	28
Butylbenzylphthalate	ND	990	36
3,3'-Dichlorobenzidine	ND	2,000	130
Benzo(a)anthracene	ND	200	26
Chrysene	ND	200	36
bis(2-Ethylhexyl)phthalate	ND	990	26
Di-n-octylphthalate	ND	990	25
Benzo(b)fluoranthene	ND	200	36
Benzo(k)fluoranthene	ND	200	26
Benzo(a)pyrene	ND	200	26
Indeno(1,2,3-cd)pyrene	ND	200	36
Dibenz(a,h)anthracene	ND	200	36
Benzo(g,h,i)perylene	ND	200	26

Surrogate	%REC	Limits
2-Fluorophenol	124 *	31-121
Phenol-d5	135 *	31-120
2,4,6-Tribromophenol	78	24-120
Nitrobenzene-d5	83	43-120
2-Fluorobiphenyl	94	44-120
Terphenyl-d14	115	44-120

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934476	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	330	47
Phenol	ND	330	10
bis(2-Chloroethyl)ether	ND	330	60
2-Chlorophenol	ND	330	10
1,3-Dichlorobenzene	ND	330	57
1,4-Dichlorobenzene	ND	330	10
Benzyl alcohol	ND	330	11
1,2-Dichlorobenzene	ND	330	10
2-Methylphenol	ND	330	14
bis(2-Chloroisopropyl) ether	ND	330	10
4-Methylphenol	ND	330	10
N-Nitroso-di-n-propylamine	ND	330	10
Hexachloroethane	ND	330	10
Nitrobenzene	ND	330	11
Isophorone	ND	330	10
2-Nitrophenol	ND	670	10
2,4-Dimethylphenol	ND	330	14
Benzoic acid	ND	1,700	440
bis(2-Chloroethoxy)methane	ND	330	10
2,4-Dichlorophenol	ND	330	10
1,2,4-Trichlorobenzene	ND	330	10
Naphthalene	ND	67	10
4-Chloroaniline	ND	330	9.4
Hexachlorobutadiene	ND	330	8.9
4-Chloro-3-methylphenol	ND	330	8.3
2-Methylnaphthalene	ND	67	10
Hexachlorocyclopentadiene	ND	670	75
2,4,6-Trichlorophenol	ND	330	13
2,4,5-Trichlorophenol	ND	330	8.4
2-Chloronaphthalene	ND	330	9.0
2-Nitroaniline	ND	670	11
Dimethylphthalate	ND	330	10
Acenaphthylene	ND	67	8.9
2,6-Dinitrotoluene	ND	330	9.0
3-Nitroaniline	ND	670	42
Acenaphthene	ND	67	10
2,4-Dinitrophenol	ND	670	150
4-Nitrophenol	ND	670	71
Dibenzofuran	ND	330	10
2,4-Dinitrotoluene	ND	330	9.6
Diethylphthalate	ND	330	11
Fluorene	ND	67	9.9
4-Chlorophenyl-phenylether	ND	330	9.7
4-Nitroaniline	ND	670	42
4,6-Dinitro-2-methylphenol	ND	670	77
N-Nitrosodiphenylamine	ND	330	11
Azobenzene	ND	330	8.6
4-Bromophenyl-phenylether	ND	330	11
Hexachlorobenzene	ND	330	11
Pentachlorophenol	ND	670	130
Phenanthrene	ND	67	11
Anthracene	ND	67	11
Di-n-butylphthalate	ND	330	12

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934476	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Result	RL	MDL
Fluoranthene	ND	67	10
Pyrene	ND	67	11
Butylbenzylphthalate	ND	330	10
3,3'-Dichlorobenzidine	ND	670	22
Benzo(a)anthracene	ND	67	10
Chrysene	ND	67	11
bis(2-Ethylhexyl)phthalate	ND	330	13
Di-n-octylphthalate	ND	330	10
Benzo(b)fluoranthene	ND	67	9.0
Benzo(k)fluoranthene	ND	67	9.5
Benzo(a)pyrene	ND	67	8.8
Indeno(1,2,3-cd)pyrene	ND	67	8.8
Dibenz(a,h)anthracene	ND	67	9.3
Benzo(g,h,i)perylene	ND	67	10

Surrogate	%REC	Limits
2-Fluorophenol	88	31-121
Phenol-d5	81	31-120
2,4,6-Tribromophenol	85	24-120
Nitrobenzene-d5	80	43-120
2-Fluorobiphenyl	89	44-120
Terphenyl-d14	91	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	2.000
Lab ID:	QC934477	Batch#:	260145
Matrix:	Soil	Prepared:	06/04/18
Units:	ug/Kg	Analyzed:	06/05/18

Analyte	Spiked	Result	%REC	Limits
Phenol	2,667	2,705	101	40-120
2-Chlorophenol	2,667	2,680	101	51-120
1,4-Dichlorobenzene	2,667	2,640	99	55-120
N-Nitroso-di-n-propylamine	2,667	2,778	104	27-122
1,2,4-Trichlorobenzene	2,667	2,768	104	58-120
4-Chloro-3-methylphenol	2,667	2,942	110	55-136
Acenaphthene	1,000	1,092	109	53-120
4-Nitrophenol	2,667	3,076	115	46-121
2,4-Dinitrotoluene	2,667	3,001	113	56-120
Pentachlorophenol	2,667	2,843	107	18-120
Pyrene	1,000	1,059	106	53-124

Surrogate	%REC	Limits
2-Fluorophenol	89	31-121
Phenol-d5	89	31-120
2,4,6-Tribromophenol	96	24-120
Nitrobenzene-d5	85	43-120
2-Fluorobiphenyl	96	44-120
Terphenyl-d14	102	44-120

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8270C
Field ID:	ZZZZZZZZZZ	Batch#:	260145
MSS Lab ID:	300281-001	Sampled:	06/01/18
Matrix:	Soil	Received:	06/02/18
Units:	ug/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934478

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<17.17	2,679	1,639	61	40-120
2-Chlorophenol	<16.32	2,679	2,043	76	50-120
1,4-Dichlorobenzene	<10.03	2,679	2,011	75	45-120
N-Nitroso-di-n-propylamine	<32.76	2,679	2,020	75	31-120
1,2,4-Trichlorobenzene	<9.584	2,679	2,329	87	53-120
4-Chloro-3-methylphenol	<14.58	2,679	3,182	119	57-127
Acenaphthene	<11.91	1,005	909.7	91	51-120
4-Nitrophenol	<68.18	2,679	2,330	87	45-120
2,4-Dinitrotoluene	<9.609	2,679	2,635	98	56-120
Pentachlorophenol	<147.1	2,679	713.8	27	13-120
Pyrene	<9.284	1,005	1,008	100	53-120

Surrogate	%REC	Limits
2-Fluorophenol	83	31-121
Phenol-d5	65	31-120
2,4,6-Tribromophenol	89	24-120
Nitrobenzene-d5	93	43-120
2-Fluorobiphenyl	90	44-120
Terphenyl-d14	103	44-120

Type: MSD Lab ID: QC934479

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,639	1,886	71	40-120	15	41
2-Chlorophenol	2,639	2,319	88	50-120	14	39
1,4-Dichlorobenzene	2,639	2,220	84	45-120	11	42
N-Nitroso-di-n-propylamine	2,639	2,331	88	31-120	16	51
1,2,4-Trichlorobenzene	2,639	2,550	97	53-120	11	40
4-Chloro-3-methylphenol	2,639	3,468	131 *	57-127	10	42
Acenaphthene	989.8	1,011	102	51-120	12	31
4-Nitrophenol	2,639	2,508	95	45-120	9	39
2,4-Dinitrotoluene	2,639	2,895	110	56-120	11	32
Pentachlorophenol	2,639	762.4	29	13-120	8	67
Pyrene	989.8	1,125	114	53-120	12	33

Surrogate	%REC	Limits
2-Fluorophenol	97	31-121
Phenol-d5	76	31-120
2,4,6-Tribromophenol	99	24-120
Nitrobenzene-d5	103	43-120
2-Fluorobiphenyl	101	44-120
Terphenyl-d14	116	44-120

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	SB-1-1.5-N	Batch#:	260118
Lab ID:	300213-029	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.11
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	84	30-127
Decachlorobiphenyl	103	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-13-16-F	Batch#:	260118
Lab ID:	300213-036	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/06/18
Diln Fac:	10.00		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	8.6	1.0
beta-BHC	ND	8.6	2.1
gamma-BHC	ND	8.6	1.1
delta-BHC	ND	8.6	1.4
Heptachlor	ND	8.6	0.96
Aldrin	ND	8.6	1.0
Heptachlor epoxide	ND	8.6	1.1
Endosulfan I	ND	8.6	0.88
Dieldrin	ND	8.6	2.0
4,4'-DDE	ND	17	3.0
Endrin	ND	17	2.8
Endosulfan II	ND	17	2.5
Endosulfan sulfate	ND	17	2.6
4,4'-DDD	ND	17	3.7
Endrin aldehyde	ND	17	1.7
4,4'-DDT	ND	17	2.4
alpha-Chlordane	ND	8.6	1.0
gamma-Chlordane	ND	8.6	1.2
Methoxychlor	ND	86	16
Toxaphene	ND	300	46

Surrogate	%REC	Limits
TCMX	DO	30-127
Decachlorobiphenyl	DO	33-136

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-13-16-N	Batch#:	260118
Lab ID:	300213-037	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	55	30-127
Decachlorobiphenyl	115	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-9-12-F	Batch#:	260118
Lab ID:	300213-038	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.20
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.087
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	92	30-127
Decachlorobiphenyl	104	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-9-12-N	Batch#:	260118
Lab ID:	300213-039	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.20
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.11
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	61	30-127
Decachlorobiphenyl	104	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-5-8-F	Batch#:	260118
Lab ID:	300213-040	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	2.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.20
beta-BHC	ND	1.7	0.41
gamma-BHC	ND	1.7	0.21
delta-BHC	ND	1.7	0.27
Heptachlor	ND	1.7	0.21
Aldrin	ND	1.7	0.20
Heptachlor epoxide	ND	1.7	0.22
Endosulfan I	ND	1.7	0.17
Dieldrin	ND	1.7	0.39
4,4'-DDE	ND	3.3	0.58
Endrin	ND	3.3	0.55
Endosulfan II	ND	3.3	0.50
Endosulfan sulfate	ND	3.3	0.51
4,4'-DDD	ND	3.3	0.72
Endrin aldehyde	ND	3.3	0.33
4,4'-DDT	ND	3.3	0.47
alpha-Chlordane	ND	1.7	0.20
gamma-Chlordane	ND	1.7	0.24
Methoxychlor	ND	17	3.1
Toxaphene	ND	59	9.0

Surrogate	%REC	Limits
TCMX	93	30-127
Decachlorobiphenyl	100	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-5-8-N	Batch#:	260118
Lab ID:	300213-041	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.7	0.29
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.36
Endrin aldehyde	ND	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	65	30-127
Decachlorobiphenyl	94	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-2-4-F	Batch#:	260118
Lab ID:	300213-042	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.099
beta-BHC	ND	0.85	0.21
gamma-BHC	ND	0.85	0.11
delta-BHC	ND	0.85	0.14
Heptachlor	ND	0.85	0.11
Aldrin	ND	0.85	0.10
Heptachlor epoxide	ND	0.85	0.11
Endosulfan I	ND	0.85	0.088
Dieldrin	ND	0.85	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.24
alpha-Chlordane	ND	0.85	0.10
gamma-Chlordane	ND	0.85	0.12
Methoxychlor	ND	8.5	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	88	30-127
Decachlorobiphenyl	99	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Field ID:	COMP-1-4-N	Batch#:	260118
Lab ID:	300213-043	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/05/18
Diln Fac:	1.000		

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.84	0.099
beta-BHC	ND	0.84	0.15
gamma-BHC	ND	0.84	0.11
delta-BHC	ND	0.84	0.14
Heptachlor	ND	0.84	0.11
Aldrin	ND	0.84	0.10
Heptachlor epoxide	ND	0.84	0.11
Endosulfan I	ND	0.84	0.087
Dieldrin	ND	0.84	0.20
4,4'-DDE	ND	1.6	0.29
Endrin	ND	1.6	0.28
Endosulfan II	ND	1.6	0.25
Endosulfan sulfate	ND	1.6	0.26
4,4'-DDD	ND	1.6	0.36
Endrin aldehyde	ND	1.6	0.17
4,4'-DDT	ND	1.6	0.23
alpha-Chlordane	ND	0.84	0.10
gamma-Chlordane	ND	0.84	0.12
Methoxychlor	ND	8.4	1.6
Toxaphene	ND	30	4.5

Surrogate	%REC	Limits
TCMX	74	30-127
Decachlorobiphenyl	73	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934353	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/04/18

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	0.85	0.23
beta-BHC	ND	0.85	0.22
gamma-BHC	ND	0.85	0.23
delta-BHC	ND	0.85	0.20
Heptachlor	ND	0.85	0.25
Aldrin	ND	0.85	0.25
Heptachlor epoxide	ND	0.85	0.20
Endosulfan I	ND	0.85	0.22
Dieldrin	ND	0.85	0.14
4,4'-DDE	ND	1.7	0.37
Endrin	ND	1.7	0.47
Endosulfan II	ND	1.7	0.40
Endosulfan sulfate	ND	1.7	0.49
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.37
4,4'-DDT	ND	1.7	0.43
alpha-Chlordane	ND	0.85	0.20
gamma-Chlordane	ND	0.85	0.27
Methoxychlor	ND	8.5	2.5
Toxaphene	ND	30	8.3

Surrogate	%REC	Limits
TCMX	104	30-127
Decachlorobiphenyl	118	33-136

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934354	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/04/18

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	6.667	7.929 # b	119	41-127
Heptachlor	6.667	7.638 b	115	33-134
Aldrin	6.667	7.183 b	108	39-130
Dieldrin	6.667	7.294 # b	109	44-139
Endrin	6.667	6.374 b	96	39-150
4,4'-DDT	6.667	7.318 # b	110	38-141

Surrogate	%REC	Limits
TCMX	114	30-127
Decachlorobiphenyl	117	33-136

#= CCV drift outside limits; average CCV drift within limits per method requirements
b= See narrative

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260118
Units:	ug/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18
Diln Fac:	1.000	Prepared:	06/01/18

Field ID: SB-1-1.5-N
Type: SAMPLE
Lab ID: 300213-029
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	144	26-153

Field ID: COMP-13-16-F
Type: SAMPLE
Lab ID: 300213-036
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.78

Surrogate	%REC	Limits
Decachlorobiphenyl	103	26-153

Field ID: COMP-9-12-F
Type: SAMPLE
Lab ID: 300213-038
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	139	26-153

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	260118
Units:	ug/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18
Diln Fac:	1.000	Prepared:	06/01/18

Field ID: COMP-5-8-F
Type: SAMPLE
Lab ID: 300213-040
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.5	3.2
Aroclor-1232	ND	4.8	1.5
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	126	26-153

Field ID: COMP-2-4-F
Type: SAMPLE
Lab ID: 300213-042
Analyzed: 06/02/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	76	26-153

Type: BLANK
Lab ID: QC934353
Analyzed: 06/01/18
Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.8	1.2
Aroclor-1221	ND	9.6	3.2
Aroclor-1232	ND	4.8	1.6
Aroclor-1242	ND	4.8	1.4
Aroclor-1248	ND	4.8	1.5
Aroclor-1254	ND	4.8	1.2
Aroclor-1260	ND	4.8	0.77

Surrogate	%REC	Limits
Decachlorobiphenyl	114	26-153

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934357	Batch#:	260118
Matrix:	Soil	Prepared:	06/01/18
Units:	ug/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	83.33	65.75	79	56-152
Aroclor-1260	83.33	54.27	65	52-165

Surrogate	%REC	Limits
Decachlorobiphenyl	106	26-153

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	260118
MSS Lab ID:	300236-002	Sampled:	05/25/18
Matrix:	Soil	Received:	05/31/18
Units:	ug/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934358

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<1.191	83.25	103.0	124	55-170
Aroclor-1260	<0.7785	83.25	91.45	110	44-177

Surrogate	%REC	Limits
Decachlorobiphenyl	113	26-153

Type: MSD Lab ID: QC934359

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	82.89	95.35	115	55-170	7	46
Aroclor-1260	82.89	95.11	115	44-177	4	41

Surrogate	%REC	Limits
Decachlorobiphenyl	100	26-153

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	SB-1-1.5-N	Basis:	as received
Lab ID:	300213-029	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.54 J	2.0	0.072	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	4.3	1.5	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	390	0.26	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.62	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.14 J	0.26	0.017	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	38	0.26	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	13	0.26	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	22	0.26	0.060	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.7	1.0	0.059	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	ND	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.30	0.26	0.027	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	40	0.26	0.045	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.53	0.095	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	40	0.26	0.055	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	46	1.1	0.22	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-13-16-F	Basis:	as received
Lab ID:	300213-036	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.77 J	2.0	0.075	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	6.5	1.5	0.073	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	250	0.27	0.033	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.51	0.11	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.22 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	40	0.27	0.054	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.063	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.3	1.0	0.062	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.018	0.018	0.0053	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.27 J	0.27	0.061	260140	06/04/18	06/05/18	EPA 3050B	EPA 6010B
Nickel	44	0.27	0.047	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.21	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.033	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.55	0.099	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.27	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	53	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-13-16-N	Basis:	as received
Lab ID:	300213-037	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.73 J	2.0	0.068	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	2.3	1.5	0.066	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	270	0.25	0.030	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.59	0.099	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.15 J	0.25	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	27	0.25	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	9.6	0.25	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	19	0.25	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.8	0.99	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.0087 J	0.017	0.0050	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.084 J	0.25	0.026	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	38	0.25	0.042	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.19	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.030	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.50	0.089	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	22	0.25	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	36	0.99	0.21	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-9-12-F	Basis:	as received
Lab ID:	300213-038	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.66 J	2.0	0.074	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.0	1.5	0.071	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	230	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.45	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.13 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.27	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	21	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.1	1.0	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.022	0.018	0.0054	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.31	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	42	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.097	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	37	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	50	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-9-12-N	Basis:	as received
Lab ID:	300213-039	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.62 J	1.9	0.064	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	4.4	1.4	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	210	0.23	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.093	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.11 J	0.23	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	35	0.23	0.045	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.23	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	21	0.23	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	7.5	0.93	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.011 J	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.49	0.23	0.024	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	38	0.23	0.040	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	1.9	0.17	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.46	0.083	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	35	0.23	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	45	0.93	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-5-8-F	Basis:	as received
Lab ID:	300213-040	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.71 J	2.0	0.073	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.4	1.5	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	260	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.57	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.15 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	39	0.27	0.052	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	12	0.27	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	9.0	1.0	0.060	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.035	0.017	0.0051	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.24 J	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	43	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.53	0.096	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	49	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-5-8-N	Basis:	as received
Lab ID:	300213-041	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.68 J	2.0	0.074	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	3.6	1.5	0.071	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	270	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.63	0.11	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.13 J	0.27	0.018	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.27	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	13	0.27	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.27	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	9.2	1.0	0.061	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.0088 J	0.015	0.0046	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.13 J	0.27	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.27	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.032	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.54	0.097	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	37	0.27	0.056	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	43	1.1	0.23	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-2-4-F	Basis:	as received
Lab ID:	300213-042	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.76 J	2.0	0.070	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.5	0.068	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	260	0.26	0.031	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.53	0.10	0.013	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.16 J	0.26	0.017	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	37	0.26	0.050	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.015	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	24	0.26	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	8.4	1.0	0.058	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.024	0.016	0.0049	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.27	0.26	0.027	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.26	0.044	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.19	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.031	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.51	0.092	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	41	0.26	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	49	1.0	0.22	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300213	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	COMP-1-4-N	Basis:	as received
Lab ID:	300213-043	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.50 J	1.9	0.065	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Arsenic	5.3	1.4	0.062	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Barium	230	0.24	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Beryllium	0.49	0.094	0.012	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cadmium	0.16 J	0.24	0.016	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Chromium	35	0.24	0.046	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Cobalt	11	0.24	0.014	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Copper	23	0.24	0.054	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Lead	7.7	0.94	0.053	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Mercury	0.028	0.017	0.0050	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.31	0.24	0.025	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Nickel	41	0.24	0.040	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Selenium	ND	1.9	0.18	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.028	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Thallium	ND	0.47	0.085	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Vanadium	38	0.24	0.049	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B
Zinc	48	0.94	0.20	260140	06/04/18	06/04/18	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934449	Batch#:	260140
Matrix:	Soil	Prepared:	06/04/18
Units:	mg/Kg	Analyzed:	06/04/18

Analyte	Result	RL	MDL
Antimony	ND	1.9	0.064
Arsenic	0.080 J	1.4	0.062
Barium	ND	0.23	0.028
Beryllium	ND	0.093	0.012
Cadmium	ND	0.23	0.015
Chromium	0.11 J	0.23	0.046
Cobalt	ND	0.23	0.014
Copper	ND	0.23	0.053
Lead	ND	0.93	0.053
Molybdenum	ND	0.23	0.024
Nickel	0.14 J	0.23	0.040
Selenium	ND	1.9	0.18
Silver	ND	0.23	0.028
Thallium	ND	0.47	0.084
Vanadium	ND	0.23	0.049
Zinc	1.9 b	0.93	0.20

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260140
Units:	mg/Kg	Prepared:	06/04/18
Diln Fac:	1.000	Analyzed:	06/04/18

Type: BS Lab ID: QC934450

Analyte	Spiked	Result	%REC	Limits
Antimony	50.00	50.99	102	80-120
Arsenic	50.00	51.16	102	80-120
Barium	50.00	51.72	103	80-120
Beryllium	25.00	25.31	101	80-120
Cadmium	50.00	49.51	99	80-120
Chromium	50.00	51.97	104	80-120
Cobalt	50.00	50.82	102	80-120
Copper	50.00	49.93	100	80-120
Lead	50.00	51.31	103	80-120
Molybdenum	50.00	51.49	103	80-120
Nickel	50.00	51.03	102	80-120
Selenium	50.00	50.01	100	80-120
Silver	5.000	4.967	99	80-120
Thallium	50.00	51.84	104	80-120
Vanadium	50.00	50.77	102	80-120
Zinc	50.00	52.05	104	80-120

Type: BSD Lab ID: QC934451

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	46.73	48.71	104	80-120	2	20
Arsenic	46.73	48.58	104	80-120	2	20
Barium	46.73	48.82	104	80-120	1	20
Beryllium	23.36	23.50	101	80-120	1	20
Cadmium	46.73	46.72	100	80-120	1	20
Chromium	46.73	49.13	105	80-120	1	20
Cobalt	46.73	48.04	103	80-120	1	20
Copper	46.73	46.99	101	80-120	1	20
Lead	46.73	48.60	104	80-120	1	20
Molybdenum	46.73	48.51	104	80-120	1	20
Nickel	46.73	48.34	103	80-120	1	20
Selenium	46.73	46.99	101	80-120	1	20
Silver	4.673	4.646	99	80-120	0	22
Thallium	46.73	49.13	105	80-120	1	20
Vanadium	46.73	47.73	102	80-120	1	20
Zinc	46.73	48.95	105	80-120	1	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	260140
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/04/18
Basis:	as received	Analyzed:	06/04/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934452

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.6988	48.54	18.22	36	1-120
Arsenic	3.137	48.54	53.84	104	71-123
Barium	83.37	48.54	129.8	96	48-155
Beryllium	0.2546	24.27	24.59	100	80-120
Cadmium	0.07160	48.54	49.81	102	78-120
Chromium	35.55	48.54	87.11	106	64-135
Cobalt	7.996	48.54	53.97	95	65-120
Copper	16.69	48.54	66.58	103	75-132
Lead	5.188	48.54	50.16	93	53-128
Molybdenum	0.3771	48.54	47.30	97	68-120
Nickel	45.79	48.54	90.58	92	56-128
Selenium	<0.1777	48.54	49.07	101	59-120
Silver	<0.02830	4.854	4.837	100	36-123
Thallium	<0.08483	48.54	45.23	93	55-120
Vanadium	31.26	48.54	81.46	103	73-129
Zinc	40.45	48.54	87.46	97	49-138

Type: MSD Lab ID: QC934453

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	48.54	16.74	33	1-120	8	50
Arsenic	48.54	54.95	107	71-123	2	27
Barium	48.54	138.1	113	48-155	6	41
Beryllium	24.27	24.60	100	80-120	0	20
Cadmium	48.54	50.09	103	78-120	1	21
Chromium	48.54	98.48	130	64-135	12	37
Cobalt	48.54	54.65	96	65-120	1	32
Copper	48.54	69.58	109	75-132	4	33
Lead	48.54	51.28	95	53-128	2	48
Molybdenum	48.54	47.53	97	68-120	0	23
Nickel	48.54	96.75	105	56-128	7	38
Selenium	48.54	49.28	102	59-120	0	30
Silver	4.854	4.883	101	36-123	1	47
Thallium	48.54	45.60	94	55-120	1	22
Vanadium	48.54	81.87	104	73-129	1	27
Zinc	48.54	94.93	112	49-138	8	39

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260191
Lab ID:	QC934650	Prepared:	06/05/18
Matrix:	Soil	Analyzed:	06/05/18
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0050

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260191
Matrix:	Soil	Prepared:	06/05/18
Units:	mg/Kg	Analyzed:	06/05/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC934651	0.1563	0.1483	95	80-126		
BSD	QC934652	0.1724	0.1641	95	80-126	0	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300213	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260191
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/05/18
Basis:	as received	Analyzed:	06/05/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC934653	0.02545	0.1563	0.1808	99	61-157		
MSD	QC934654		0.1695	0.1947	100	61-157	0	57

RPD= Relative Percent Difference

Laboratory Job Number 300213

Subcontracted Products

Forensic Analytical

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010635
Date Received: 06/01/18
Date Analyzed: 06/05/18
Date Printed: 06/05/18

Job ID/Site: 300213 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 5
Total Samples Analyzed: 5

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
SB-1-1.5-N	12039182	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-13-16-F	12039183	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-9-12-F	12039184	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

COMP-5-8-F	12039185	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire 100
Visual estimation percentage: **None Detected**
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

3777 Depot Road, Suite 409, Hayward, CA 94545 / Telephone: (510) 887-8828 (800) 827-FASI / Fax: (510) 887-42

Forensic Analytical LABORATORIES

Final Report

Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Enthalpy Analytical LLC
Tracy Babjar
2323 Fifth St.

Berkeley, CA 94710

Client ID: 1137
Report Number: N010635
Date Received: 06/01/18
Date Analyzed: 06/05/18
Date Printed: 06/05/18

Job ID/Site: 300213 - DUSD Promenade

PLM Report Number: N/A

FALI Job ID: 1137
Total Samples Submitted: 5
Total Samples Analyzed: 5

Sample Preparation and Analysis:

Samples were analyzed by the Air Resources Board's Method 435, Determination of Asbestos Content of Serpentine Aggregate. Samples were ground to 200 particle size in the laboratory. Approximately 1 pint was retained for analysis. Samples were prepared for observation according to the guidelines of Exception I and Exception II as defined by the 435 Method. Samples which contained less than 10% asbestos were prepared for observation according to the point count technique as defined by the 435 Method. This analysis was performed with a standard cross-hair reticle.

Sample ID	Lab Number	Layer Description
COMP-2-4-F	12039186	**Brown Soil**

Visual Estimation Results:

Matrix percentage of entire	100
Visual estimation percentage:	**None Detected**
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

Tad Thrower

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 300214
ANALYTICAL REPORT

Terraphase Engineering	Project : 0098.003.001
1404 Franklin Street	Location : DUSD Promenade
Oakland, CA 94612	Level : II

Sample ID	Lab ID
WC-SOIL-053018	300214-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/06/2018

Mike Dahlquist
Project Manager
mike.dahlquist@enthalpy.com
(510) 204-2225 Ext 13101

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**300214**
Client:	**Terraphase Engineering**
Project:	**0098.003.001**
Location:	**DUSD Promenade**
Request Date:	**05/30/18**
Samples Received:	**05/30/18**

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 05/30/18. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High recoveries were observed for 1,1-dichloroethene in the MS/MSD for batch 260115; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
High recovery was observed for barium in the MSD of WC-SOIL-053018 (lab # 300214-001); the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody #

C&T LOGIN # 306214

Project No: 0098.003.001
Project Name: DUSD Promenade
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ☒ Standard

Sampler: Seth Stroika
Report To: Daren Roth
Company: Terraphase
Telephone: (925) 719-5496
Email: Daren.Roth@terraphase.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST: Ti He 22 Metals (6010)	TPH g,d,mo (8015)	VOCs (8260)
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None			
	WC-SOIL-053018	5/30/18	1300		X			1					X	X	X	X

Notes:

SAMPLE RECEIPT
☒ Intact
☒ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:
DATE: 5/30/18 TIME: 1600
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 5/31 TIME: 8:20
DATE: TIME:
DATE: TIME:

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 300214 Client: Terraphase

Date Received: 5.30.18 Project: 0098.003.001

Section 2: Samples received in a cooler? ☑ Yes, how many? 4 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ A, or ☐ B

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 5-30-18 By (print) KP (sign) KP

Shipping info (if applicable) _____

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Section 3: ***Important*** **: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used : ☐ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☑ Yes, ☐ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ A ☑ B

Cooler Temp (°C): #1: 2.3, #2: 1.6, #3: 1.1, #4: 3.8, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	✓		
Were Method 5035 sampling containers present?		✓	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	✓		
Are there any missing / extra samples?		✓	
Are samples in the appropriate containers for indicated tests?	✓		
Are sample labels present, in good condition and complete?	✓		
Does the container count match the COC?	✓		
Do the sample labels agree with custody papers?	✓		
Was sufficient amount of sample sent for tests requested?	✓		
Did you change the hold time in LIMS for unpreserved VOAs?			✓
Did you change the hold time in LIMS for preserved terracores?			✓
Are bubbles > 6mm absent in VOA samples?			✓
Was the client contacted concerning this sample delivery?		✓	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			✓
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			

pH strip lot# _____, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged in 5/31/18 **By (print)** VC **(sign)** VC

Date Labeled 5/31/18 **By (print)** TKy **(sign)** TKy

ENTHALPY ANALYTICAL

Detections Summary for 300214

Results for any subcontracted analyses are not included in this summary.

Client : Terraphase Engineering
Project : 0098.003.001
Location : DUSD Promenade

Client Sample ID : WC-SOIL-053018 Laboratory Sample ID : 300214-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Motor Oil C24-C36	7.6	Z	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	5.9		1.4	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	190		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.092	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.28		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	22		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	9.6		0.92	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Molybdenum	0.48		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.0		1.8	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	48		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	51		0.92	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	WC-SOIL-053018	Diln Fac:	1.000
Matrix:	Soil	Batch#:	260087
Units:	mg/Kg	Sampled:	05/30/18
Basis:	as received	Received:	05/30/18

Type: SAMPLE Analyzed: 06/01/18
Lab ID: 300214-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-136

Type: BLANK Analyzed: 05/31/18
Lab ID: QC934227

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	65-136

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934224	Batch#:	260087
Matrix:	Soil	Analyzed:	05/31/18
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.128	113	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-136

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	300233-001	Batch#:	260087
Matrix:	Soil	Sampled:	05/31/18
Units:	mg/Kg	Received:	05/31/18
Basis:	as received	Analyzed:	05/31/18

Type: MS Lab ID: QC934225

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.7243	10.20	7.821	70	52-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	65-136

Type: MSD Lab ID: QC934226

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.64	10.02	87	52-120	21	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	65-136

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	WC-SOIL-053018	Batch#:	260102
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18
Basis:	as received	Prepared:	06/01/18
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 06/04/18
Lab ID: 300214-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	7.6 Z	5.0

Surrogate	%REC	Limits
o-Terphenyl	116	55-133

Type: BLANK Analyzed: 06/01/18
Lab ID: QC934277

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	92	55-133

Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934278	Batch#:	260102
Matrix:	Soil	Prepared:	06/01/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	44.99	90	51-137

Surrogate	%REC	Limits
o-Terphenyl	88	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3550C
Project#:	0098.003.001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	260102
MSS Lab ID:	300217-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/31/18
Units:	mg/Kg	Prepared:	06/01/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	2.000		

Type: MS Lab ID: QC934279

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	6.964	49.70	46.91	80	36-143

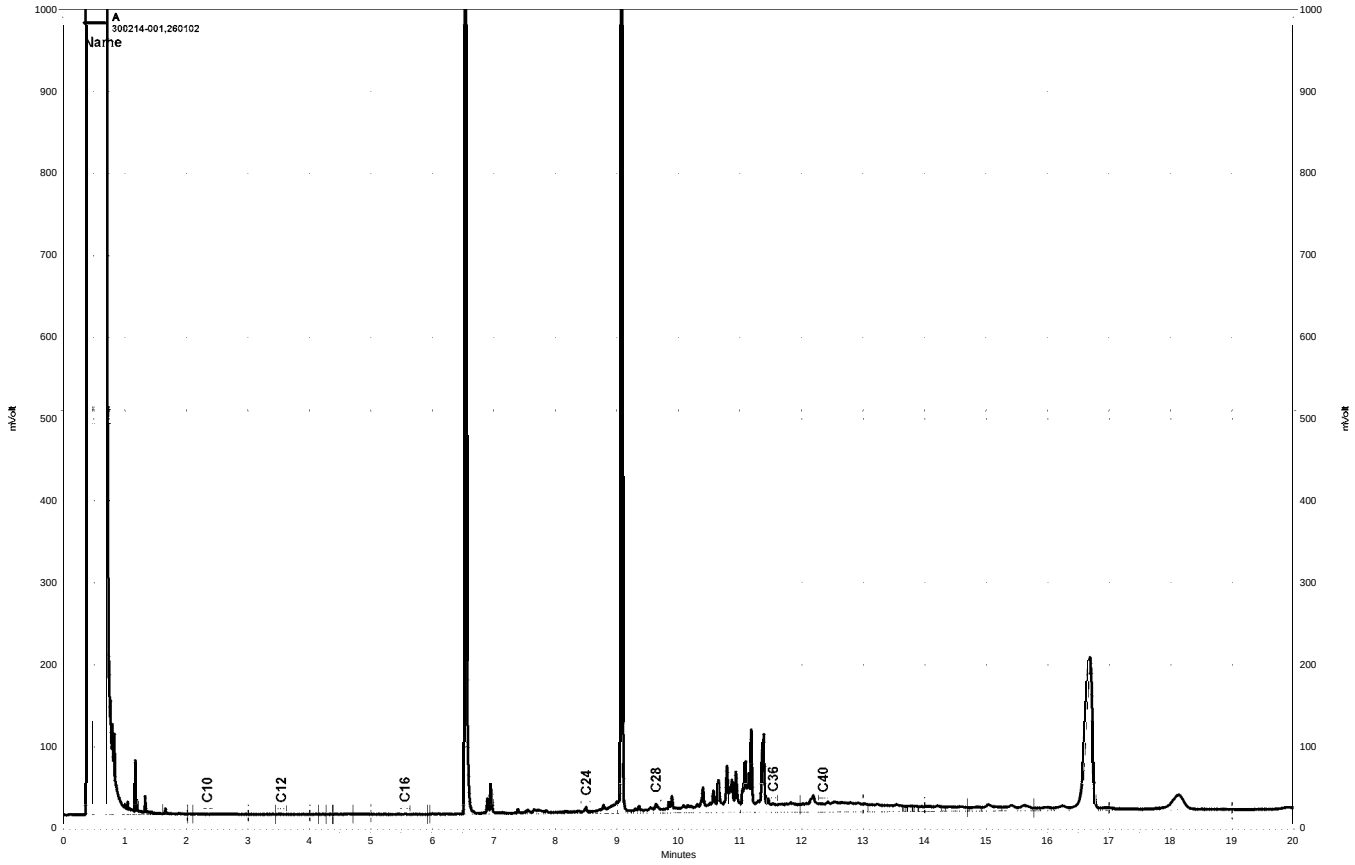
Surrogate	%REC	Limits
o-Terphenyl	84	55-133

Type: MSD Lab ID: QC934280

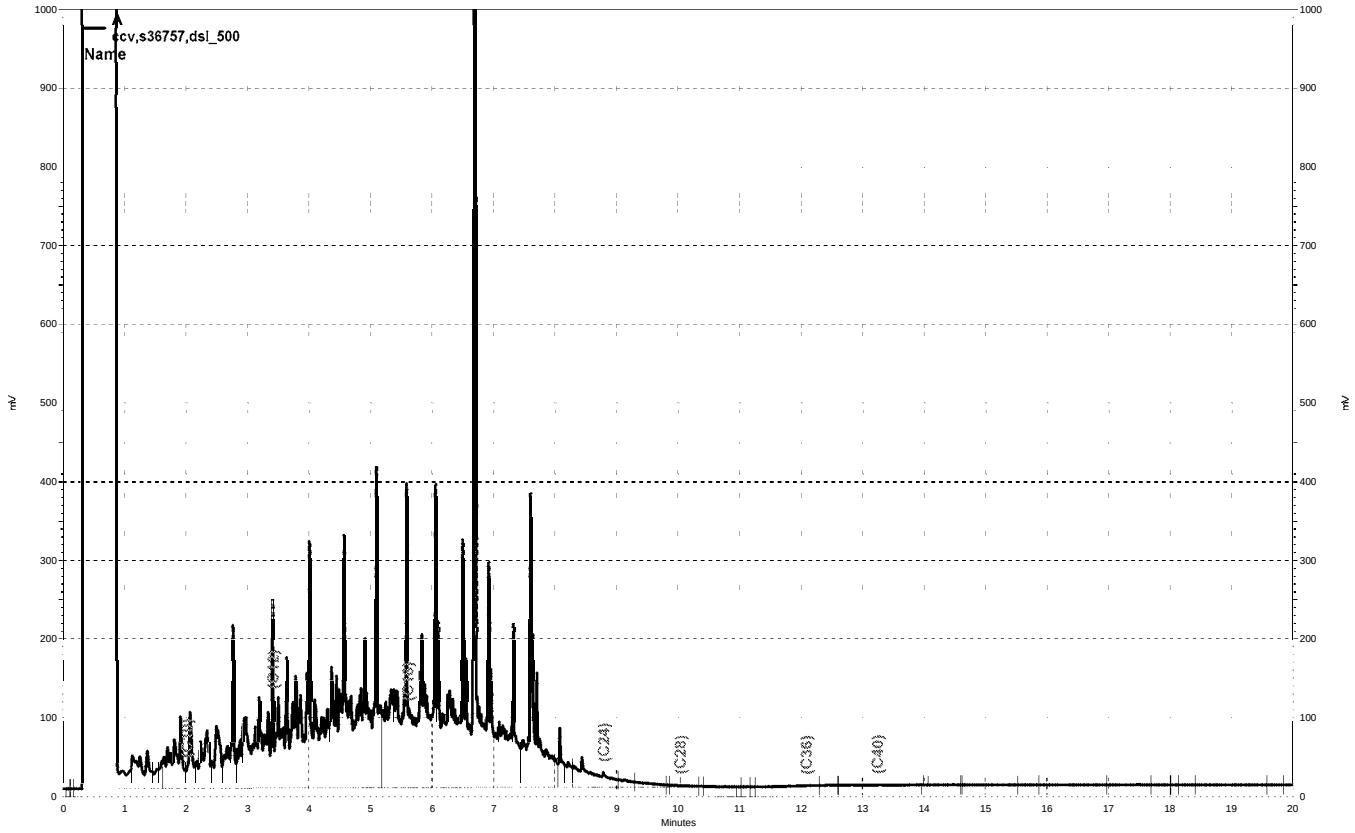
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.02	49.90	86	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl	87	55-133

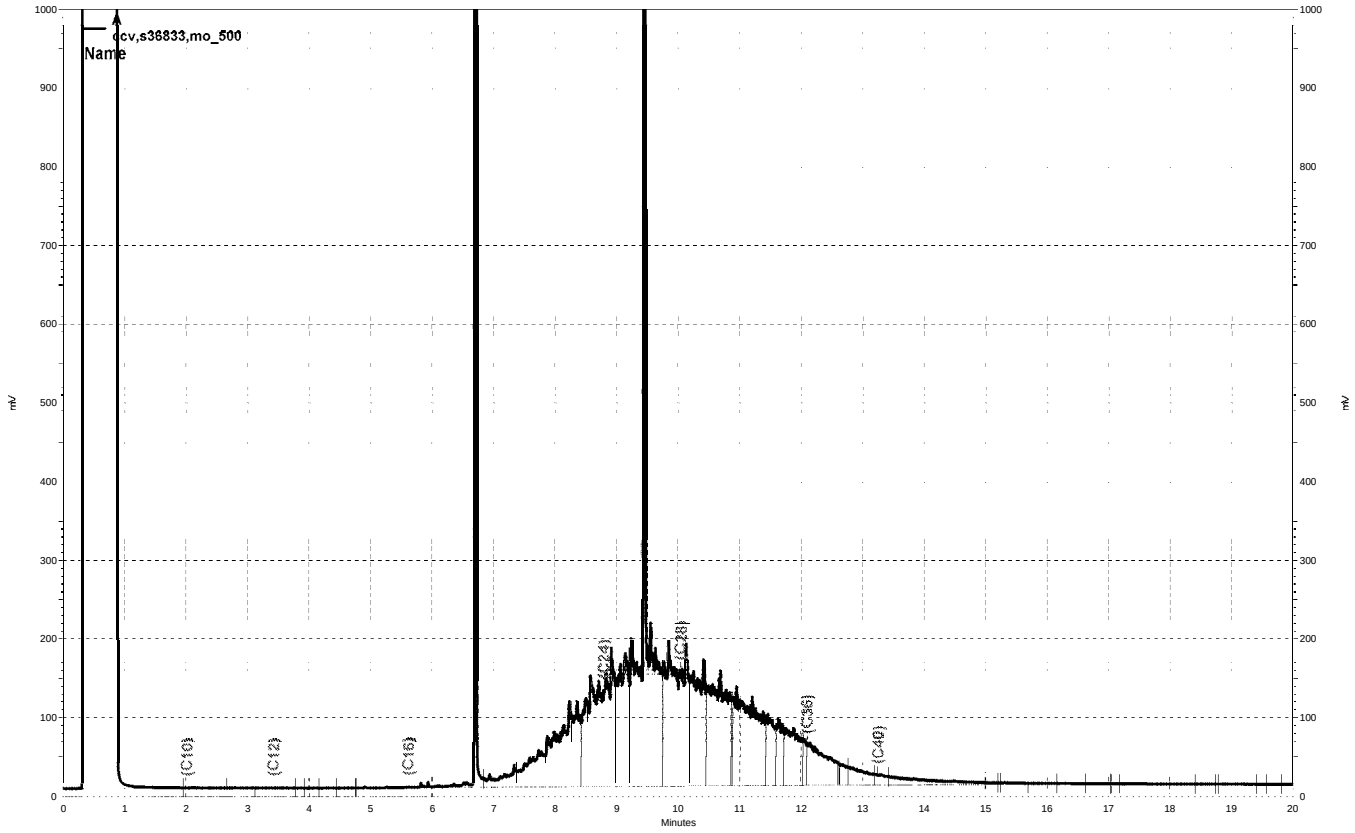
RPD= Relative Percent Difference



\\kraken\gdrive\ezchrom\Projects\GC26\data\2018\155a010, A



\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\152a003, A



\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2018\152a006, A

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	WC-SOIL-053018	Diln Fac:	0.9276
Lab ID:	300214-001	Batch#:	260115
Matrix:	Soil	Sampled:	05/30/18
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Analyzed:	06/01/18

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	WC-SOIL-053018	Diln Fac:	0.9276
Lab ID:	300214-001	Batch#:	260115
Matrix:	Soil	Sampled:	05/30/18
Units:	ug/Kg	Received:	05/30/18
Basis:	as received	Analyzed:	06/01/18

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	107	76-132
1,2-Dichloroethane-d4	133	74-149
Toluene-d8	103	80-120
Bromofluorobenzene	133	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC934338	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.88	104	68-132
Benzene	25.00	25.75	103	75-123
Trichloroethene	25.00	25.47	102	75-120
Toluene	25.00	25.84	103	76-120
Chlorobenzene	25.00	24.53	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	119	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	111	78-134

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934339	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934339	Batch#:	260115
Matrix:	Soil	Analyzed:	06/01/18
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	123	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	131	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 5030B
Project#:	0098.003.001	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	260115
MSS Lab ID:	300236-001	Sampled:	05/25/18
Matrix:	Soil	Received:	05/31/18
Units:	ug/Kg	Analyzed:	06/02/18
Basis:	as received		

Type: MS Diln Fac: 0.9363
Lab ID: QC934351

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4053	46.82	63.45	136 *	64-131
Benzene	<0.4510	46.82	50.59	108	66-122
Trichloroethene	<0.4489	46.82	51.53	110	57-133
Toluene	<0.4394	46.82	49.19	105	61-120
Chlorobenzene	<0.6383	46.82	44.94	96	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	76-132
1,2-Dichloroethane-d4	121	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	104	78-134

Type: MSD Diln Fac: 0.8881
Lab ID: QC934352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	44.41	63.14	142 *	64-131	5	32
Benzene	44.41	50.89	115	66-122	6	32
Trichloroethene	44.41	52.93	119	57-133	8	34
Toluene	44.41	49.79	112	61-120	6	32
Chlorobenzene	44.41	45.23	102	56-120	6	33

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	122	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	105	78-134

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California Title 22 Metals

Lab #:	300214	Project#:	0098.003.001
Client:	Terraphase Engineering	Location:	DUSD Promenade
Field ID:	WC-SOIL-053018	Basis:	as received
Lab ID:	300214-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/18
Units:	mg/Kg	Received:	05/30/18

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	1.8	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Arsenic	5.9	1.4	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Barium	190	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Beryllium	0.56	0.092	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Cadmium	0.28	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Chromium	39	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Cobalt	10	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Copper	22	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Lead	9.6	0.92	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Mercury	ND	0.017	260191	06/05/18	06/05/18	METHOD	EPA 7471A
Molybdenum	0.48	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Nickel	41	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Selenium	2.0	1.8	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Silver	ND	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Thallium	ND	0.46	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Vanadium	48	0.23	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B
Zinc	51	0.92	260082	05/31/18	06/01/18	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC934197	Batch#:	260082
Matrix:	Soil	Prepared:	05/31/18
Units:	mg/Kg	Analyzed:	06/01/18

Analyte	Result	RL
Antimony	ND	2.0
Arsenic	ND	1.5
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	1.0
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	2.0
Silver	ND	0.25
Thallium	ND	0.51
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	260082
Units:	mg/Kg	Prepared:	05/31/18
Diln Fac:	1.000	Analyzed:	06/01/18

Type: BS Lab ID: QC934198

Analyte	Spiked	Result	%REC	Limits
Antimony	53.19	56.17	106	80-120
Arsenic	53.19	56.97	107	80-120
Barium	53.19	53.15	100	80-120
Beryllium	26.60	26.79	101	80-120
Cadmium	53.19	52.95	100	80-120
Chromium	53.19	55.79	105	80-120
Cobalt	53.19	54.26	102	80-120
Copper	53.19	54.40	102	80-120
Lead	53.19	53.00	100	80-120
Molybdenum	53.19	51.65	97	80-120
Nickel	53.19	51.21	96	80-120
Selenium	53.19	55.35	104	80-120
Silver	5.319	5.330	100	80-120
Thallium	53.19	57.49	108	80-120
Vanadium	53.19	56.53	106	80-120
Zinc	53.19	54.89	103	80-120

Type: BSD Lab ID: QC934199

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.00	53.09	106	80-120	1	20
Arsenic	50.00	53.65	107	80-120	0	20
Barium	50.00	50.23	100	80-120	1	20
Beryllium	25.00	25.63	103	80-120	2	20
Cadmium	50.00	50.48	101	80-120	1	20
Chromium	50.00	53.01	106	80-120	1	20
Cobalt	50.00	52.02	104	80-120	2	20
Copper	50.00	51.35	103	80-120	0	20
Lead	50.00	50.97	102	80-120	2	20
Molybdenum	50.00	49.69	99	80-120	2	20
Nickel	50.00	48.83	98	80-120	1	20
Selenium	50.00	51.87	104	80-120	0	20
Silver	5.000	5.040	101	80-120	1	22
Thallium	50.00	54.15	108	80-120	0	20
Vanadium	50.00	53.98	108	80-120	2	20
Zinc	50.00	54.71	109	80-120	6	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	EPA 3050B
Project#:	0098.003.001	Analysis:	EPA 6010B
Field ID:	WC-SOIL-053018	Batch#:	260082
MSS Lab ID:	300214-001	Sampled:	05/30/18
Matrix:	Soil	Received:	05/30/18
Units:	mg/Kg	Prepared:	05/31/18
Basis:	as received	Analyzed:	06/01/18
Diln Fac:	1.000		

Type: MS Lab ID: QC934200

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1208	53.76	14.81	28	1-120
Arsenic	5.906	53.76	62.70	106	71-123
Barium	188.1	53.76	260.7	135	48-155
Beryllium	0.5599	26.88	27.17	99	80-120
Cadmium	0.2804	53.76	55.03	102	78-120
Chromium	39.23	53.76	98.56	110	64-135
Cobalt	10.30	53.76	60.78	94	65-120
Copper	22.08	53.76	80.85	109	75-132
Lead	9.582	53.76	62.84	99	53-128
Molybdenum	0.4770	53.76	43.61	80	68-120
Nickel	41.01	53.76	89.19	90	56-128
Selenium	1.977	53.76	57.01	102	59-120
Silver	<0.02752	5.376	5.639	105	36-123
Thallium	<0.1382	53.76	49.41	92	55-120
Vanadium	48.07	53.76	112.3	119	73-129
Zinc	50.52	53.76	105.7	103	49-138

Type: MSD Lab ID: QC934201

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	51.55	13.55	26	1-120	5	50
Arsenic	51.55	60.36	106	71-123	0	27
Barium	51.55	277.7	174 *	48-155	7	41
Beryllium	25.77	25.99	99	80-120	0	20
Cadmium	51.55	53.12	103	78-120	1	21
Chromium	51.55	96.12	110	64-135	0	37
Cobalt	51.55	59.04	95	65-120	1	32
Copper	51.55	79.41	111	75-132	1	33
Lead	51.55	60.51	99	53-128	0	48
Molybdenum	51.55	40.95	79	68-120	2	23
Nickel	51.55	87.79	91	56-128	1	38
Selenium	51.55	54.03	101	59-120	1	30
Silver	5.155	5.290	103	36-123	2	47
Thallium	51.55	47.26	92	55-120	0	22
Vanadium	51.55	109.2	119	73-129	1	27
Zinc	51.55	105.9	107	49-138	2	39

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	260191
Lab ID:	QC934650	Prepared:	06/05/18
Matrix:	Soil	Analyzed:	06/05/18
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	260191
Matrix:	Soil	Prepared:	06/05/18
Units:	mg/Kg	Analyzed:	06/05/18
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC934651	0.1563	0.1483	95	80-126		
BSD	QC934652	0.1724	0.1641	95	80-126	0	45

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California Title 22 Metals

Lab #:	300214	Location:	DUSD Promenade
Client:	Terraphase Engineering	Prep:	METHOD
Project#:	0098.003.001	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	260191
MSS Lab ID:	300252-001	Sampled:	05/30/18
Matrix:	Soil	Received:	06/01/18
Units:	mg/Kg	Prepared:	06/05/18
Basis:	as received	Analyzed:	06/05/18

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC934653	0.02545	0.1563	0.1808	99	61-157		
MSD	QC934654		0.1695	0.1947	100	61-157	0	57

RPD= Relative Percent Difference

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S. #40
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Livermore Municipal Airport
Alameda County School File
Alameda County

Making Conservation a California Way of Life.

August 22, 2018

Mr. John Gordon, Field Consultant
School Facilities Planning Division
California Department of Education
1430 N Street, Suite 1201
Sacramento, CA 95814-5901

Dear Mr. Gordon:

In response to your request of July 9, 2018, and Section 17215 of the California Education Code (EC), the California Department of Transportation (Caltrans), Division of Aeronautics, has analyzed the proposed Promenade High School site. The proposed school site is located north of Dublin Boulevard, south of Central Parkway, and east of Chancery Lane in Dublin near the Livermore Municipal Airport (Airport). The proposed school site is located approximately 10,775 feet northwest of the approach end of Runway 7L.

Pursuant to EC section 17215, our analysis was conducted in accordance with the Title 21, California Code of Regulations (CCR) section 3570. Caltrans also considered the Alameda County Airport Land Use Compatibility Plan (ALUCP), the California Airport Land Use Planning Handbook (Handbook), a Caltrans flight to determine where the proposed school site is located relative to aircraft flight paths and aircraft generated noise, our files, and other publications relating to aircraft operations at the Airport. The Alameda County Airport Land Use Commission and the Airport's management were given an opportunity to comment, and their comments were considered.

The Livermore Municipal Airport is designated by the Federal Aviation Administration (FAA) as a Reliever Airport that serves to relieve the three most congested Bay Area air carrier airports (Oakland, San Francisco, and San Jose). The Airport is the twelfth busiest airport in California with approximately 150,000 operations per year with two parallel runways designed to accommodate nearly all types of general aviation aircraft. Runway 7L/25R is 5,253 feet long, and Runway 7R/25L is 2,699 feet long. The proposed school site location is closest to Runway 7L/25R.

The CCR runway criteria was applied to the existing Runway 7L/25R, and it was found that the proposed school site is located outside of all CCR Safety Zones. According to the ALUCP the proposed school site falls inside Safety Zone 7, identified as the Airport Influence Area (AIA). The ALUCP guidance states that an avigation easement, restricting the heights of structures or trees, should be dedicated to the city of Livermore as a condition for any discretionary local approval for any property within the AIA.

Additionally, the ALUCP provides a list of potential flight hazards associated with land uses that should be avoided in the AIA, unless the uses are consistent with FAA rules, regulations, and guidelines. Specific characteristics to be avoided are: glare or distracting lights that could be

mistaken for airport lights, sources of dust, heat, steam, smoke that may impair pilot vision, sources of steam or other emissions that may cause thermal plumes that generate turbulence within the flight paths, sources of electrical interference with aircraft communication or navigation, and features that create an increased attraction for wildlife, such as certain recreational or agricultural uses that attract large flocks of birds.

Airport management provided written comments and concerns about the proposed school site stating in part: "The proposed school site is approximately two miles from the Airport and close to the extended centerline for Runway 25R/7L. This, and the school's location under the Airport traffic pattern, may result in regular aircraft overflights at relatively low altitude. Some staff members and students may find the noise generated by the aircraft to be objectionable."

On August 8, 2018, Caltrans conducted a flight inspection of the proposed school site. Our flight evaluation revealed the proposed site will be subject to periodic over-flights from general aviation aircraft and corporate jet aircraft departing from and arriving at the Airport from the northwest at an altitude of approximately 1,000 to 1,500 feet above the ground level. Inspection of the traffic pattern for Runway 7L/25R demonstrated that the proposed school is less than one quarter mile from the crosswind leg to the downwind leg of the traffic pattern for Runway 25R. As such, it may be exposed to individual aircraft noise events that could reach a level that could be disruptive.

Although the proposed school site is outside the 55 decibel Community Noise Equivalent Level aircraft noise contour, the potential exists for persons at this site to be annoyed by individual aircraft noise events. Therefore, if this site is selected, we recommend that the school include provisions for buildings to have air circulation or air conditioning, so that all windows and doors can remain closed. The school should also include acoustical treatment in the design and construction of any buildings for use by students, faculty, or administrators to reduce individual irritation from aircraft noise or disruption to instruction.

In conclusion, the school site is within the AIA according to the ALUCP. As such, the potential flight hazards (described above), associated with land use in the AIA should be avoided. Additionally, an avigation easement restricting the heights of structures or trees should be dedicated to the city of Livermore. While there is generally a low risk of an accident occurring at the proposed site, the potential consequences of any accident could be severe. Caltrans cannot guarantee the safety of this or any other site. However, based upon our evaluation of existing conditions and planned development, Caltrans has no objections to the proposed school site. If this proposed site is approved, the site must be occupied by August 20, 2023, or another site evaluation by Caltrans is required prior to occupation.

This Caltrans recommendation is furnished pursuant to EC section 17215. This recommendation does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any federal, State, or local government body, nor does it constitute Caltrans approval relative to the California Public Utilities Code (PUC), the CCR, and other State statutory or regulatory codes.

Additionally, PUC sections 21670 through 21679.5 establish a mandated process to implement airport land use laws throughout the State. Pertinent portions of PUC section 21670(a) state that it is "in the public interest to provide for the orderly development of each public use airport in this state and . . . to prevent the creation of new noise and safety problems." These sections require the creation of ALUCs within the counties, set forth the commissions' powers and duties, and call for the adoption of land use measures around the vicinity of public-use airports. Section 21670(f) specifically states that school districts are included among the local agencies that are subject to airport land use laws and other requirements of the PUC. School site acquisitions pursuant to EC section 17215 must comply with the above PUC sections.

Sincerely,

Original Signed by

DONALD E. HAUG
Aviation Safety Officer

bc: Jean Finney, Deputy District Director, District 4

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U:\\z\SchlEval\AlamedaCnty_LivermoreMuniArpt_PromenadeHighSchl_SchlEval_082218

August 2018 | Pipeline Safety Hazard Assessment

Proposed Promenade School Site

Dublin Unified School District

Prepared for:

Dublin Unified School District
Contact: Joe Sorrera, Assistant Superintendent
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Dublin, CA 94568
925.828.2551



Prepared by:

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Project Number DBSD-01

PLACEWORKS

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1. Introduction

1.1 PURPOSE

This report presents the results of a Pipeline Safety Hazard Assessment (PSHA) prepared for the Dublin Unified School District (District) for the proposed Promenade School Site. The PSHA evaluates potential exposure and fatality risk to staff and students from underground or at-grade natural gas or hazardous liquid pipeline releases and the potential for flooding from high volume water pipelines.

1.2 SCHOOL SITE LOCATION

The project site (site) is a vacant lot located at the southeast corner of Central Parkway and Chancery Lane in the City of Dublin, Alameda County, California (Assessor's Parcel Numbers [APNs] 985-78-2, -3, -4, -5, -6 and -7). The approximate 23-acre site is bounded on the north by Central Parkway, on the east and west by single family residences, and to the south by Dublin Boulevard (Figure 1).

1.3 REGULATORY REQUIREMENTS

Under Education Code Section 17251, the California Department of Education (CDE) has authority to approve acquisition of proposed school sites. The school district must obtain CDE approval for sites to receive state funds under the state's School Facilities Program administered by the State Allocation Board. CDE standards and regulations for this process are presented in California Code of Regulations (CCR), Title 5, Sections 14010, 14011, and 14012. Information on assessing safety hazard related to pipelines is discussed in Section 14010 (h):

> *The site shall not be located near an above-ground water or fuel storage tank or within 1,500 feet of the easement of an above-ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission.*

By CDE policy, "any pipeline that has a maximum operating capacity of at least 80 pounds per square inch (psi), including but not limited to those that carry natural gas, liquid petroleum, fuels or hazardous chemicals, shall be included in a pipeline survey, regardless if the pipeline is classified as a transmission or distribution line. Pipelines located within a railroad or other easement or those pipelines serving gas and oil well sites and fields shall also be included".

Additional information on pipelines is contained in CDE's School Site Selection and Approval Guide. This document states that CDE will not approve a proposed school site if the site "contains one or more pipelines, situated underground or aboveground, which carries hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line which is used only to supply natural gas to that school or neighborhood" (CDE, 2000).

The CDE's School Site Selection and Approval Guide also contain provisions for evaluating high-pressure water pipelines:

> *To ensure the protection of students, faculty, and school property if the proposed school site is within 1,500 feet of the easement of an aboveground or underground pipeline that can pose a safety hazard, the school district should obtain the following information from the pipeline owner and operator:*
>
> - *Pipeline alignment, size, type of pipe, depth of cover*
> - *Operating water pressures in pipelines near the proposed school site*
> - *Estimated volume of water that might be released from the pipeline should a rupture occur on the site*
> - *Owner's assessment of the structural condition of the pipeline.*

1.4 REPORT OBJECTIVES

To meet the requirements of CCR Title 5 Sections 14010 (d) and (h) and CDE's policy on pipelines, this PSHA is designed to meet the following objectives:

- Identify all natural gas and hazardous liquid pipelines located within 1,500 feet of proposed or existing school sites
- Complete a Stage 1, Stage 2, or Stage 3 risk analysis for each identified pipeline to predict fatality risk
- Where appropriate, identify and develop mitigation measures to reduce predicted fatality risk to a level below an established significance threshold
- Identify all high pressure/high volume water pipelines within 1,500 feet of the proposed school site and evaluate the potential for flooding
- Where appropriate, identify and develop mitigation measures to reduce flooding impacts to acceptable levels.

1.5 ASSESSMENT METHODLOGY

The CDE has developed and published guidance procedures for evaluating safety hazards associated with natural gas and hazardous liquid releases from underground and aboveground pipelines. A detailed description of the procedures is provided in the Guidance Protocol for School Site Pipeline Risk Analysis (CDE, 2007). These procedures were used in conducting the PSHA.

The PSHA process is composed of two steps. The first step (Stage 1) is a risk screening analysis (RSA), based on the distance of the pipeline(s) from the school site and operating characteristics of the pipeline(s). If the screening criteria are met, the level of risk is acceptable and no further analysis is required.

If the screening criteria are not met, then the second step of the PSHA process is completion of a Stage 2 quantitative risk analysis (QRA). The Stage 2 risk analysis considers pipeline accident rates, school dimensions, conditional probabilities for ignition, school attendance time, and fatality probabilities for different exposure scenarios (pool fire, flash fire, and explosion) to estimate individual risk (IR). Pipelines

located within 50 feet of a school site also are subject to a Stage 3 (more comprehensive) analysis to verify the results of the Stage 2 evaluation.

Individual fatality risk is compared to the significance threshold level of one in one million (1.0×10^{-6}; individual risk criterion, IRC). If the estimated risk is less than one in one million, then no significant safety hazard is predicted for the school site. If the estimated risk is greater than one in one million, mitigation measures are required to reduce risk to within acceptable limits or a more detailed Stage 3 risk analysis can be conducted.

In addition to individual risk, an estimate of the potential risk for the population present at the school site is determined by calculating the total individual risk (TIR) indicator ratio and the population risk indicator. These parameters add an additional perspective by taking into account the site configuration and school population. There is no significance threshold established by the CDE for this evaluation, and this does not replace the IR estimate as the primary decision criteria for evaluating risk at the school site. However, it does provide additional information regarding the magnitude of risk at the school.

The CDE also has developed risk analysis procedures for evaluating flooding associated with releases from large diameter water pipelines, as described in CDE's Guidance Protocol for School Site Pipeline Risk Analysis (CDE, 2007). A safety issue associated with large diameter water pipelines is the potential for flooding. Also, releases from underground water pipelines can cause subterranean erosion of saturated soil, leading to subsidence or formation of a sinkhole. The most likely cause of failure is a large magnitude earthquake and associated strong ground shaking.

Although no specific criteria have been established by the CDE as a threshold of significance for flooding at a school site, a water depth of 12 inches or greater is a trigger that could warrant further evaluation (CDE, 2007).

2. Hazard Assessment

2.1 PIPELINE LOCATION AND OPERATIONAL DATA

There is one natural gas transmission pipeline within 1,500 feet of the school site. No natural gas distribution pipelines or hazardous liquid pipelines were identified within the 1,500-foot radius (National Pipeline Mapping System, 2018). The location of the pipeline is shown on Figure 1.

Natural gas pipeline data was obtained from Pacific Gas & Electric Company (PG&E, 2018). A 16-inch natural gas transmission pipeline (designated as Distribution Feeder Main 2408-05) is located approximately 1,460 feet south of the project site in the right-of-way immediately south of Interstate 580. The pipeline was installed in 1970 and has a maximum allowable operating pressure (MAOP) of 497 pounds per square inch (psig) for the segment nearest the site. The pipeline is constructed of steel and has a range of wall thickness between 0.219 inch and 0.375 inch. PG&E pipelines are wrapped with tape or extru-coat plastic and equipped with an induced current cathodic protection system to minimize corrosion, and are buried at least 3 feet below ground surface (bgs). The pipeline is patrolled quarterly and leak surveys are conducted annually. Also, the cathodic protection rectifiers are inspected annually and the pipe-to-soil potentials are measured six times per year. The CDE default pipeline length of 5 miles was conservatively used in this analysis because the distance between isolation valves was not provided by PG&E.

The PG&E pipeline is inspected in accordance with Federal (49 Code of Federal Regulations [CFR] 192) and State (California Public Utilities Commission [CPUC] General Order 112-E) regulations. Under Federal and State regulations, the class designation of a pipeline is based on the types of buildings, population density, and level of human activity near the segment of pipeline, and is used to determine the pipeline's MAOP. Pipelines are rated from Class 1 to Class 4, based on increasing levels of population. Class 3 is defined as any location within 220 yards of the pipeline that contains 46 or more dwellings or an area where the pipeline lies within 100 yards of a building or a small, well-defined outdoor area, such as playgrounds, recreational areas, outdoor theaters, or places of assembly, that are occupied for a specified number of days per year. The allowable MAOP for pipelines in a Class 3 location is no more than 50% of the pipeline's specified minimum yield strength (SMYS). A Class 3 location also requires more stringent regulations regarding distances between sectionalizing valves, pipe wall thickness, hydrostatic test pressures, inspection and testing of welds, and frequency of pipeline patrols and leak surveys. The 16-inch transmission line is classified as Class 3 at this location.

Based on plans provided from the Dublin San Ramon Services District (DSRSD), there are several high volume (≥12 inch diameter) water pipelines within 1,500 feet of the project site, as summarized in Table 1.

Table 1 Water Pipelines

Pipeline Diameter	Pipeline Location	Agency
12-inch	Gleason Drive	Dublin San Ramon Services District (DSRSD)
12-inch	Grafton Street	DSRSD
12-inch	Central Parkway	DSRSD
12-inch	Brannigan Street	DSRSD
20-inch	Dublin Boulevard	DSRSD
16-inch	Dublin Boulevard	DSRSD
14-inch	Dublin Boulevard, south driveway entrance to site	DSRSD
14-inch	Dublin Boulevard, east of Keegan Street	DSRSD
12-inch	Grafton Street, south of Dublin Boulevard	DSRSD
14-inch	Gleason Drive – Recycled Water Pipeline	DSRSD
14-inch	Grafton Street – Recycled Water Pipeline	DSRSD
12-inch	Central Parkway - Recycled Water Pipeline	DSRSD
20-inch	Dublin Boulevard - Recycled Water Pipeline	DSRSD
12-inch	Dublin Boulevard - Recycled Water Pipeline	DSRSD

The locations of the water pipelines are shown on Figure 1, and an evaluation of flooding potential with respect to the school site is provided in Section 2.6.

2.2 LAND USE AND TERRAIN

Surrounding land uses consist of existing residential, recreational, and retail uses. There are several buildings or structures that could partially block or buffer vapor releases or jet flames if an incident were to occur involving the natural gas pipeline south of the site. Potential ignition sources may include motor vehicles traveling along the adjacent streets, traffic signals, overhead high voltage electrical lines, and residential gas heating units.

2.3 RELEASE AND CONSEQUENCE SCENARIOS

In accordance with the CDE Guidance Protocol, two conservative release scenarios were evaluated for the natural gas pipeline: 1) a rupture or high volume release equal to the pipeline's diameter, and 2) a leak or small volume release from a 1-inch diameter hole. Three potential consequences were evaluated for each release scenario: 1) jet flame, 2) flash fire (flammable vapor cloud), and 3) explosion. Results from the ALOHA computer analyses indicate that unconfined vapor cloud explosions would not occur in an open environment (i.e., residential land use setting) and this scenario was not subject to further analysis.

2.4 STAGE 1 RISK ANALYSIS

The Stage 1 screening analysis was conducted for the 16-inch natural gas transmission pipeline, as listed in Table 2. The criterion for a Stage 1 screening analysis was not met because the MAOP for the natural gas pipeline is higher than 400 psig. Therefore, a Stage 2 risk analysis was conducted to determine the cumulative individual risk (IR) to students and staff at the proposed school.

Table 2 Stage 1 Screening Analysis

Parameters	Stage 1 Criteria	Meets Criteria?	Site Value
No. of pipelines within 1,500 foot radius	One	Yes	One
Segment length within 1,500 foot radius	1,000 feet or less	Yes	600 feet
Pipeline diameter	≤ 24 inches	Yes	16 inches
Maximum pressure	≤400 psi	No	497 psi
Pipeline distance from project site	≥600 feet	Yes	1,460 feet
Pipeline failure rate	≤ 1.2E-04	Yes	1.2E-04

2.5 STAGE 2 RISK CALCULATION RESULTS

Risk calculation results for the natural gas pipeline are provided in Appendix A. The results indicate that the hazard footprints for this pipeline do not extend farther than 897 feet and would not reach the school site, which is approximately 1,460 feet from the pipeline. Therefore, in accordance with CDE procedures, the risk is considered to be less than significant and no further evaluation is required.

2.6 WATER PIPELINE FLOODING ANALYSIS

In addition to natural gas and hazardous liquid pipelines, the CDE requires that the risk of releases from high volume (≥12 inches) water pipelines be evaluated. The CDE Guidance Protocol for School Pipeline Risk Analysis provides a methodology for evaluating the potential for flooding. A probability analysis is not required.

For identified water pipelines located beneath a street, a pipeline flooding analysis was conducted to determine the depth and location of water flow within the street in the event of a pipeline leak or rupture. For this worst-case analysis, it was conservatively assumed that all of the water flowing through the pipelines at their maximum capacity would reach the surface. In addition, no credit was taken for the presence of storm drains along these streets.

Release impacts were calculated based on the procedures specified in the CDE manual. The release rate was determined by multiplying the pipe area by an assumed velocity of 5 feet per second (fps). Then the release rate was compared to the carrying capacity of the street, taking into account longitudinal slope, to determine if the water would be contained within the confines of the street curbing (Jeffers & Associates, 2006). The results are provided in Table 3.

Table 3 Water Pipeline Flooding Analysis – Street Flow

Pipeline Diameter	Pipeline Location	Release Rate (cfs)	Street Width (ft)	Depth of Flow in Street (in)	Exceeds Street Carrying Capacity?
12-inch	Gleason Drive	3.93	78	2.9	No
12-inch	Grafton Street	3.93	52	2.5	No
12-inch	Central Parkway	3.93	84	3.6	No
12-inch	Brannigan Street	3.93	38	3.3	No
20-inch	Dublin Boulevard	10.91	122	5.2	No
16-inch	Dublin Boulevard	6.98	122	4.4	No
14-inch	Dublin Boulevard, south driveway entrance to site	5.34	122	4.0	No
14-inch	Dublin Boulevard, east of Keegan Street	5.34	104	4.0	No
12-inch	Grafton Street, south of Dublin Boulevard	3.93	76	3.4	No
14-inch	Gleason Drive – Recycled Water Pipeline	5.34	78	3.2	No
14-inch	Grafton Street – Recycled Water Pipeline	5.34	52	2.8	No
12-inch	Central Parkway - Recycled Water Pipeline	3.93	84	3.6	No
20-inch	Dublin Boulevard - Recycled Water Pipeline	10.91	122	5.2	No
12-inch	Dublin Boulevard - Recycled Water Pipeline	3.93	122	3.6	No

Assuming a standard 6-inch curb for residential streets, the water released from a full-flow rupture of any of the water mains would be entirely contained within the confines of the curbing and would not result in flooding at the school site.

2.7 SUMMARY AND RECOMMENDATIONS

The results of the Stage 2 screening analysis indicate that the hazard footprints for the 16-inch natural gas transmission pipeline do not reach the school site, and would not pose a risk to students or staff at the proposed school site. If a rupture or leak should occur in the water mains within 1,500 feet of the school site, the results of the flooding analysis indicate that the released water would not result in water depths at the school site that would pose a risk to students and staff.

Even though the impact of pipeline releases was found to be less than significant, it is recommended that the school's emergency response and evacuation plan address the possibility of natural gas or water pipeline releases and identify potential evacuation routes. Also, contact names and numbers for the natural gas provider and water agencies (Pacific Gas and Electric Company and Dublin San Ramon Services District) should be maintained with the emergency response plan in case the school needs to report pipeline releases. A map of the pipeline locations and emergency contact information should be kept with the school's emergency response plan.

3. References

California Department of Education (CDE), 2007. Guidance Protocol for School Site Pipeline Risk Analysis, Prepared by URS Corporation. February, 2007.

_____. 2000. Resources for School Facilities Planning, School Selection and Approval Guide. Prepared by School Facilities Planning Division, CDE, Sacramento, CA.

Dublin San Ramon Services District (DSRSD), 2018. Pipeline information and map provided by Mr. Roper Macaraeg, Engineering Tech/GIS Specialist I, for DSRSD to Ms. Danielle Clendening, Intern, PlaceWorks. Dated August 2, 2018.

Jeffers & Associates, 2006. Modified Manning's Equation Solver. Version 3.0.

National Pipeline Mapping System, 2018. Hazardous liquids pipeline map produced by the NPMS Public Viewer at https://pvnpms.phmsa.dot.gov/PublicViewer/. Accessed on August 3, 2018.

Pacific Gas & Electric (PG&E) Company, 2018. Pipeline information and map provided by Mr. Steven Liu, Gas Technical Specialist, for PG&E to Ms. Danielle Clendening, Intern, PlaceWorks. Dated June 29, 2018.

US Environmental Protection Agency (USEPA), 2016. ALOHA (Areal Locations of Hazardous Atmospheres) computer model, Version 5.4.7, at USEPA website: http://www.epa.gov/emergencies/content/cameo/aloha.htm.



Source: ESRI, 2018

Figure 1
Site Location and Pipeline Map

Appendix A. CDE Risk Analysis Summary Forms and Calculations

Appendix

Local Educational Agency	
Date:	August 20, 2018
Local Educational Agency	Dublin Unified School District
Contact	Mr. Joe Sorrera – Assistant Superintendent
Telephone Number	925.828.2551
E-mail address	sorrerajoe@dublinusd.org
Street Address	7471 Larkdale Avenue
Department or Mail Drop	
City	Dublin
County	Alameda County
Zip Code	94568

Proposed School Campus Site	
Name	Promenade School
Location Description	Vacant lot at southeast corner of Central Parkway and Chancery Lane Dublin, CA 94568
Pipelines of Interest	One natural gas transmission pipeline
Operator/Owner	Pacific Gas and Electric Company
Product Transported	Natural Gas
Pipeline Diameter (inches)	16-inch
Operating Pressure (psig)	497 psig
Closest Approach to Property Line	1,460 feet

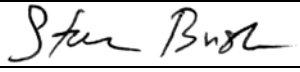
Individual Risk Estimate Result

Type of Analysis (Check One)	Stage 1		Stage 2	X	Stage 3		
Individual Risk Estimate Value	Zero (hazard footprints don't reach school site)						
Individual Risk Criterion	1.0E-06 (0.000001)						
IR Significance (check one)	**Significant**						
	Insignificant	X					

Certification and Signatures of Risk Analyst(s)

This analysis was conducted according to the 2007 CDE Protocol except as noted. All modifications within the Stage 2 framework, and exceptions to the data and processes established in the 2007 CDE Protocol, if any, were based upon my professional opinion and in a manner consistent with the standards of care and skill ordinarily exercised by professionals working on similar projects.

I certify that the estimated risk levels were derived based upon the 2007 CDE Protocol, unless otherwise noted, and that these levels demonstrate, with reasonable expectations of uncertainties for such estimates, that the estimated Individual Risk for the school site, as the site was planned at the time of this analysis, including mitigation measures, if any, meets the Individual Risk Criterion stated in the 2007 CDE Protocol, based on the information provided to me.

Printed Name	Signature	Position or Title
Steven J. Bush, P.E.		Senior Engineer

Notice: In the event that the Individual Risk Criterion could not be met, at the option of the LEA, CDE will still accept a report for review and consultation with the LEA.

16-INCH NATURAL GAS TRANSMISSION PIPELINE

Input Data		
Product	natural gas	
Diameter	16	inches
Pressure	497	psig
R0	1460	ft

XSEG	RX(1%)	Units
XSEG(LJF)	0	ft
XSEG(RJF)	0	ft
XSEG(LFF)	0	ft
XSEG(RFF)	0	ft
XSEG(LEX)	0	ft
XSEG(REX)	0	ft

Base and Conditional Probability Calculations							
Base		**Leak**		**Rupture**		**Exposure**	
F0	1.2E-04	**PC(L)**	0.80	**PC(R)**	0.20	**PC(OCC)**	0.16
P0	1.2E-04	**PC(LIG)**	0.30	**PC(RIG)**	0.45	**PC(OUT)**	0.25
PAF	1.0	**PC(FIG)**	0.99	**PC(FIG)**	0.99		
PA	1.2E-04	**PC(JF)**	0.98	**PC(JF)**	0.98		
		PC(FF)	0.01	**PC(FF)**	0.01		
		PC(EIG)	0.01	**PC(EIG)**	0.01		
Calculated Values:							
PA(LJF)	0.0E+00	**PCI(LJF)**	0.233	**PCI(RJF)**	0.087		
PA(RJF)	0.0E+00	**PCI(LFF)**	0.002	**PCI(RFF)**	0.001		
PA(LFF)	0.0E+00	**PCI(LEX)**	0.002	**PCI(REX)**	0.001	**PC(EXPO)**	0.04
PA(RFF)	0.0E+00						
PA(LEX)	0.0E+00						
PA(REX)	0.0E+00						

Impact Probability Calculations							
Probability Term				**Values**			
PC(LJF) =	**PA(LJF) x**	**PCI(LJF) x**	**PC(EXPO) =**	0.0E+00	0.23	0.040	**0.0E+00**
PC(RJF) =	**PA(RJF) x**	**PCI(RJF) x**	**PC(EXPO) =**	0.0E+00	0.09	0.040	**0.0E+00**
PC(LFF) =	**PA(LFF) x**	**PCI(LFF) x**	**PC(EXPO) =**	0.0E+00	0.002	0.040	**0.0E+00**
PC(RFF) =	**PA(RFF) x**	**PCI(RFF) x**	**PC(EXPO) =**	0.0E+00	0.001	0.040	**0.0E+00**
PC(LEX) =	**PA(LEX) x**	**PCI(LEX) x**	**PC(EXPO) =**	0.0E+00	0.002	0.040	**0.0E+00**
PC(REX) =	**PA(REX) x**	**PCI(REX) x**	**PC(EXPO) =**	0.0E+00	0.001	0.040	**0.0E+00**

Based on data from impact distance figures in Section 4.6 and mortality figures in Section 4.5, enter the maximum impact probability at receptor location for each hazard in MAX PF(X) column.

IR Calculation				
	MAX PF(X)		**PC(X)**	**IR(X)**
IR(LJF) =	1.00		0.0E+00	**0.00E+00**
IR(RJF) =	1.00		0.0E+00	**0.00E+00**
IR(LFF) =	1.00		0.0E+00	**0.00E+00**
IR(RFF) =	1.00		0.0E+00	**0.00E+00**
IR(LEX) =	0.00		0.0E+00	**0.00E+00**
IR(REX) =	0.00		0.0E+00	**0.00E+00**
TOTAL INDIVIDUAL RISK, TIR				**0.0E+00**
CDE INDIVIDUAL RISK CRITERION, IRC				**1.0E-06**
TIR/IRC RATIO				**0.00**
PROTOCOL TIR INDICATOR RATIO				**0.00**

Hazard footprints do not reach the school site.

XSEG Calculations

Pipe Size, Pressure, and Hazard Type			Front Property Line - Begin Zone 1			Begin Zone 2			Begin Zone 3			End Zone 3 -Back Property Line		
Pipe Size	Press.	Hazard X	RX (1%)	R0	XSEG	RX (1%)	R0	XSEG	RX (1%)	R0	XSEG	RX (1%)	R0	XSEG
(in)	(psig)		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
16	497	LJF	33	1460	0	33	2010	0	33	2560	0	33	3110	0
16	497	RJF	222	1460	0	222	2010	0	222	2560	0	222	3110	0
16	497	LFF	132	1460	0	132	2010	0	132	2560	0	132	3110	0
16	497	RFF	897	1460	0	897	2010	0	897	2560	0	897	3110	0
16	497	LEX	0	1460	0	0	2010	0	0	2560	0	0	3110	0
16	497	REX	0	1460	0	0	2010	0	0	2560	0	0	3110	0

16-Inch Natural Gas Transmission Pipeline
Leak - Jet Fire

Text Summary ALOHA® 5.4.7

```
SITE DATA:
  Location: DUBLIN, CALIFORNIA
  Building Air Exchanges Per Hour: 0.63 (unsheltered single storied)
  Time: August 3, 2018  1256 hours PDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: METHANE
  CAS Number: 74-82-8                    Molecular Weight: 16.04 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm   PAC-3: 400000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -259.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 77° F                 Stability Class: D
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas is burning as it escapes from pipe
  Pipe Diameter: 16 inches               Pipe Length: 26400 feet
  Unbroken end of the pipe is closed off
  Pipe Roughness: smooth                 Hole Area: 0.785 sq in
  Pipe Press: 511.7 psia                 Pipe Temperature: 77° F
  Max Flame Length: 2 yards
  Burn Duration: ALOHA limited the duration to 1 hour
  Max Burn Rate: 389 pounds/min
  Total Amount Burned: 18,735 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red   : less than 10 meters(10.9 yards) --- (15.77 kW/(sq m))
```

16-Inch Natural Gas Transmission Pipeline
Rupture - Jet Fire

Text Summary ALOHA® 5.4.7

```
SITE DATA:
  Location: DUBLIN, CALIFORNIA
  Building Air Exchanges Per Hour: 0.63 (unsheltered single storied)
  Time: August 3, 2018  1256 hours PDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: METHANE
  CAS Number: 74-82-8                    Molecular Weight: 16.04 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm   PAC-3: 400000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -259.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 77° F                 Stability Class: D
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas is burning as it escapes from pipe
  Pipe Diameter: 16 inches               Pipe Length: 26400 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                 Hole Area: 201 sq in
  Pipe Press: 511.7 psia                 Pipe Temperature: 77° F
  Max Flame Length: 45 yards
  Burn Duration: ALOHA limited the duration to 1 hour
  Max Burn Rate: 99,700 pounds/min
  Total Amount Burned: 549,037 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red   : 74 yards --- (15.77 kW/(sq m))
```

16-Inch Natural Gas Transmission Pipeline
Leak - Flash Fire

Text Summary ALOHA® 5.4.7

```
SITE DATA:
  Location: DUBLIN, CALIFORNIA
  Building Air Exchanges Per Hour: 0.63 (unsheltered single storied)
  Time: August 3, 2018  1256 hours PDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: METHANE
  CAS Number: 74-82-8                    Molecular Weight: 16.04 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm   PAC-3: 400000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -259.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 77° F                 Stability Class: D
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 16 inches               Pipe Length: 26400 feet
  Unbroken end of the pipe is closed off
  Pipe Roughness: smooth                 Hole Area: 0.785 sq in
  Pipe Press: 511.7 psia                 Pipe Temperature: 77° F
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 375 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 18,735 pounds

THREAT ZONE:
  Threat Modeled: Flammable Area of Vapor Cloud
  Model Run: Gaussian
  Red   : 44 yards --- (50000 ppm = LEL)
  Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
```

16-Inch Natural Gas Transmission Pipeline
Rupture - Flash Fire

Text Summary ALOHA® 5.4.7

```
SITE DATA:
  Location: DUBLIN, CALIFORNIA
  Building Air Exchanges Per Hour: 0.63 (unsheltered single storied)
  Time: August 3, 2018  1256 hours PDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: METHANE
  CAS Number: 74-82-8                    Molecular Weight: 16.04 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm   PAC-3: 400000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -259.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 77° F                 Stability Class: D
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 16 inches               Pipe Length: 26400 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                 Hole Area: 201 sq in
  Pipe Press: 511.7 psia                 Pipe Temperature: 77° F
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 16,500 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 549,037 pounds

THREAT ZONE:
  Threat Modeled: Flammable Area of Vapor Cloud
  Model Run: Gaussian
  Red   : 299 yards --- (50000 ppm = LEL)
```

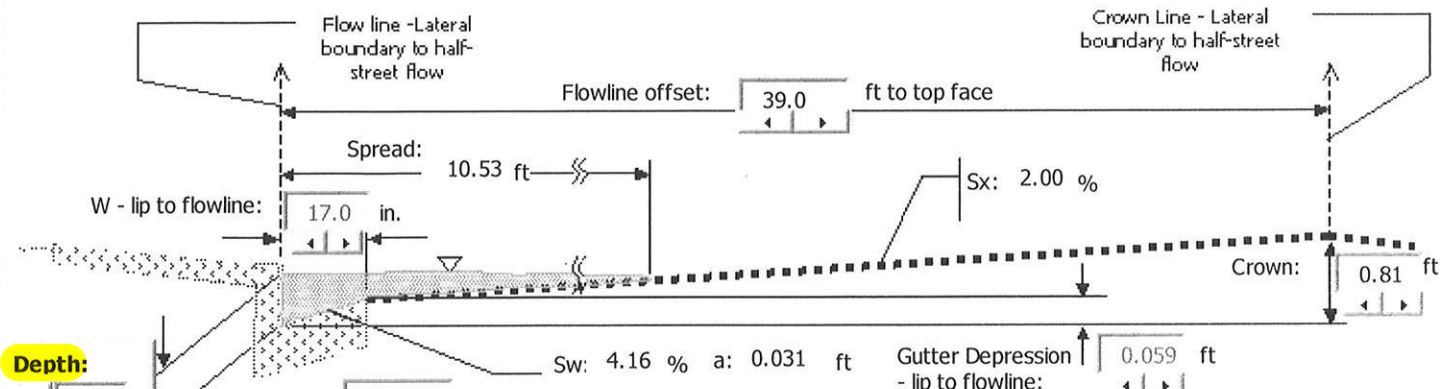
Modified Manning's Equation Solver

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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 6.85 %

Length of curb opening inlet: 12.0 ft

Lt: 19.39 ft

80 % Clear Efficiency 70.8 %

Curb opening flowby: 1.15 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 3.96 ft/s

Eo: 98.84 %

Rs: 5.40 % Rf: 100.00 %

Side flow captured: 0.03 cfs Frontal captured: 0.57 cfs

Total combined CB flowby: 0.55 cfs

Street Parameters:

Q:	3.93	cfs
K:	28.5	
Vel:	3.48	ft/s
Eo:	34.8	%
W/T:	0.1345	

Standard Manning's:

Q:	3.22	cfs
K:	23.3	
Vel:	2.85	ft/s
Rh:	0.10	ft
Area:	1.13	sf

Street Flow - Gleason Drive
12-Inch Water Main

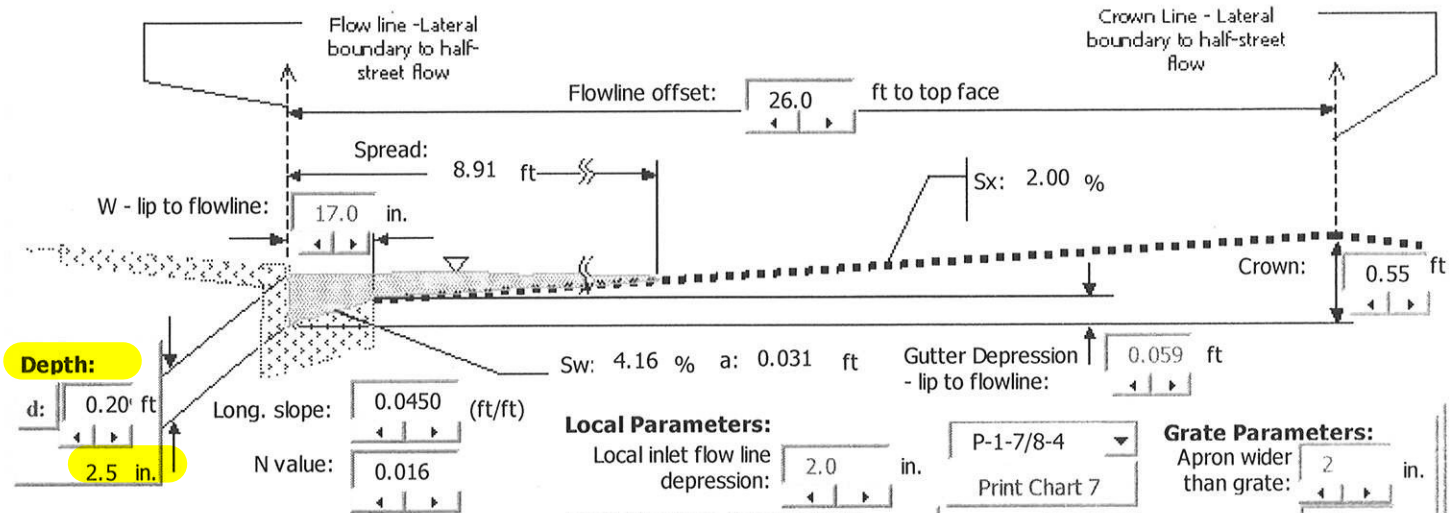
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 7.66 %

Length of curb opening inlet: 12.0 ft

Lt: 23.49 ft

80 % Clear Efficiency 61.2 %

Curb opening flowby: 1.53 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 5.86 ft/s

Eo: 99.81 %

Rs: 2.58 % Rf: 100.00 %

Side flow captured: 0.02 cfs Frontal captured: 0.76 cfs

Total combined CB flowby: 0.74 cfs

Street Parameters:

Q:	3.93	cfs
K:	18.5	
Vel:	4.83	ft/s
Eo:	40.6	%
W/T:	0.1590	

Standard Manning's:

Q:	3.20	cfs
K:	15.1	
Vel:	3.94	ft/s
Rh:	0.09	ft
Area:	0.81	sf

Street Flow - Grafton Street
12-Inch Water Main

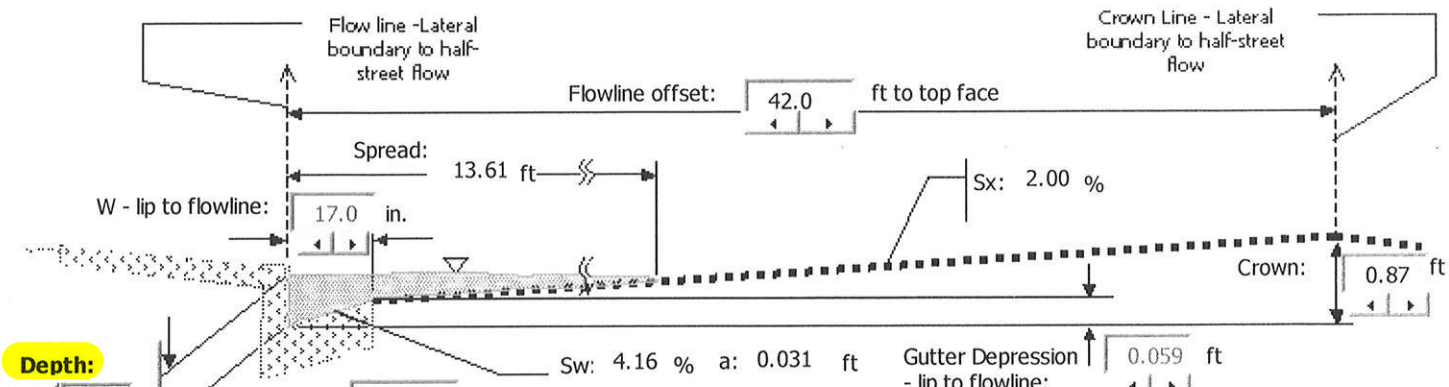
Modified Manning's Equation Solver

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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 5.80 %

Length of curb opening inlet: 12.0 ft

Lt: 14.35 ft

80 % Clear Efficiency 86.3 %

Curb opening flowby: 0.54 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 1.98 ft/s

Eo: 99.56 %

Rs: 16.01 % Rf: 100.00 %

Side flow captured: 0.04 cfs Frontal captured: 0.27 cfs

Total combined CB flowby: 0.23 cfs

Street Parameters:

Q:	3.93	cfs
K:	55.6	
Vel:	2.10	ft/s
Eo:	27.3	%
W/T:	0.1041	

Standard Manning's:

Q:	3.23	cfs
K:	45.7	
Vel:	1.73	ft/s
Rh:	0.13	ft
Area:	1.87	sf

Street Flow - Central Parkway
12-Inch Water Main and
12-Inch Recycled Water Pipeline

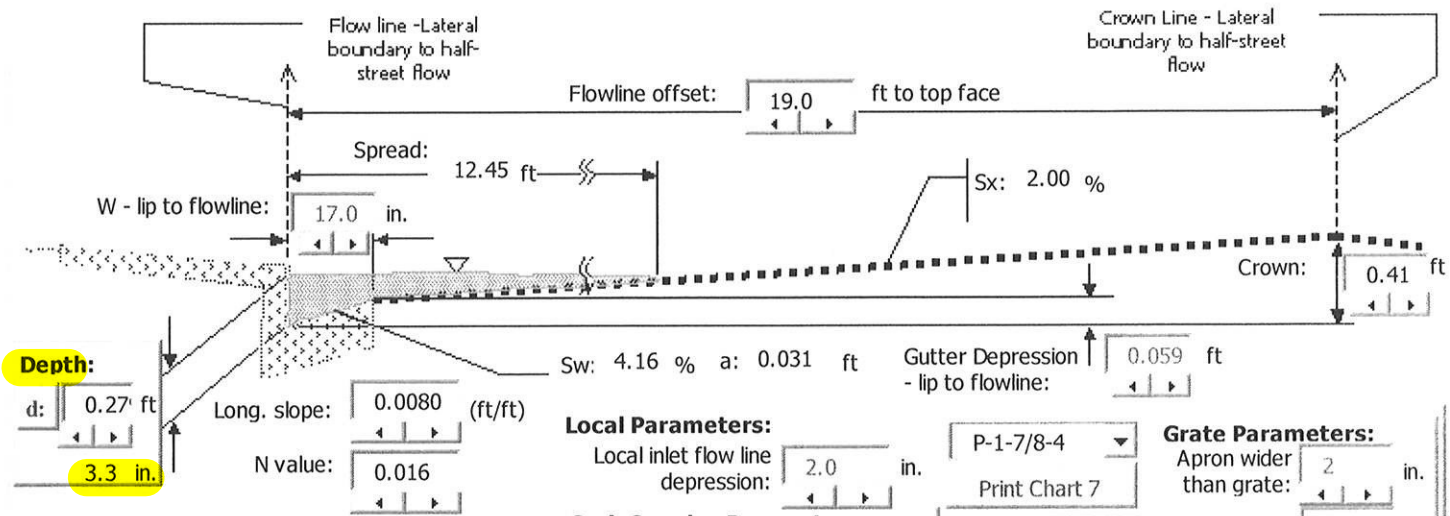
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Street Parameters:

Q:	3.93	cfs
K:	43.9	
Vel:	2.50	ft/s
Eo:	29.7	%
W/T:	0.1138	

Standard Manning's:

Q:	3.23	cfs
K:	36.1	
Vel:	2.06	ft/s
Rh:	0.12	ft
Area:	1.57	sf

Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 6.14 %

Length of curb opening inlet: 12.0 ft

Lt: 15.97 ft

80 % Clear Efficiency 80.9 %

Curb opening flowby: 0.75 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 2.58 ft/s

Eo: 98.75 %

Rs: 11.04 % Rf: 100.00 %

Side flow captured: 0.04 cfs Frontal captured: 0.37 cfs

Total combined CB flowby: 0.34 cfs

Street Flow - Brannigan Street
12-Inch Water Main

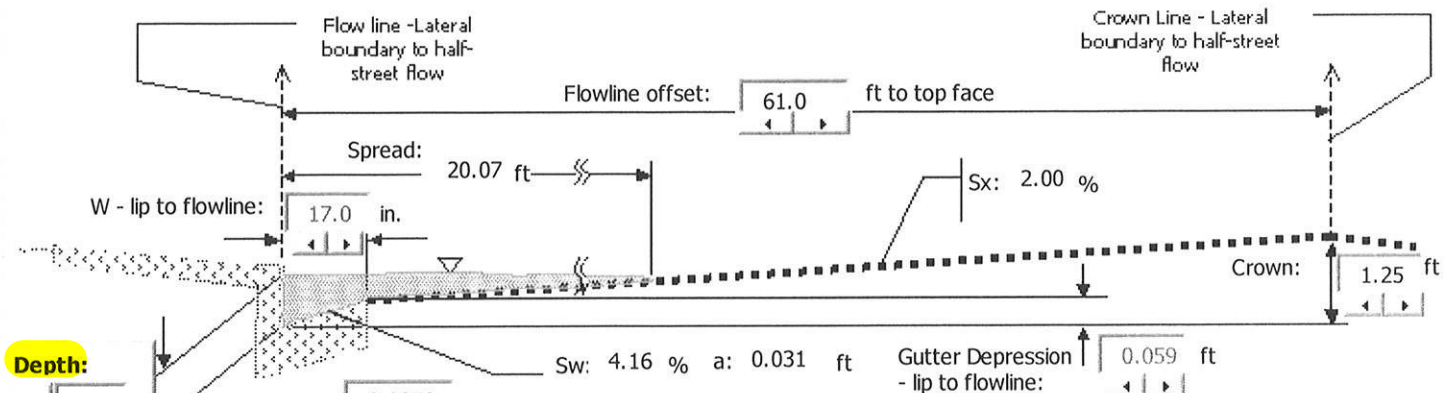
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 4.61 %

Length of curb opening inlet: 12.0 ft

Lt: 25.31 ft

80 % Clear Efficiency 57.6 %

Curb opening flowby: 4.62 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 3.30 ft/s

Eo: 48.94 %

Rs: 11.35 % Rf: 100.00 %

Side flow captured: 0.40 cfs Frontal captured: 1.13 cfs

Total combined CB flowby: 3.10 cfs

Street Parameters:

Q:	10.91	cfs
K:	154.3	
Vel:	2.70	ft/s
Eo:	18.7	%
W/T:	0.0706	

Standard Manning's:

Q:	9.01	cfs
K:	127.4	
Vel:	2.23	ft/s
Rh:	0.20	ft
Area:	4.05	sf

Street Flow - Dublin Boulevard
20-Inch Water Main and
20-Inch Recycled Water Pipeline

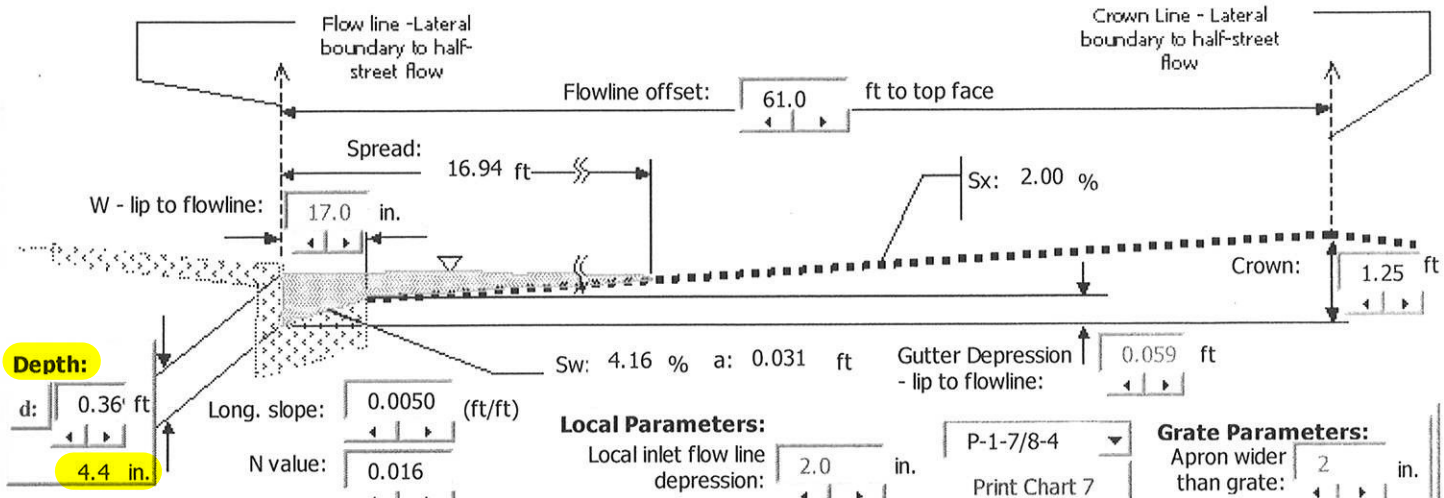
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

Length of curb opening inlet: 12.0 ft

80 % Clear Efficiency 69.7 %

Curb opening flowby: 2.11 cfs

P-1-7/8-4

Print Chart 7

Length: 48 in.

% Factor 50

Splash-over Vel: 7.41 ft/s

Rs: 13.64 %

Side flow captured: 0.19 cfs

Grate Parameters:

Apron wider than grate: 2 in.

Width: 22 in.

% Factor 50

Vel over grate: 2.78 ft/s

Eo: 68.05 %

Rf: 100.00 %

Frontal captured: 0.72 cfs

Total combined CB flowby: 1.20 cfs

Street Parameters:

Q:	6.98	cfs
K:	98.7	
Vel:	2.42	ft/s
Eo:	22.1	%
W/T:	0.0836	

Standard Manning's:

Q:	5.75	cfs
K:	81.4	
Vel:	1.99	ft/s
Rh:	0.17	ft
Area:	2.89	sf

Street Flow - Dublin Boulevard
16-Inch Water Main

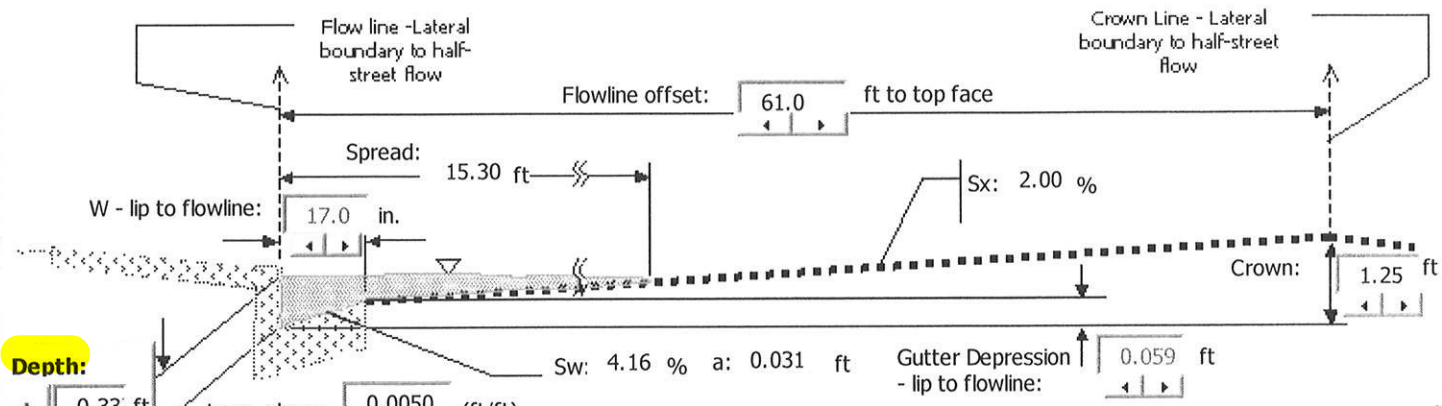
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 5.40 %

Length of curb opening inlet: 12.0 ft

Lt: 17.05 ft

80 % Clear Efficiency 77.5 %

Curb opening flowby: 1.20 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 2.44 ft/s

Eo: 83.78 %

Rs: 14.95 % Rf: 100.00 %

Side flow captured: 0.10 cfs Frontal captured: 0.50 cfs

Total combined CB flowby: 0.59 cfs

Street Parameters:

Q:	5.34	cfs
K:	75.5	
Vel:	2.26	ft/s
Eo:	24.4	%
W/T:	0.0926	

Standard Manning's:

Q:	4.40	cfs
K:	62.2	
Vel:	1.86	ft/s
Rh:	0.15	ft
Area:	2.36	sf

Street Flow - Dublin Boulevard, driveway
14-Inch Water Main

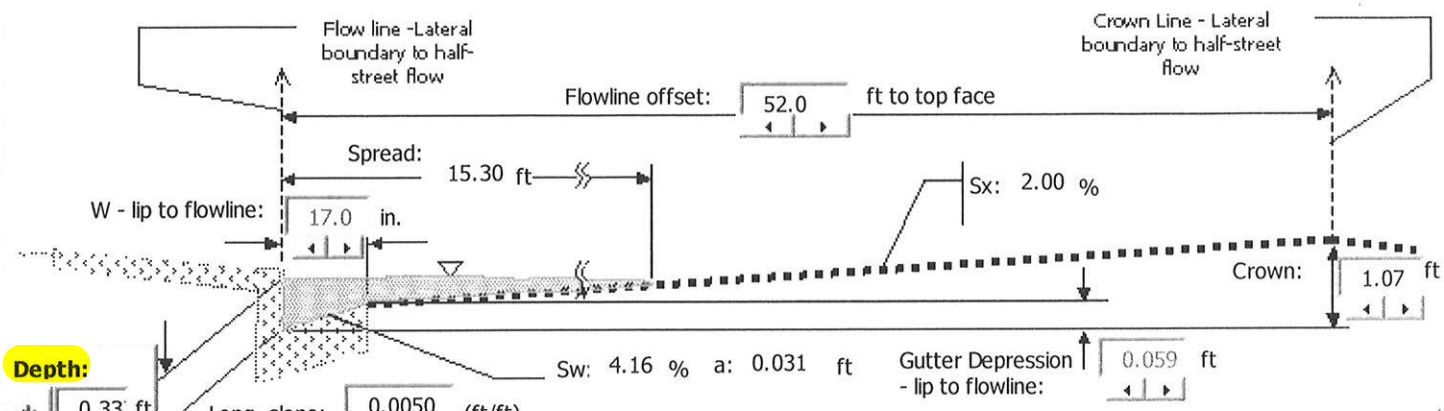
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 5.40 %

Length of curb opening inlet: 12.0 ft

Lt: 17.05 ft

80 % Clear Efficiency 77.5 %

Curb opening flowby: 1.20 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 2.44 ft/s

Eo: 83.78 %

Rs: 14.95 % Rf: 100.00 %

Side flow captured: 0.10 cfs Frontal captured: 0.50 cfs

Total combined CB flowby: 0.59 cfs

Street Parameters:

Q:	5.34	cfs
K:	75.5	
Vel:	2.26	ft/s
Eo:	24.4	%
W/T:	0.0926	

Standard Manning's:

Q:	4.40	cfs
K:	62.2	
Vel:	1.86	ft/s
Rh:	0.15	ft
Area:	2.36	sf

Street Flow - Dublin Boulevard, east of Keegan Street
14-Inch Water Main

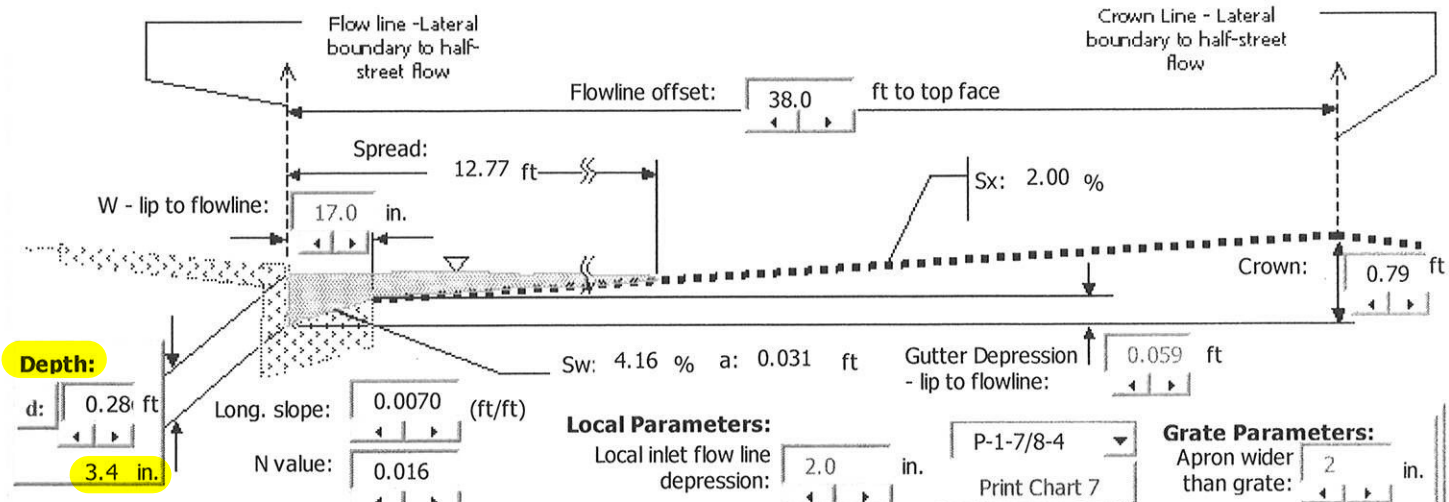
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Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer



Street Parameters:

Q:	3.93	cfs
K:	47.0	
Vel:	2.38	ft/s
Eo:	29.0	%
W/T:	0.1110	

Standard Manning's:

Q:	3.23	cfs
K:	38.6	
Vel:	1.96	ft/s
Rh:	0.13	ft
Area:	1.65	sf

Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 6.04 %

Length of curb opening inlet: 12.0 ft

Lt: 15.49 ft

80 % Clear Efficiency 82.5 %

Curb opening flowby: 0.69 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 2.40 ft/s

Eo: 98.94 %

Rs: 12.30 % Rf: 100.00 %

Side flow captured: 0.04 cfs Frontal captured: 0.34 cfs

Total combined CB flowby: 0.31 cfs

Street Flow - Grafton Street, south of Dublin Boulevard
12-Inch Water Main

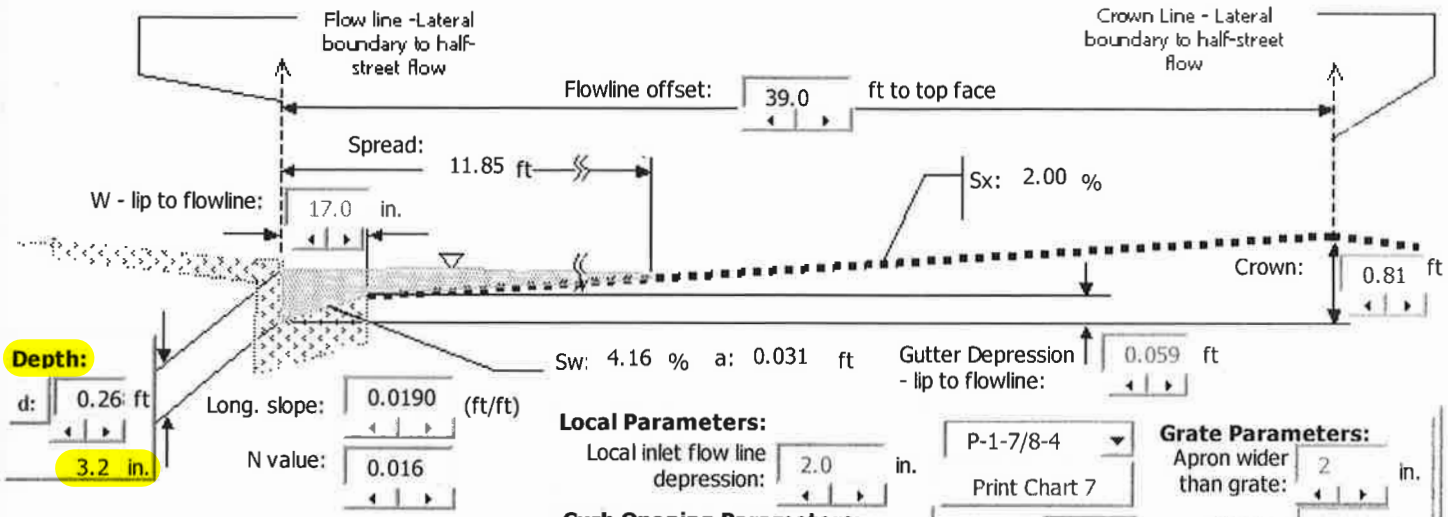
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Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 6.34 %

Length of curb opening inlet: 12.0 ft

Lt: 23.10 ft

80 % Clear Efficiency 62.0 %

Curb opening flowby: 2.03 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 4.59 ft/s

Eo: 87.65 %

Rs: 5.12 % Rf: 100.00 %

Side flow captured: 0.06 cfs Frontal captured: 0.89 cfs

Total combined CB flowby: 1.08 cfs

Street Parameters:

Q:	5.34	cfs
K:	38.7	
Vel:	3.75	ft/s
Eo:	31.2	%
W/T:	0.1195	

Standard Manning's:

Q:	4.38	cfs
K:	31.8	
Vel:	3.07	ft/s
Rh:	0.12	ft
Area:	1.43	sf

Street Flow - Gleason Drive
14-Inch Recycled Water Pipeline

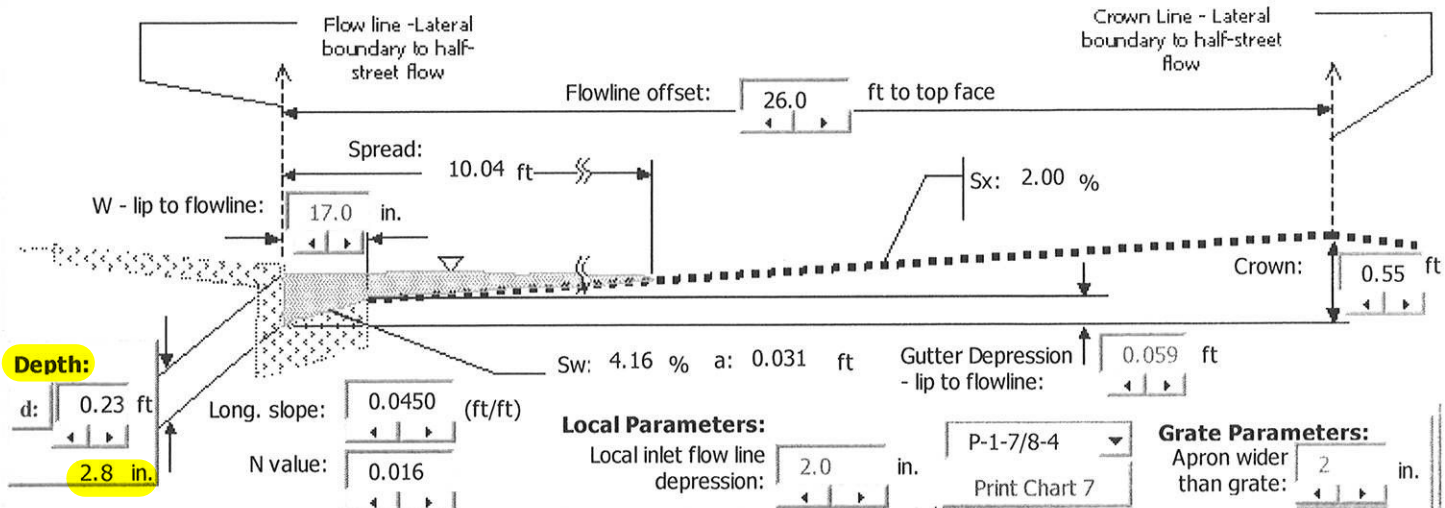
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Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 7.07 %

Length of curb opening inlet: 12.0 ft

Lt: 28.03 ft

80 % Clear Efficiency 53.0 %

Curb opening flowby: 2.51 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 6.69 ft/s

Eo: 93.00 %

Rs: 2.49 % Rf: 100.00 %

Side flow captured: 0.03 cfs Frontal captured: 1.17 cfs

Total combined CB flowby: 1.31 cfs

Street Parameters:

Q: 5.34 cfs

K: 25.2

Vel: 5.19 ft/s

Eo: 36.4 %

W/T: 0.1411

Standard Manning's:

Q: 4.37 cfs

K: 20.6

Vel: 4.25 ft/s

Rh: 0.10 ft

Area: 1.03 sf

Street Flow - Grafton Street
14-Inch Recycled Water Pipeline

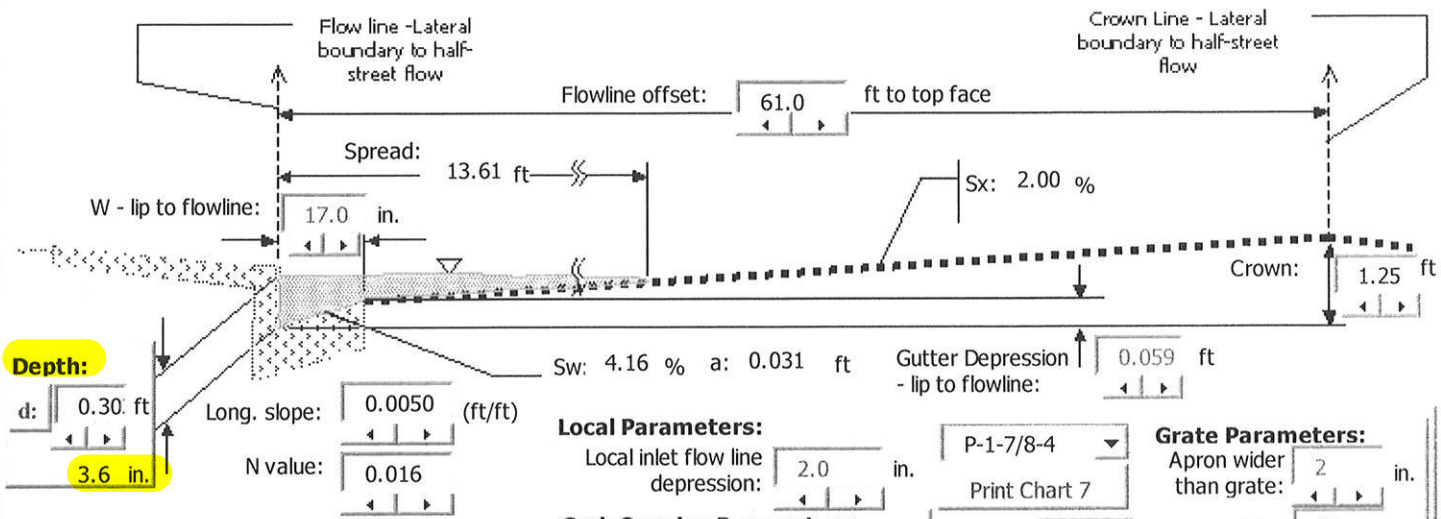
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Street Parameters:

Q:	3.93	cfs
K:	55.6	
Vel:	2.10	ft/s
Eo:	27.3	%
W/T:	0.1041	

Standard Manning's:

Q:	3.23	cfs
K:	45.7	
Vel:	1.73	ft/s
Rh:	0.13	ft
Area:	1.87	sf

Local Parameters:

Local inlet flow line depression: 2.0 in.

Curb Opening Parameters:

C-O Apron wider than gutter: 0 in.

S'w 13.9 % Se: 5.80 %

Length of curb opening inlet: 12.0 ft

Lt: 14.35 ft

80 % Clear Efficiency 86.3 %

Curb opening flowby: 0.54 cfs

P-1-7/8-4

Print Chart 7

Grate Parameters:

Apron wider than grate: 2 in.

Length: 48 in. Width: 22 in.

% Factor 50 % Factor 50

Splash-over Vel: 7.41 ft/s Vel over grate: 1.98 ft/s

Eo: 99.56 %

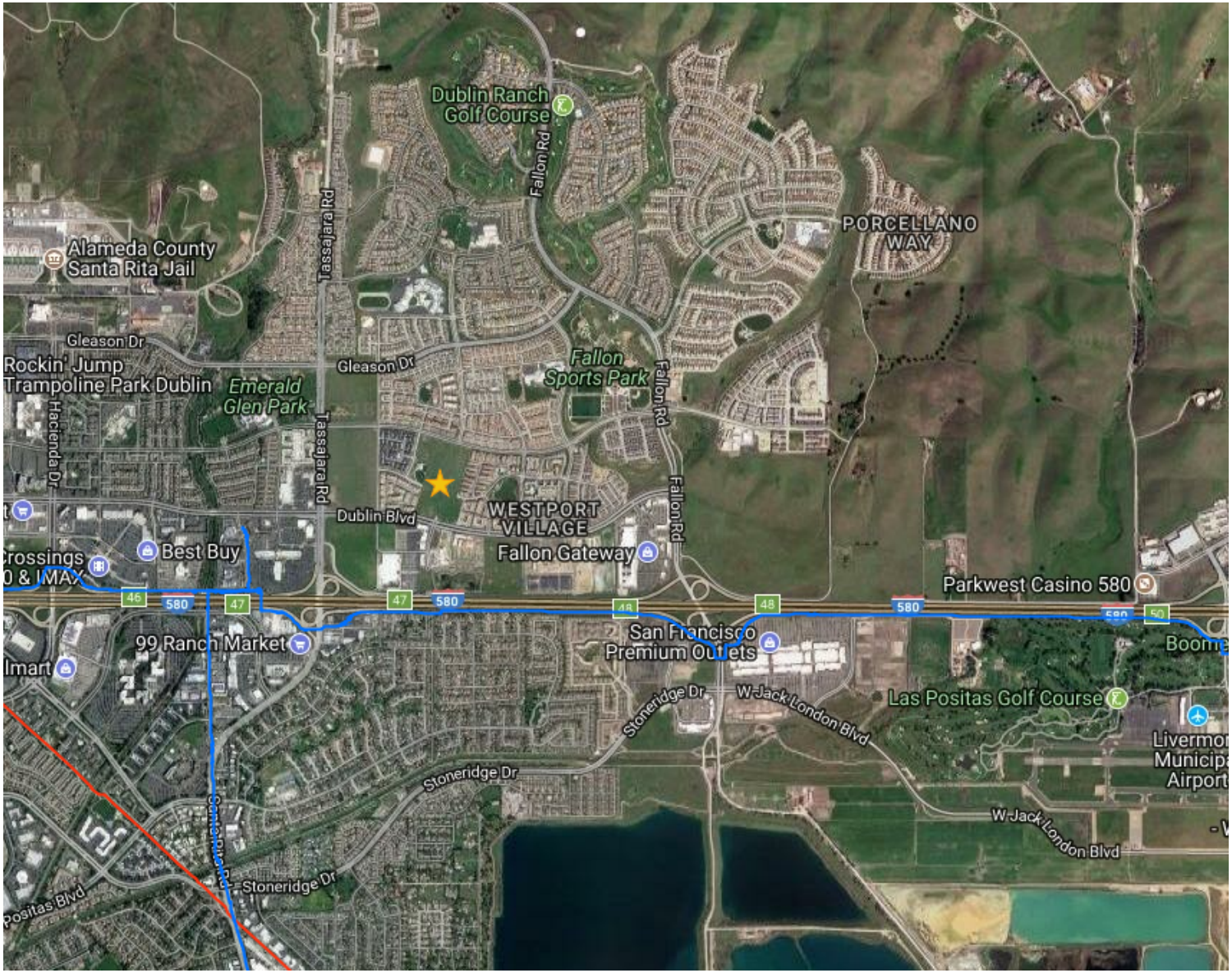
Rs: 16.02 % Rf: 100.00 %

Side flow captured: 0.04 cfs Frontal captured: 0.27 cfs

Total combined CB flowby: 0.23 cfs

Street Flow - Dublin Boulevard
12-Inch Recycled Water Pipeline

Appendix B. Agency Correspondence



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

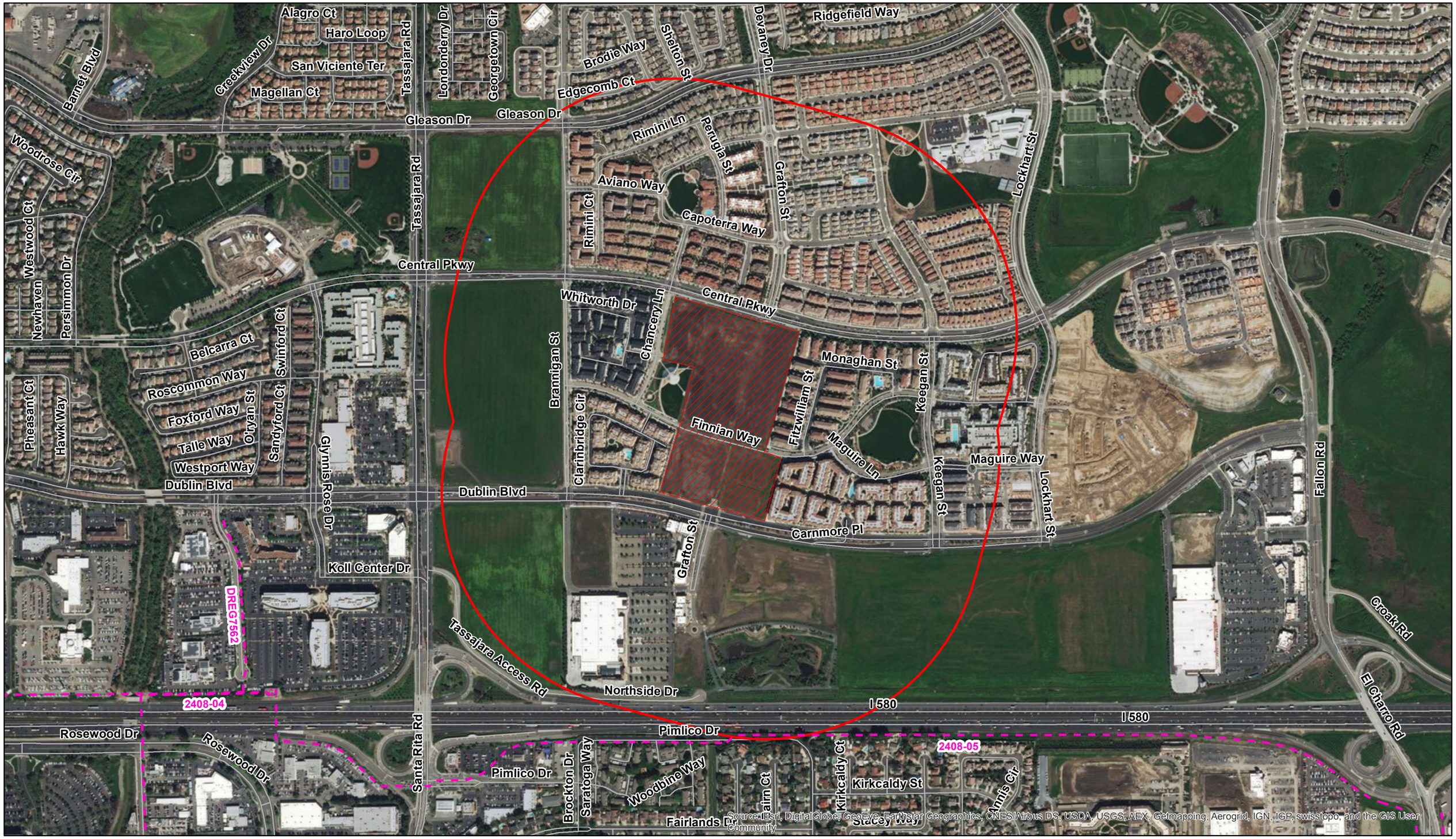
Projection: Geographic

Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Date Printed: Aug 03, 2018

811 Know what's below. Call before you dig.



06/29/2018
PG&E Critical Infrastructure Information
Must Be Held In Confidence
Facilities to be Operated by PG&E Personnel Only
Call 811 Before You Dig

School Site
School Site Buffer
Transmission Main

School Site Map
Central Plwy and Chancery Ln Dublin, CA 94568
Gas Engineering & Operations
Geographic Information Services

By: S3LG
1 inch = 600 feet (approx.)
0 0.3
Miles

N

Questionnaire For Natural Gas Pipeline Risk Analysis Study

Subject Property:	Central Pkwy and Chancery Ln Dublin, CA 94568	
1	Pipeline Reference (identification, line no., etc.):	2408-05
	1a. Type: (Distribution, Gathering or Transmission):	Distribution Feeder Main
2	Date of Installation (Year):	1970
3	Maximum Allowable Operating Pressure (psig):	497
	3a. Normal Operation Pressure (MOP)	497
4	Diameter (inches):	16
5	Construction / Wall Thickness (steel, plastic/inches):	Steel / .219
6	Corrosion Prevention (cathodic protection, tape, etc.):	Cathodic
7	% of Specified Minimum Yield Strength (MAOP):	34.91
8	Classification (Present) (1,2,3 or 4)	3
9	Inspection/Testing Results (method, date, etc.):	Per CPUC 112E
10	History of Incidents:	N/A
11	Pipeline Location Map within 1,500 feet of subject Property:	Attached

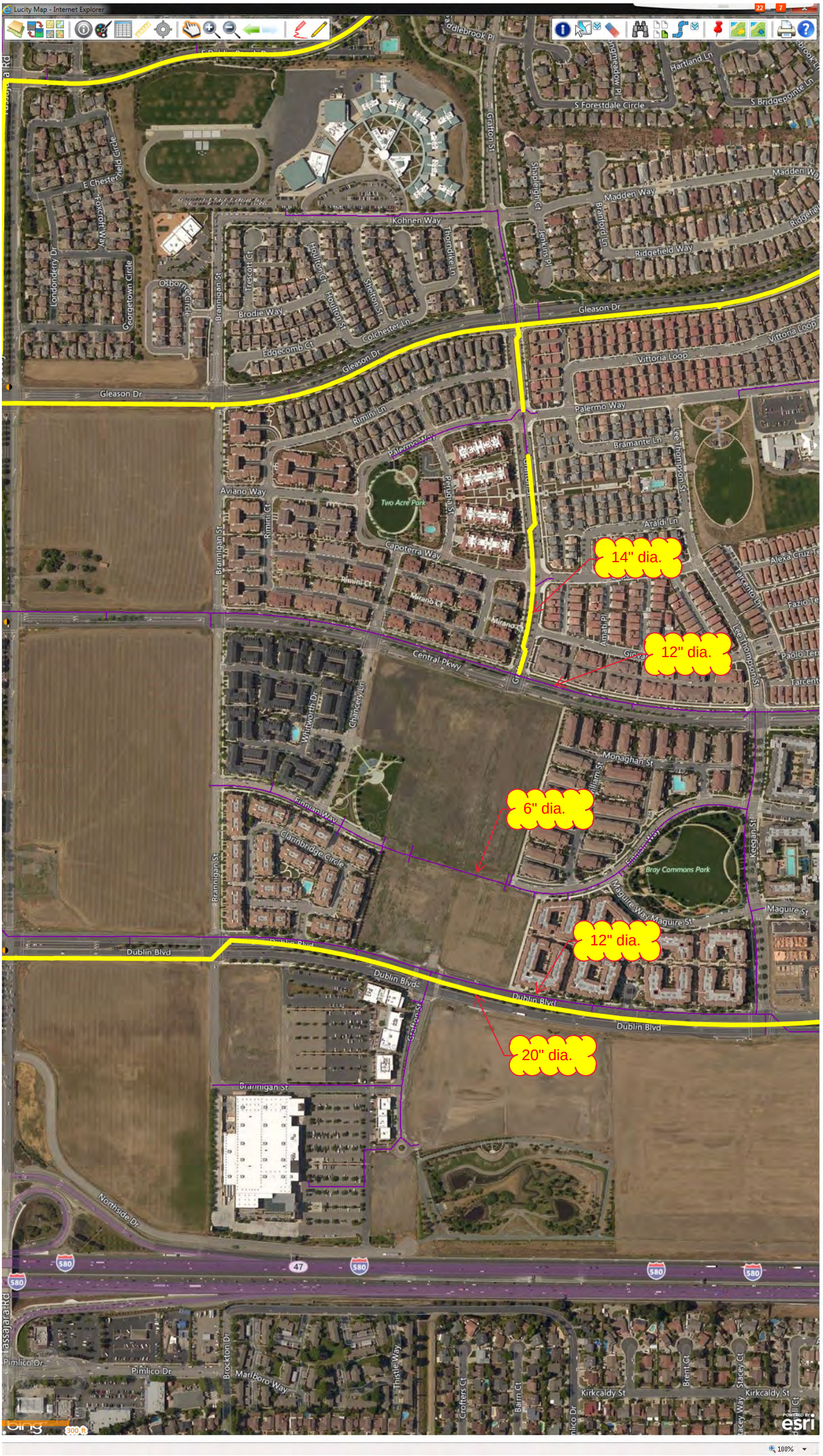
1	Pipeline Reference (identification, line no., etc.):	2408-05
	1a. Type: (Distribution, Gathering or Transmission):	Distribution Feeder Main
2	Date of Installation (Year):	1970
3	Maximum Allowable Operating Pressure (psig):	497
	3a. Normal Operation Pressure (MOP)	497

4	Diameter (inches):	16
5	Construction / Wall Thickness (steel, plastic/inches):	Steel / .312
6	Corrosion Prevention (cathodic protection, tape, etc.):	Cathodic
7	% of Specified Minimum Yield Strength (MAOP):	60.68
8	Classification (Present) (1,2,3 or 4)	3
9	Inspection/Testing Results (method, date, etc.):	Per CPUC 112E
10	History of Incidents:	N/A
11	Pipeline Location Map within 1,500 feet of subject Property:	Attached

QUESTIONNAIRE COMPLETED BY:

NAME:	Steven Liu	SIGNATURE:	s3lg@pge.com
TITLE	Gas Technical Specialist	DATE:	6/29/2018
COMPANY	PG&E		


Lucity Map - Internet Explorer
12" dia.
10" dia.
12" dia.
10" dia.
12" dia.
10" dia.
10" dia.
14" dia.
20" dia.
12" dia.
16" dia.
Two Acre Park
Bray Commons Park
Gleason Dr
Brannigan St
Grafton St
Dublin Blvd
Central Pkwy
Palermo Way
Rimini Ln
Colchester Ln
Edgecomb
Brodie Way
Aviano Way
Capoterra Way
Ridgefield Way
Madden Way
Vittoria Loop
Finnian Way
Maguire Way
Northside Dr
Pimlico Dr
Brannigan St
Osborne Circle
Houlton Ct
Houlton St
Shelton St
Colchester Ln
Thorndike Ln
Jenkins Pl
Ridgefield Way
Gleason Dr
Vittoria Loop
Palermo Way
Bramante Ln
Lee Thompson St
Rimini Ct
Capoterra Way
Central Pkwy
Grafton St
Monaghan St
Keegan St
Finnian Way
Clanabridge Circle
Maguire St
Dublin Blvd
Brannigan St
Northside Dr
Pimlico Dr
esri


Lucity Map - Internet Explorer
14" dia.
12" dia.
6" dia.
12" dia.
20" dia.
Gleason Dr
Kohnen Way
Brodie Way
Edgecomb Ct
Colchester Ln
Thorndike Ln
Houlton Ct
Houlton St
Shelton St
Trescott Ct
Brannigan St
Osborne Circle
Foxcroft Way
E Chesterfield Circle
Londonderry Dr
Georgetown Circle
Grafton St
Shapleigh Ct
Jenkins Pl
Branford Ln
Madden Way
Ridgefield Way
S Forestdale Circle
Hartland Ln
S Bridgepointe Ln
Vittoria Loop
Palermo Way
Bramante Ln
Lee Thompson St
Araldi Ln
Rimini Ln
Palermo Way
Aviano Way
Two Acre Park
Perugia St
Capoterra Way
Rimini Ct
Mirano Ct
Central Pkwy
Whitworth Dr
Chancery Ln
Finnian Way
Clarinbridge Circle
Bray Commons Park
Monaghan St
Maguire Way
Maguire St
Keegan St
Dublin Blvd
Northside Dr
Pimlico Dr
Brockton Dr
Marlboro Way
Thistle Way
Crofters Ct
Bairn Ct
Brent Ct
Stacey Ct
Kirkcaldy St
Tassajara Rd
47
580
300 ft
bing
esri
100%

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S. #40
1120 N STREET
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
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FAX (916) 653-9531
TTY 711
www.dot.ca.gov

Livermore Municipal Airport
Alameda County School File
Alameda County

Making Conservation a California Way of Life.

August 22, 2018

Mr. John Gordon, Field Consultant
School Facilities Planning Division
California Department of Education
1430 N Street, Suite 1201
Sacramento, CA 95814-5901

Dear Mr. Gordon:

In response to your request of July 9, 2018, and Section 17215 of the California Education Code (EC), the California Department of Transportation (Caltrans), Division of Aeronautics, has analyzed the proposed Promenade High School site. The proposed school site is located north of Dublin Boulevard, south of Central Parkway, and east of Chancery Lane in Dublin near the Livermore Municipal Airport (Airport). The proposed school site is located approximately 10,775 feet northwest of the approach end of Runway 7L.

Pursuant to EC section 17215, our analysis was conducted in accordance with the Title 21, California Code of Regulations (CCR) section 3570. Caltrans also considered the Alameda County Airport Land Use Compatibility Plan (ALUCP), the California Airport Land Use Planning Handbook (Handbook), a Caltrans flight to determine where the proposed school site is located relative to aircraft flight paths and aircraft generated noise, our files, and other publications relating to aircraft operations at the Airport. The Alameda County Airport Land Use Commission and the Airport's management were given an opportunity to comment, and their comments were considered.

The Livermore Municipal Airport is designated by the Federal Aviation Administration (FAA) as a Reliever Airport that serves to relieve the three most congested Bay Area air carrier airports (Oakland, San Francisco, and San Jose). The Airport is the twelfth busiest airport in California with approximately 150,000 operations per year with two parallel runways designed to accommodate nearly all types of general aviation aircraft. Runway 7L/25R is 5,253 feet long, and Runway 7R/25L is 2,699 feet long. The proposed school site location is closest to Runway 7L/25R.

The CCR runway criteria was applied to the existing Runway 7L/25R, and it was found that the proposed school site is located outside of all CCR Safety Zones. According to the ALUCP the proposed school site falls inside Safety Zone 7, identified as the Airport Influence Area (AIA). The ALUCP guidance states that an avigation easement, restricting the heights of structures or trees, should be dedicated to the city of Livermore as a condition for any discretionary local approval for any property within the AIA.

Additionally, the ALUCP provides a list of potential flight hazards associated with land uses that should be avoided in the AIA, unless the uses are consistent with FAA rules, regulations, and guidelines. Specific characteristics to be avoided are: glare or distracting lights that could be

mistaken for airport lights, sources of dust, heat, steam, smoke that may impair pilot vision, sources of steam or other emissions that may cause thermal plumes that generate turbulence within the flight paths, sources of electrical interference with aircraft communication or navigation, and features that create an increased attraction for wildlife, such as certain recreational or agricultural uses that attract large flocks of birds.

Airport management provided written comments and concerns about the proposed school site stating in part: "The proposed school site is approximately two miles from the Airport and close to the extended centerline for Runway 25R/7L. This, and the school's location under the Airport traffic pattern, may result in regular aircraft overflights at relatively low altitude. Some staff members and students may find the noise generated by the aircraft to be objectionable."

On August 8, 2018, Caltrans conducted a flight inspection of the proposed school site. Our flight evaluation revealed the proposed site will be subject to periodic over-flights from general aviation aircraft and corporate jet aircraft departing from and arriving at the Airport from the northwest at an altitude of approximately 1,000 to 1,500 feet above the ground level. Inspection of the traffic pattern for Runway 7L/25R demonstrated that the proposed school is less than one quarter mile from the crosswind leg to the downwind leg of the traffic pattern for Runway 25R. As such, it may be exposed to individual aircraft noise events that could reach a level that could be disruptive.

Although the proposed school site is outside the 55 decibel Community Noise Equivalent Level aircraft noise contour, the potential exists for persons at this site to be annoyed by individual aircraft noise events. Therefore, if this site is selected, we recommend that the school include provisions for buildings to have air circulation or air conditioning, so that all windows and doors can remain closed. The school should also include acoustical treatment in the design and construction of any buildings for use by students, faculty, or administrators to reduce individual irritation from aircraft noise or disruption to instruction.

In conclusion, the school site is within the AIA according to the ALUCP. As such, the potential flight hazards (described above), associated with land use in the AIA should be avoided. Additionally, an avigation easement restricting the heights of structures or trees should be dedicated to the city of Livermore. While there is generally a low risk of an accident occurring at the proposed site, the potential consequences of any accident could be severe. Caltrans cannot guarantee the safety of this or any other site. However, based upon our evaluation of existing conditions and planned development, Caltrans has no objections to the proposed school site. If this proposed site is approved, the site must be occupied by August 20, 2023, or another site evaluation by Caltrans is required prior to occupation.

This Caltrans recommendation is furnished pursuant to EC section 17215. This recommendation does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any federal, State, or local government body, nor does it constitute Caltrans approval relative to the California Public Utilities Code (PUC), the CCR, and other State statutory or regulatory codes.

Additionally, PUC sections 21670 through 21679.5 establish a mandated process to implement airport land use laws throughout the State. Pertinent portions of PUC section 21670(a) state that it is "in the public interest to provide for the orderly development of each public use airport in this state and . . . to prevent the creation of new noise and safety problems." These sections require the creation of ALUCs within the counties, set forth the commissions' powers and duties, and call for the adoption of land use measures around the vicinity of public-use airports. Section 21670(f) specifically states that school districts are included among the local agencies that are subject to airport land use laws and other requirements of the PUC. School site acquisitions pursuant to EC section 17215 must comply with the above PUC sections.

Sincerely,

Original Signed by

DONALD E. HAUG
Aviation Safety Officer

bc: Jean Finney, Deputy District Director, District 4

DonHaug:do
U:\\z\SchlEval\AlamedaCnty_LivermoreMuniArpt_PromenadeHighSchl_SchlEval_082218

Appendix G:

Hydrological Resources: Hydrology and Low Impact Development Report, Stormwater Pollution Prevention Plan, Water Flow Analysis Report

CITY OF DUBLIN

HYDROLOGY AND LOW IMPACT DEVELOPMENT (LID) DRAFT REPORT

NEW DUBLIN HIGH SCHOOL

Prepared for:

Dublin Unified School District
7141 Larkdale Avenue
Dublin, CA 94568
Contact Person: Chris Stevens
Phone No.: (925) 828-2551

Consultant:

901 East Main Street
Visalia, CA 93292
Contact: Barry Lindner
Phone: (559) 733-0440
Fax: (559) 733-7821

February 2020

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Project #190217

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SECTION 1 - INTRODUCTION

1.1 - Project Description

The New Dublin High School is comprised of approximately 23.5 acres and is located between Dublin Boulevard and Central Parkway at Grafton Street in Dublin, California. The property is owned and will be developed by the Dublin Unified School District. Proposed development includes construction of a new high school and school facilities, with associated landscaping, pavement and sidewalk improvements throughout the campus. This report provides pre-development and post-development drainage analysis and characteristics for the project and describes Low-Impact Development (LID) solutions for runoff flow duration controls and water quality controls.

Proposed LID measures include use of bioretention basins at selected locations throughout the site to capture and detain runoff from impervious areas including parking lots, sidewalks, buildings and other school facilities. In accordance with Alameda County's Water Quality Design Method, the bioretention basins proposed are sized and designed in accordance with the 80% capture method. The basins utilize specified soil media for infiltration to improve runoff/discharge water quality.

The design bioretention basins include overflow risers that tie-into drainage piping at the bottom of the basins. Filtrated and overflow runoff are routed through the basin drainage piping to the existing 60-inch storm main which runs through the site north to south.

1.2 - Project Location

The Project site is near the central north boundary of Alameda County approximately 5.5 miles northwest of Livermore and 3 miles north of Pleasanton. The site is situated north of State Route 580, north of the intersection of Dublin Boulevard and Grafton Street, APN 985-078-002, 003, 004, 005, 006, 007. The surrounding area is predominantly medium-high density and high density residential development, with two parks nearby. The project location is shown on the Site Map in Appendix B.

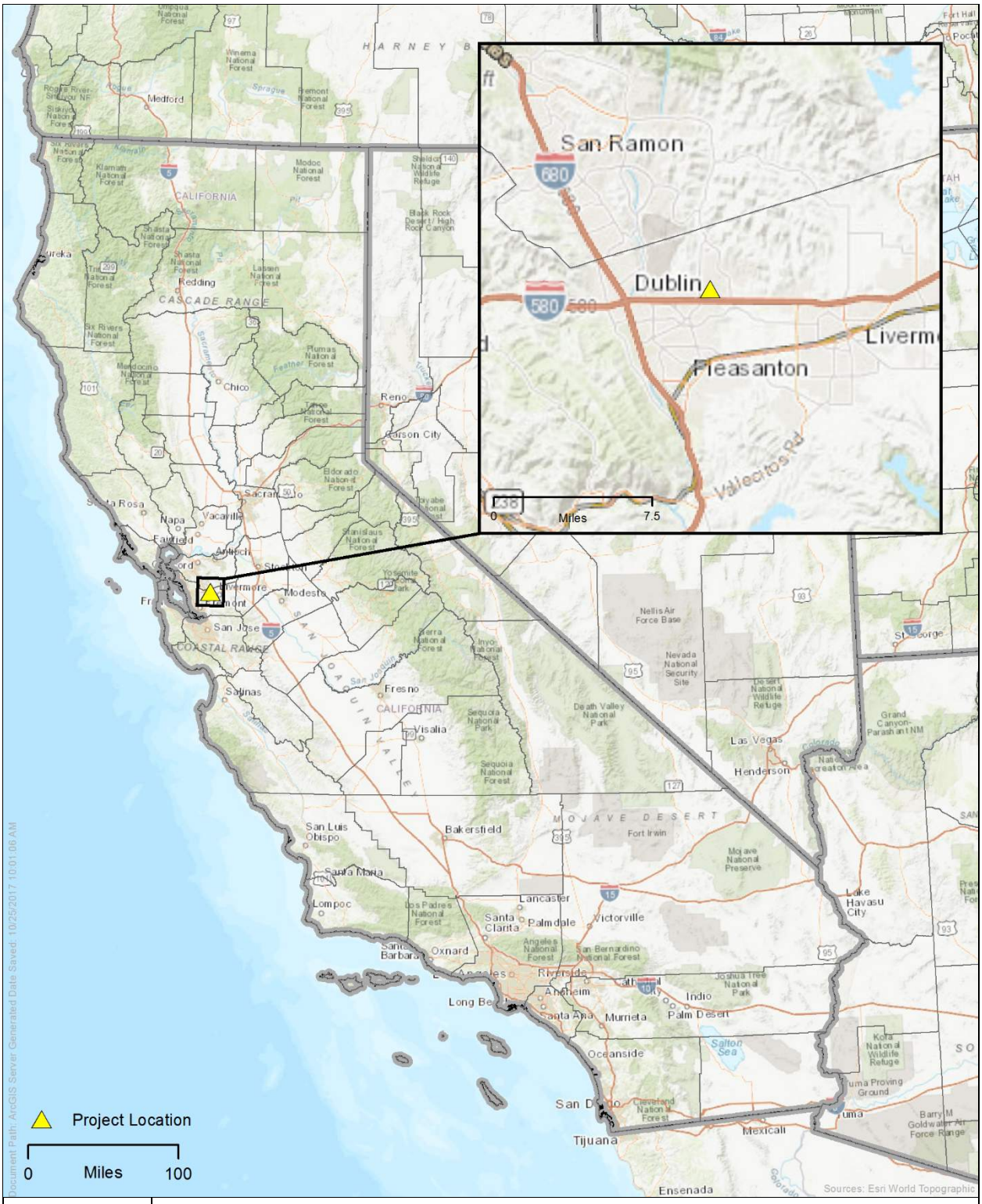


Figure 1-1
Regional Map

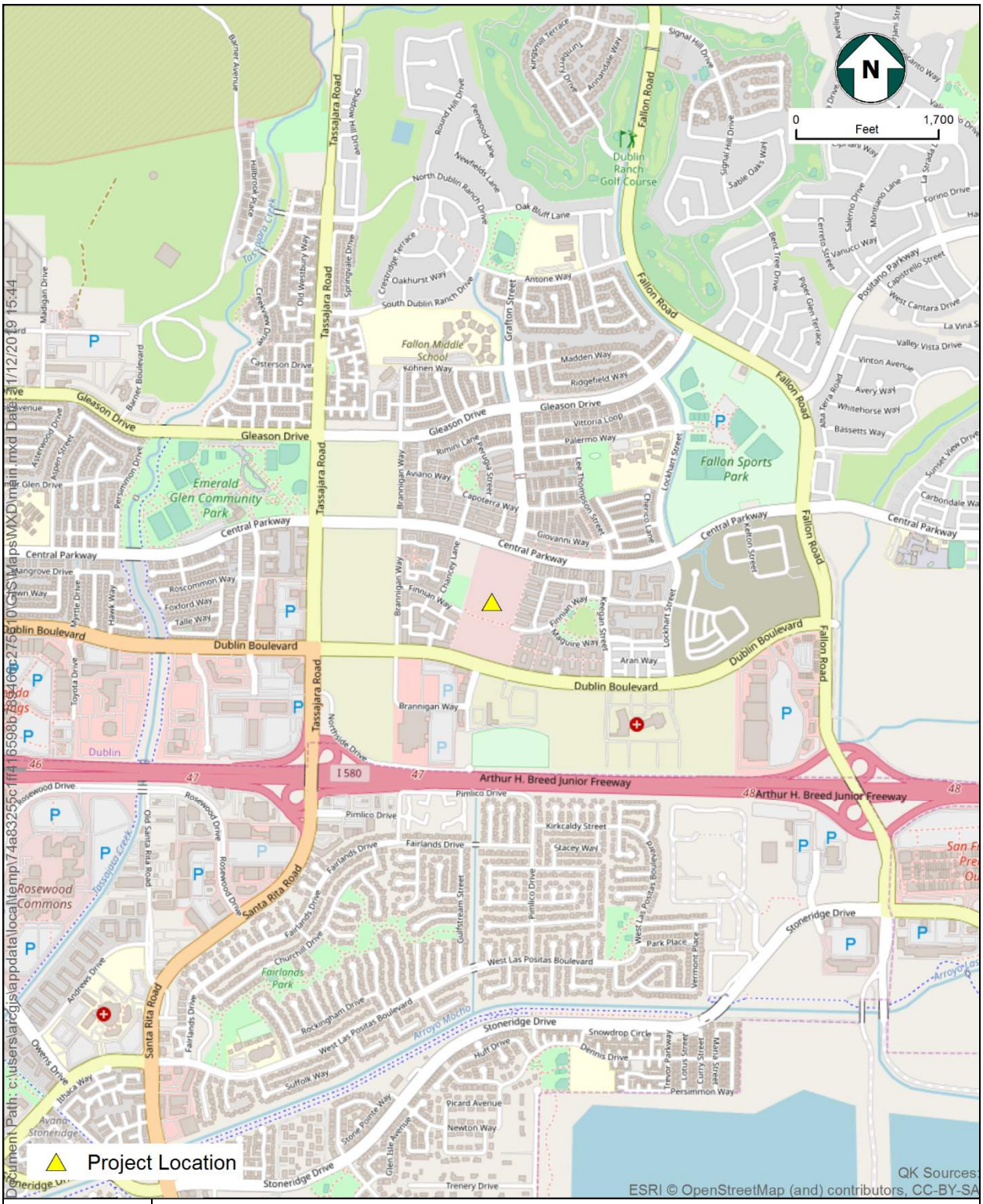


Figure 1-2
Project Site

SECTION 2 - ENVIRONMENTAL SETTING

This section identifies the regional environmental setting of the Project and describes baseline conditions. The setting is described in the context of the following subject areas:

- Climate
- Topography
- Site Specific Conditions
- Soils
- Hydrology

2.1 - Climate

The climate of the region is moderate, with historical average temperatures ranging from 56to 89 degrees Fahrenheit (F). Most rainfall occurring between October and April, and very little to none between June and August. The average annual precipitation in City of Dublin is approximately 14.8 inches.

2.2 - Topography

The Project site and surrounding land exhibits visible topographic variations. There is approximately 11 feet of fall across the site generally from the north to south.

2.3 - Site Specific Conditions

Hydrology and precipitation data for the site were utilized to determine the characteristics of the watershed and estimate the volumes and flowrates of runoff. Historical rainfall data, soil type maps, topographic maps, and climatologic data were reviewed to determine the characteristics of the watershed.

The total development area of the project is approximately 23.5 acres, including 21 acres of new impervious area, and 2.5 acres of pervious area, post-development. Pervious areas, including landscaping and bioretention basins are designed for site water quality and hydromodification management. Post-development design utilizes discrete "Drainage Management Areas", where runoff from impervious areas is directed to nearby bioretention basins throughout the campus.

The bioretention basins include gravel/rock and amended soil designed for stormwater infiltration and retention. Due to high groundwater, the basins will be lined with an impermeable liner. A perforated pipe underdrain placed within the rock layer above the liner at each basin will connect to a new drainage header that will run below ground. The basin's riser is located at the maximum ponding depth, typically 6-inches above the basin bottom. Drainage from the bioretention basins will be conveyed into a storm drainage system and tie into the existing 60-inch storm main at the south end of the school facility near Dublin Blvd. The existing storm drain flow line is approximately 11 feet below ground and runs north to south below the site and connects to a 96-inch storm drainage main within

Grafton Street. The 96-inch main then discharges storm water into the Dublin Ranch regional water quality basin, south of Dublin Blvd. and north of the state route 580.

Two storm frequencies and intensities were used to obtain the watershed runoff peak flows, depths, and volumes for the site. A 2-year storm has a 50% chance of occurring in any given year, and a 10-year storm has a 10% chance. Rainfall amounts used in the calculations were taken from the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server. The 24-hour rainfall totals for the project location are 2.15 inches and 3.31 inches for the 2-year and 10-year storm, respectively.

Table 2-1: 24-Hour Precipitation

Rainfall Distribution Type: Type I						
Rainfall Return Period (yr)	2	5	10	25	50	100
24-Hour Rainfall Amount (in)	2.15	2.78	3.31	4.03	4.60	5.18

Source: Hydrometeorological Design Studies Center, NOAA

2.4 - Soil Conditions

A review of Department of Conservation soils, Natural Resources Conservation Service and USGS topography mapping illustrates the soil type of project area, see Figure 2-1. The soil at the project site consist of majorly Clear Lake Clay with Rincon Clay Loam to the southeast.

A Geotechnical Report has been prepared by Krazan and Associates, Inc. dated September 6, 2019. The general soil profile at the site consists predominately of loose/soft to dense/very stiff silty sand, sandy gravel, silty clay and sandy clay. Groundwater was encountered at depths of 15.5 feet to 21.5 feet below site grade, however, historical data indicates groundwater has been as shallow as 8 feet within project site vicinity.

Soil Type Descriptions

Clear Lake Series: Clear lake series consist of deep, poorly drained soils formed in fine textured alluvium derived from mixed rock sources. This soil series are usually in flood plains and swales of drainageways. (CA Soil Resources, UC Davis, National Cooperative Soil Survey, USA)

Rincon Series: The Rincon series consists of deep, well drained soils that formed in alluvium from sedimentary rocks. (CA Soil Resources, UC Davis, National Cooperative Soil Survey, USA)

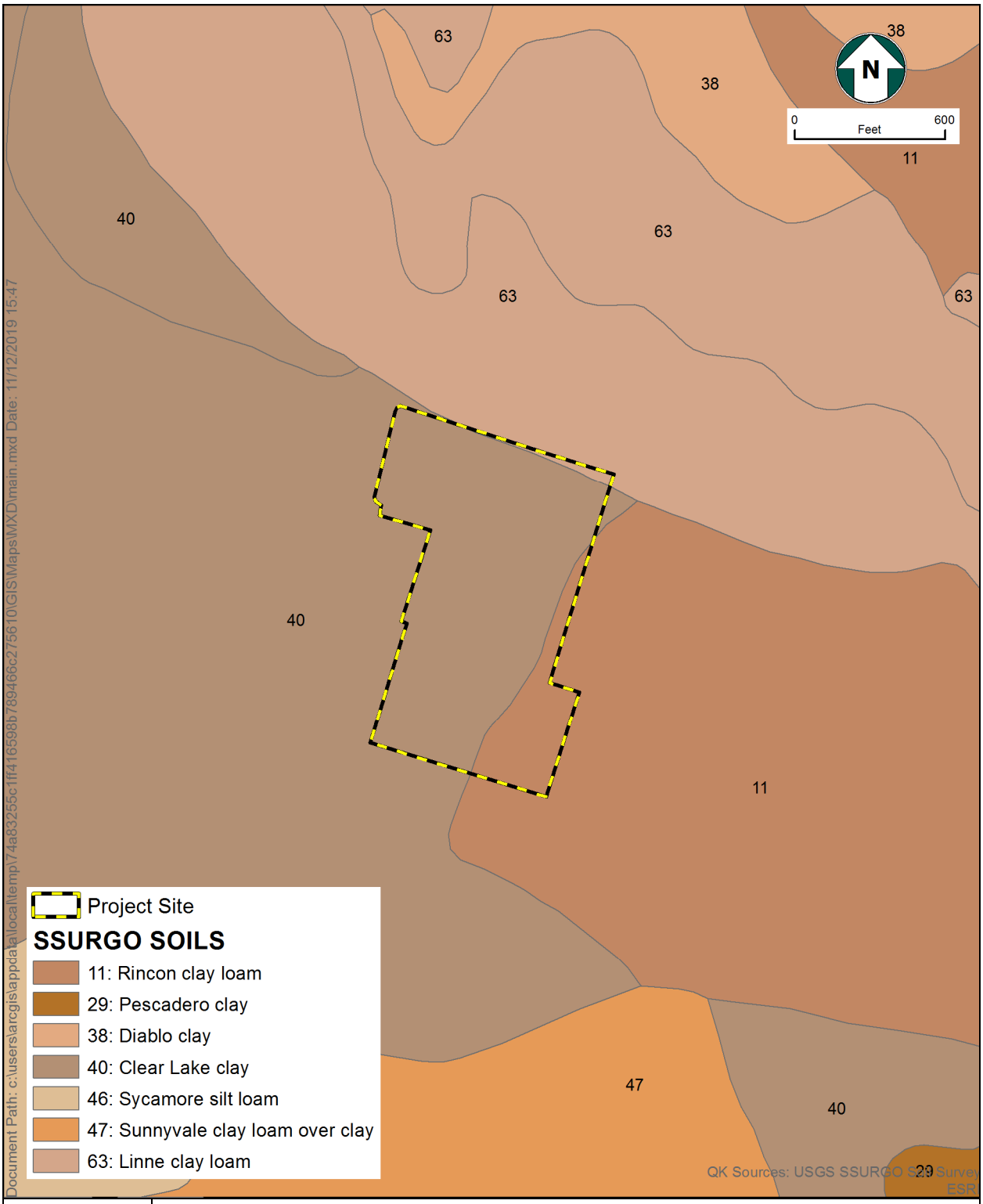


Figure 2-1
Project Site Soils Types

2.5 - Flood Hazard

A review of the Federal Emergency Management Agency (FEMA) floodplain maps indicate that the Project is within the identified FEMA Zone X further described as an "Area of Minimal Flood Hazard" (Figure 2-2). The natural topography of the study area is sloped from north to south, and the proposed grading will follow the general natural direction, though the site will be elevated and more gently sloped.



Figure 2-2
FEMA 100yr Flood Zone

SECTION 3 - METHODOLOGY & CONCLUSIONS

3.1 - Analysis and Results

Peak depth, peak outflow, peak storage, inflow volume, and outflow volume were calculated using Bay Area Hydrology Model software (BAHM). This model is indicated by the Alameda Countywide Clean Water Program as a requirement for hydromodification management. "BAHM runs with established annual rainfall from one or more long-term local precipitation gages for each of the three South Bay counties and then scales the precipitation to the user's site using mean annual precipitation maps developed by local flood control districts or published as NOAA rainfall maps" (Bicknell. J, Beyerlein. D, and Fend. A, 2006). BAHM runs the hourly rainfall for both pre-development and post-development land use conditions and routes the post-development stormwater runoff through a chosen stormwater control facility.

As noted previously, a perforated pipe underdrain that reduces the net inflow of runoff will be situated within the rock zone below the bioretention basin bottom and will discharge into the proposed storm drain system. At the connection to the existing 60-inch storm drain discharge will be limited by an orifice to a maximum rate of 6.58 cubic feet per second (CFS). Approximately 120,664 cubic feet (CF) of water can be stored in all the bioretention basins. Any head on the perforated pipe should be accounted for, meaning at low flow conditions the pipe will control discharge at a rate less than 6.58 CFS. To simplify the outflow calculations, it is assumed there will be no discharge until the bioretention basins are full and maximum head will be applied to the outlet orifice. The perforated pipes collect stormwater within the rock zone then convey into the on-site storm drainage system. The bioretention basins are sized to treat storm water via infiltration through amended soil. Larger storm events that inundate the basin will be collected through the riser pipes and conveyed directly into the storm drainage system. Each bioretention basin is designed with 6-inches of freeboard. The storm drainage system will collect all site runoff and discharge into the existing 60-inch storm drain main near Dublin Boulevard at a maximum rate of 6.58 CFS and less than the predevelopment runoff rate.

For sizing of LID facilities, the Stormwater Technical Guide was followed. New developments shall follow the requirement for a C.3 regulated project per the MRP which states "Hydromodification Management shall be designed such that post-project stormwater discharge rates and duration match pre-project 10-year peak flow". The bioretention basins have been designed to store approximately 120,664 CF of stormwater runoff. The BAHM results show that the proposed bioretention basins pass the duration flows ranging from 2-year to peak 10-year (see Appendix B).

All DMAs convey runoff to LID facilities by sheet flow and/or gutters. Individual LID facilities have also been shown to meet minimum area requirements. A summary of DMA and LID areas can be found in Table 3-1.

Table 3-1: DMA and LID Facility Summary

DMA ID	DMA Area (AC)	Runoff Factor	LID Facility Area (Bioretention) (SF)
1	0.32	1	1,027
2	0.39	1	901
3	0.13	1	625
4	0.15	1	175
5	0.13	1	175
6	0.29	1	812
7	0.24	1	548
8	0.24	1	261
9	0.21	1	2,422
10	0.17	1	444
11	0.23	1	604
12	0.12	1	1,337
13	0.56	1	644
14	1.28	1	1,965
15	0.70	1	808
16	0.89	1	1,822
17	0.24	1	924
18	0.48	1	1,283
19	0.48	1	434
20	1.08	1	2,634
21	0.26	1	2,560
22	0.66	1	2,490
23	0.22	1	948
24	0.62	1	3,535
25	0.65	1	4,917
26	0.60	1	1,887
27	0.33	1	1,439
28	0.28	1	1,800
29	0.11	1	1,007
30	0.39	1	2,084
31	0.16	1	1,402
32	0.24	1	1,385
33	1.34	1	3,030
34	2.37	1	7,422
35	2.22	1	3,038
36	0.41	1	3,719
37	0.09	1	240

38	0.39	1	507
39	0.34	1	716
40	0.34	1	489
41	0.29	1	489
42	0.38	1	2,382
43	0.48	1	2,947
44	0.28	1	767
45	0.36	1	12,216

SECTION 4 - REFERENCES

National Oceanic and Atmoshperic Administration:
https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca

USDA-NCSS Soil Survey, UC Davis, and National Cooperative Soil Survey :
https://casoilresource.lawr.ucdavis.edu/sde/?series=clear+lake, rincon

Clean Water Program:
https://www.cleanwaterprogram.org/c3-guidance-table.html

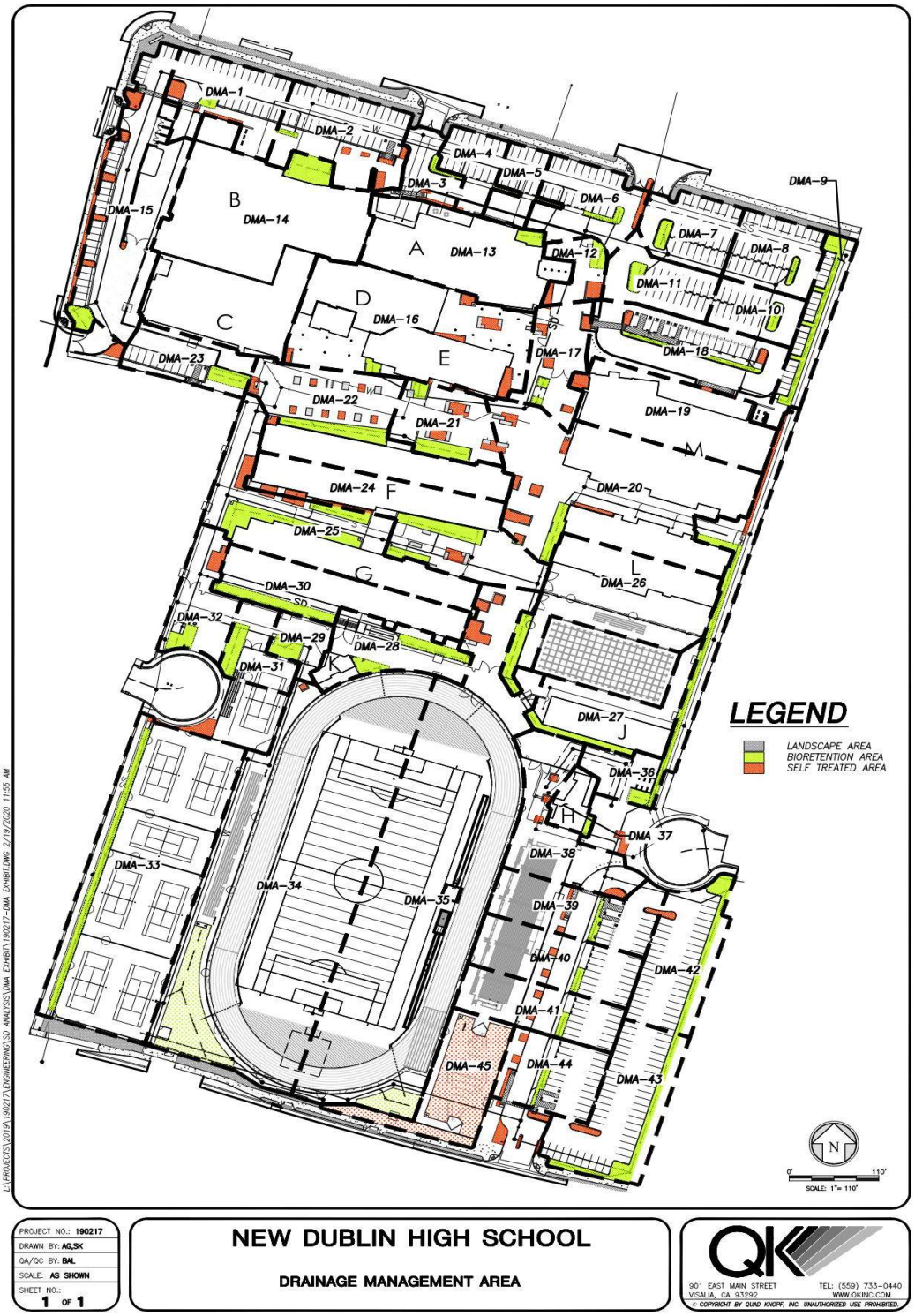
Bay Area Hydrology Model:
https://www.cleanwaterprogram.org/c3-guidance-table.html

Western Regional Climate Center:
https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4997

Bicknell, J., Beyerlein, D., and Feng, A (2006). The Bay Area Hydrology Model-A Tool for Analyzing Hydromodification Effects of Development Projects and Sizing Solutions

SECTION 5 - APPENDICES

5.1 - Appendix A – DMA Exhibit



5.2 - Appendix B – LID Calculation Sheets

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-1

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	12,910	1.0	12,910
2-3	Pervious service	1,027	0.1	103
	Total DMA Area (square feet) =	13,937		

2-4 ***Total Effective Impervious Area (EIA)*** 13,013 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 752 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	521	Square feet
5-2	Area 25% smaller than item 5-1	390	Square feet
5-3	Volume of treated runoff for area in Item 5-2	564	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	188	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	406	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	587	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	165	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.41	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	4.89	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	406	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-2

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	16,077	1.0	16,077
2-3	Pervious service	901	0.1	90
	Total DMA Area (square feet) =	16,977		

2-4 ***Total Effective Impervious Area (EIA)*** 16,167 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 935 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	647	Square feet
5-2	Area 25% smaller than item 5-1	485	Square feet
5-3	Volume of treated runoff for area in Item 5-2	701	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	234	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	157	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	227	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	708	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	4.51	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	54.09	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	157	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-3

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	5,234	1.0	5,234
2-3	Pervious service	625	0.1	63
	Total DMA Area (square feet) =	5,859		

2-4 ***Total Effective Impervious Area (EIA)*** 5,297 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 306 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	212	Square feet
5-2	Area 25% smaller than item 5-1	159	Square feet
5-3	Volume of treated runoff for area in Item 5-2	230	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	77	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	360	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	520	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(214)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.59	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-7.14	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	360	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-4

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	6,338	1.0	6,338
2-3	Pervious service	175	0.1	18
	Total DMA Area (square feet) =	6,513		

2-4 ***Total Effective Impervious Area (EIA)*** 6,356 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 367 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	254	Square feet
5-2	Area 25% smaller than item 5-1	191	Square feet
5-3	Volume of treated runoff for area in Item 5-2	276	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	92	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	175	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	253	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	115	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.65	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	7.85	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	175	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-5

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	5,582	1.0	5,582
2-3	Pervious service	175	0.1	18
	Total DMA Area (square feet) =	5,757		

2-4 ***Total Effective Impervious Area (EIA)*** 5,600 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 324 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	224	Square feet
5-2	Area 25% smaller than item 5-1	168	Square feet
5-3	Volume of treated runoff for area in Item 5-2	243	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	81	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	175	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	253	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	71	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.40	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	4.85	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	175	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-6

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	11,730	1.0	11,730
2-3	Pervious service	812	0.1	81
	Total DMA Area (square feet) =	12,542		

2-4 ***Total Effective Impervious Area (EIA)*** 11,811 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 683 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	472	Square feet
5-2	Area 25% smaller than item 5-1	354	Square feet
5-3	Volume of treated runoff for area in Item 5-2	512	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	171	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	382	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	552	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	131	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.34	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	4.11	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	382	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-7

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	9,776	1.0	9,776
2-3	Pervious service	548	0.1	55
	Total DMA Area (square feet) =	10,324		

2-4 ***Total Effective Impervious Area (EIA)*** 9,831 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 568 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	393	Square feet
5-2	Area 25% smaller than item 5-1	295	Square feet
5-3	Volume of treated runoff for area in Item 5-2	426	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	142	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	548	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	792	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(224)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.41	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-4.90	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	548	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-8

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	10,181	1.0	10,181
2-3	Pervious service	261	0.1	26
	Total DMA Area (square feet) =	10,442		

2-4 ***Total Effective Impervious Area (EIA)*** 10,207 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 590 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	408	Square feet
5-2	Area 25% smaller than item 5-1	306	Square feet
5-3	Volume of treated runoff for area in Item 5-2	443	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	148	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	261	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	377	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	213	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.82	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	9.79	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	261	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-9

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	6,635	1.0	6,635
2-3	Pervious service	2,422	0.1	242
	Total DMA Area (square feet) =	9,057		

2-4 ***Total Effective Impervious Area (EIA)*** 6,877 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 398 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	275	Square feet
5-2	Area 25% smaller than item 5-1	206	Square feet
5-3	Volume of treated runoff for area in Item 5-2	298	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	99	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2422	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	3,500	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(3,103)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.28	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-15.37	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,422	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-10

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	6,904	1.0	6,904
2-3	Pervious service	444	0.1	44
	Total DMA Area (square feet) =	7,348		

2-4 ***Total Effective Impervious Area (EIA)*** 6,948 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 402 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	278	Square feet
5-2	Area 25% smaller than item 5-1	208	Square feet
5-3	Volume of treated runoff for area in Item 5-2	301	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	100	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	444	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	642	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(240)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.54	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-6.49	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	444	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-11

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	9,262	1.0	9,262
2-3	Pervious service	604	0.1	60
	Total DMA Area (square feet) =	9,866		

2-4 ***Total Effective Impervious Area (EIA)*** 9,322 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 539 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	373	Square feet
5-2	Area 25% smaller than item 5-1	280	Square feet
5-3	Volume of treated runoff for area in Item 5-2	404	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	135	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	604	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	873	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(334)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.55	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-6.64	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	604	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-12

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	3,814	1.0	3,814
2-3	Pervious service	1,337	0.1	134
	Total DMA Area (square feet) =	5,151		

2-4 ***Total Effective Impervious Area (EIA)*** 3,948 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 228 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	158	Square feet
5-2	Area 25% smaller than item 5-1	118	Square feet
5-3	Volume of treated runoff for area in Item 5-2	171	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	57	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	626	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	905	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(677)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.08	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-12.97	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	626	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-13

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	23,768	1.0	23,768
2-3	Pervious service	644	0.1	64
	Total DMA Area (square feet) =	24,412		

2-4 ***Total Effective Impervious Area (EIA)*** 23,832 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,378 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	953	Square feet
5-2	Area 25% smaller than item 5-1	715	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,033	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	344	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	644	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	931	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	447	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.69	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	8.33	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	644	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-14

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	53,879	1.0	53,879
2-3	Pervious service	1,965	0.1	197
	Total DMA Area (square feet) =	55,844		

2-4 ***Total Effective Impervious Area (EIA)*** 54,076 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 3,126 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	2,163	Square feet
5-2	Area 25% smaller than item 5-1	1,622	Square feet
5-3	Volume of treated runoff for area in Item 5-2	2,345	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	782	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1965	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,840	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	286	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.15	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	1.75	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,965	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-15

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	29,563	1.0	29,563
2-3	Pervious service	808	0.1	81
	Total DMA Area (square feet) =	30,371		

2-4 ***Total Effective Impervious Area (EIA)*** 29,644 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,714 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	1,186	Square feet
5-2	Area 25% smaller than item 5-1	889	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,285	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	428	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	808	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,168	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	546	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.68	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	8.11	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	808	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-16

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	36,851	1.0	36,851
2-3	Pervious service	1,822	0.1	182
	Total DMA Area (square feet) =	38,673		

2-4 ***Total Effective Impervious Area (EIA)*** 37,033 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns		
		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 2,141 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	1,481	Square feet
5-2	Area 25% smaller than item 5-1	1,111	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,606	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	535	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	329	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	475	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	1,665	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	5.06	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	60.75	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	329	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-17

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	9,602	1.0	9,602
2-3	Pervious service	924	0.1	92
	Total DMA Area (square feet) =	10,526		

2-4 ***Total Effective Impervious Area (EIA)*** 9,694 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 560 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	388	Square feet
5-2	Area 25% smaller than item 5-1	291	Square feet
5-3	Volume of treated runoff for area in Item 5-2	420	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	140	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	281	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	406	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	154	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.55	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	6.59	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	281	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-18

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	19,509	1.0	19,509
2-3	Pervious service	1,283	0.1	128
	Total DMA Area (square feet) =	20,792		

2-4 ***Total Effective Impervious Area (EIA)*** 19,637 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns		
		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,135 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	785	Square feet
5-2	Area 25% smaller than item 5-1	589	Square feet
5-3	Volume of treated runoff for area in Item 5-2	851	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	284	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	940	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,359	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(223)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.24	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-2.85	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	940	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-19

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	20,526	1.0	20,526
2-3	Pervious service	434	0.1	43
	Total DMA Area (square feet) =	20,960		

2-4 ***Total Effective Impervious Area (EIA)*** 20,569 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,189 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	823	Square feet
5-2	Area 25% smaller than item 5-1	617	Square feet
5-3	Volume of treated runoff for area in Item 5-2	892	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	297	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	434	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	627	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	562	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	1.29	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	15.54	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	434	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	**Inches**

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-20

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	44,237	1.0	44,237
2-3	Pervious service	2,634	0.1	263
	Total DMA Area (square feet) =	46,871		

2-4 ***Total Effective Impervious Area (EIA)*** 44,500 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns		
		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 2,573 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	**Inches per hour**
4-2	Divide Item 3-2 by Item 4-1	3.47	**Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	1,780	**Square feet**
5-2	Area 25% smaller than item 5-1	1,335	**Square feet**
5-3	Volume of treated runoff for area in Item 5-2	1,929	**Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	643	**Cubic feet** (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	**Feet** (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	**Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1164	**Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,682	**Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	890	**Cubic feet** (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.76	**Feet** (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	9.18	**Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,164	**Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-21

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	8,733	1.0	8,733
2-3	Pervious service	2,560	0.1	256
	Total DMA Area (square feet) =	11,293		

2-4 ***Total Effective Impervious Area (EIA)*** 8,989 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 520 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	360	Square feet
5-2	Area 25% smaller than item 5-1	270	Square feet
5-3	Volume of treated runoff for area in Item 5-2	390	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	130	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1298	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,876	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,356)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.04	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-12.54	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,298	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-22

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	26,056	1.0	26,056
2-3	Pervious service	2,490	0.1	249
	Total DMA Area (square feet) =	28,546		

2-4 ***Total Effective Impervious Area (EIA)*** 26,305 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,521 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	1,052	Square feet
5-2	Area 25% smaller than item 5-1	789	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,141	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	380	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2059	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,976	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,455)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.71	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-8.48	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,059	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-23

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	8,645	1.0	8,645
2-3	Pervious service	948	0.1	95
	Total DMA Area (square feet) =	9,593		

2-4 ***Total Effective Impervious Area (EIA)*** 8,740 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 505 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	350	Square feet
5-2	Area 25% smaller than item 5-1	262	Square feet
5-3	Volume of treated runoff for area in Item 5-2	379	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	126	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	948	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,370	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(865)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.91	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-10.95	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	948	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-24

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	23,595	1.0	23,595
2-3	Pervious service	3,535	0.1	354
	Total DMA Area (square feet) =	27,130		

2-4 ***Total Effective Impervious Area (EIA)*** 23,949 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,384 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	958	Square feet
5-2	Area 25% smaller than item 5-1	718	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,038	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	346	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1832	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,648	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,263)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.69	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-8.27	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,832	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-25

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	23,426	1.0	23,426
2-3	Pervious service	4,917	0.1	492
	Total DMA Area (square feet) =	28,343		

2-4 ***Total Effective Impervious Area (EIA)*** 23,918 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,383 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	957	Square feet
5-2	Area 25% smaller than item 5-1	718	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,037	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	346	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	3973	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	5,742	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(4,359)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.10	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-13.17	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	3,973	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-26

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	24,256	1.0	24,256
2-3	Pervious service	1,887	0.1	189
	Total DMA Area (square feet) =	26,143		

2-4 ***Total Effective Impervious Area (EIA)*** 24,445 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,413 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	978	Square feet
5-2	Area 25% smaller than item 5-1	733	Square feet
5-3	Volume of treated runoff for area in Item 5-2	1,060	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	353	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1887	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,727	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,314)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.70	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-8.36	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,887	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-27

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	13,085	1.0	13,085
2-3	Pervious service	1,439	0.1	144
	Total DMA Area (square feet) =	14,524		

2-4 ***Total Effective Impervious Area (EIA)*** 13,229 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns		
		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 765 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	529	Square feet
5-2	Area 25% smaller than item 5-1	397	Square feet
5-3	Volume of treated runoff for area in Item 5-2	574	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	191	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1439	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,080	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,315)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.91	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-10.97	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,439	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-28

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	10,180	1.0	10,180
2-3	Pervious service	1,800	0.1	180
	Total DMA Area (square feet) =	11,980		

2-4 ***Total Effective Impervious Area (EIA)*** 10,360 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 599 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	414	Square feet
5-2	Area 25% smaller than item 5-1	311	Square feet
5-3	Volume of treated runoff for area in Item 5-2	449	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	150	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1800	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,601	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(2,003)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.11	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-13.35	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,800	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-29

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	3,689	1.0	3,689
2-3	Pervious service	1,007	0.1	101
	Total DMA Area (square feet) =	4,696		

2-4 ***Total Effective Impervious Area (EIA)*** 3,790 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 219 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	152	Square feet
5-2	Area 25% smaller than item 5-1	114	Square feet
5-3	Volume of treated runoff for area in Item 5-2	164	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	55	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1007	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,455	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,236)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.23	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-14.73	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,007	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-30

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	15,070	1.0	15,070
2-3	Pervious service	2,084	0.1	208
	Total DMA Area (square feet) =	17,154		

2-4 ***Total Effective Impervious Area (EIA)*** 15,278 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 883 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	611	Square feet
5-2	Area 25% smaller than item 5-1	458	Square feet
5-3	Volume of treated runoff for area in Item 5-2	662	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	221	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2084	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	3,012	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(2,129)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.02	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-12.26	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,084	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-31

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	5,772	1.0	5,772
2-3	Pervious service	1,402	0.1	140
	Total DMA Area (square feet) =	7,174		

2-4 ***Total Effective Impervious Area (EIA)*** 5,912 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 342 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	236	Square feet
5-2	Area 25% smaller than item 5-1	177	Square feet
5-3	Volume of treated runoff for area in Item 5-2	256	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	85	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	1402	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,026	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,684)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.20	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-14.42	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	1,402	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-32

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	8,955	1.0	8,955
2-3	Pervious service	1,385	0.1	139
	Total DMA Area (square feet) =	10,340		

2-4 ***Total Effective Impervious Area (EIA)*** 9,094 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 526 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	364	Square feet
5-2	Area 25% smaller than item 5-1	273	Square feet
5-3	Volume of treated runoff for area in Item 5-2	394	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	131	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	842	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	1,217	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(691)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.82	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-9.85	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	842	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-33

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	55,549	1.0	55,549
2-3	Pervious service	3,030	0.1	303
	Total DMA Area (square feet) =	58,579		

2-4 ***Total Effective Impervious Area (EIA)*** 55,852 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 3,229 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	2,234	Square feet
5-2	Area 25% smaller than item 5-1	1,676	Square feet
5-3	Volume of treated runoff for area in Item 5-2	2,422	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	807	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	3030	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	4,379	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(1,150)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.38	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-4.56	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	3,030	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-34

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	95,972	1.0	95,972
2-3	Pervious service	7,422	0.1	742
	Total DMA Area (square feet) =	103,394		

2-4 ***Total Effective Impervious Area (EIA)*** 96,714 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 5,591 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	3,869	Square feet
5-2	Area 25% smaller than item 5-1	2,901	Square feet
5-3	Volume of treated runoff for area in Item 5-2	4,193	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	1,398	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	7422	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	10,727	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(5,136)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.69	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-8.30	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	7,422	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-35

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	93,805	1.0	93,805
2-3	Pervious service	3,038	0.1	304
	Total DMA Area (square feet) =	96,843		

2-4 ***Total Effective Impervious Area (EIA)*** 94,109 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 5,441 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	3,764	Square feet
5-2	Area 25% smaller than item 5-1	2,823	Square feet
5-3	Volume of treated runoff for area in Item 5-2	4,080	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	1,360	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2000	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	2,891	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	2,550	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	1.27	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	15.30	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,000	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-36

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	13,961	1.0	13,961
2-3	Pervious service	3,719	0.1	372
	Total DMA Area (square feet) =	17,680		

2-4 ***Total Effective Impervious Area (EIA)*** 14,333 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 829 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	573	Square feet
5-2	Area 25% smaller than item 5-1	430	Square feet
5-3	Volume of treated runoff for area in Item 5-2	621	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	207	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	3719	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	5,375	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(4,546)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.22	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-14.67	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	3,719	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-37

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	3,522	1.0	3,522
2-3	Pervious service	240	0.1	24
	Total DMA Area (square feet) =	3,762		

2-4 ***Total Effective Impervious Area (EIA)*** 3,546 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 205 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	142	Square feet
5-2	Area 25% smaller than item 5-1	106	Square feet
5-3	Volume of treated runoff for area in Item 5-2	154	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	51	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	240	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	347	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(142)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-0.59	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-7.09	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	240	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-38

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	16,359	1.0	16,359
2-3	Pervious service	507	0.1	51
	Total DMA Area (square feet) =	16,866		

2-4 ***Total Effective Impervious Area (EIA)*** 16,410 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 949 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	656	Square feet
5-2	Area 25% smaller than item 5-1	492	Square feet
5-3	Volume of treated runoff for area in Item 5-2	711	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	237	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	507	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	733	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	216	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.43	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	5.11	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	507	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-39

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	14,123	1.0	14,123
2-3	Pervious service	716	0.1	72
	Total DMA Area (square feet) =	14,839		

2-4 ***Total Effective Impervious Area (EIA)*** 14,195 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 821 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	568	Square feet
5-2	Area 25% smaller than item 5-1	426	Square feet
5-3	Volume of treated runoff for area in Item 5-2	615	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	205	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	363	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	525	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	296	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.82	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	9.78	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	363	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-40

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	14,228	1.0	14,228
2-3	Pervious service	489	0.1	49
	Total DMA Area (square feet) =	14,717		

2-4 ***Total Effective Impervious Area (EIA)*** 14,277 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 825 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	571	Square feet
5-2	Area 25% smaller than item 5-1	428	Square feet
5-3	Volume of treated runoff for area in Item 5-2	619	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	206	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	298	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	431	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	395	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	1.32	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	15.89	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	298	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-41

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	12,247	1.0	12,247
2-3	Pervious service	489	0.1	49
	Total DMA Area (square feet) =	12,736		

2-4 ***Total Effective Impervious Area (EIA)*** 12,296 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 711 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	492	Square feet
5-2	Area 25% smaller than item 5-1	369	Square feet
5-3	Volume of treated runoff for area in Item 5-2	533	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	178	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	298	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	431	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	280	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.94	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	11.28	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	298	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-42

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	14,322	1.0	14,322
2-3	Pervious service	2,382	0.1	238
	Total DMA Area (square feet) =	16,704		

2-4 ***Total Effective Impervious Area (EIA)*** 14,560 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 842 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	582	Square feet
5-2	Area 25% smaller than item 5-1	437	Square feet
5-3	Volume of treated runoff for area in Item 5-2	631	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	210	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2232	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	3,226	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(2,384)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.07	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-12.82	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,232	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-43

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	18,079	1.0	18,079
2-3	Pervious service	2,947	0.1	295
	Total DMA Area (square feet) =	21,026		

2-4 ***Total Effective Impervious Area (EIA)*** 18,374 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 1,062 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	735	Square feet
5-2	Area 25% smaller than item 5-1	551	Square feet
5-3	Volume of treated runoff for area in Item 5-2	797	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	266	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	2687	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	3,883	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(2,821)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.05	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-12.60	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	2,687	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, showin in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-44

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	11,621	1.0	11,621
2-3	Pervious service	767	0.1	77
	Total DMA Area (square feet) =	12,388		

2-4 ***Total Effective Impervious Area (EIA)*** 11,698 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 676 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	468	Square feet
5-2	Area 25% smaller than item 5-1	351	Square feet
5-3	Volume of treated runoff for area in Item 5-2	507	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	169	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	392	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	567	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	110	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	0.28	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	3.36	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	392	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Dublin High School	
1-2	City application ID:		
1-3	Site Address or APN:	985-078-002,003,004,005,006,007	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	19.0	Inches

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site. Click here for map

1-6	Applicable Rain Gauge[2]	Oakland	

Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.

MAP adjustment factor is automatically calculated as: 1.04

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: DMA-45

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	3,486	1.0	3,486
2-3	Pervious service	12,216	0.1	1,222
	Total DMA Area (square feet) =	15,702		

2-4 ***Total Effective Impervious Area (EIA)*** 4,708 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns		
		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**

(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.69 **Inches**

(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 272 **Cubic feet**

(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	Inches per hour
4-2	Divide Item 3-2 by Item 4-1	3.47	Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	188	Square feet
5-2	Area 25% smaller than item 5-1	141	Square feet
5-3	Volume of treated runoff for area in Item 5-2	204	Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	68	Cubic feet (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	Feet (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.8	Inches (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2	12216	Sq.ft. (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	17,656	Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3	(17,383)	Cubic feet (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1	-1.42	Feet (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches	-17.08	Inches (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	12,216	Square feet (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

5.4 - Appendix C – Bay Area Hydrology Model Report

BAHM2013

PROJECT REPORT

General Model Information

Project Name:	FinalManualModel_1.22_BAHM_Fills
Site Name:	Dublin Ranch
Site Address:	
City:	
Report Date:	2/28/2020
Gage:	LIVERMORE
Data Start:	1959/10/01
Data End:	2004/09/30
Timestep:	Hourly
Precip Scale:	1.133
Version Date:	2019/12/31

POC Thresholds

Low Flow Threshold for POC1:	10 Percent of the 2 Year
High Flow Threshold for POC1:	10 Year

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Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C D,Grass,Flat(0-5%)	23.46
Pervious Total	23.46
Impervious Land Use	acre
Impervious Total	0
Basin Total	23.46

Element Flows To:

Surface	Interflow	Groundwater

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Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
Parking,Flat(0-5%)	21.1
Impervious Total	21.1
Basin Total	21.1

Element Flows To:

Surface	Interflow	Groundwater
Surface retention 1	Surface retention 1	

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Mitigated Routing

Bioretention 1

Bottom Length:	265.00 ft.
Bottom Width:	265.00 ft.
Material thickness of first layer:	3
Material type for first layer:	BAHM 5
Material thickness of second layer:	1.5
Material type for second layer:	GRAVEL
Material thickness of third layer:	0
Material type for third layer:	GRAVEL
Underdrain used	
Underdrain Diameter (feet):	0.5
Orifice Diameter (in.):	3
Offset (in.):	4
Flow Through Underdrain (ac-ft.):	977.985
Total Outflow (ac-ft.):	1051.192
Percent Through Underdrain:	93.04
Discharge Structure	
Riser Height:	0.5 ft.
Riser Diameter:	24 in.
Element Flows To:	
Outlet 1	Outlet 2

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Bioretention Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	1.6121	0.0000	0.0000	0.0000
0.0611	1.6121	0.0374	0.0000	0.0000
0.1222	1.6121	0.0749	0.0000	0.0000
0.1833	1.6121	0.1123	0.0000	0.0000
0.2444	1.6122	0.1498	0.0000	0.0000
0.3056	1.6122	0.1872	0.0000	0.0000
0.3667	1.6122	0.2246	0.0000	0.0000
0.4278	1.6122	0.2621	0.0000	0.0000
0.4889	1.6122	0.2995	0.0000	0.0000
0.5500	1.6122	0.3369	0.0000	0.0000
0.6111	1.6122	0.3744	0.0000	0.0000
0.6722	1.6122	0.4118	0.0000	0.0000
0.7333	1.6122	0.4493	0.0000	0.0000
0.7944	1.6122	0.4867	0.0000	0.0000
0.8556	1.6122	0.5241	0.0000	0.0000
0.9167	1.6122	0.5616	0.0000	0.0000
0.9778	1.6122	0.5990	0.0000	0.0000
1.0389	1.6122	0.6364	0.0000	0.0000
1.1000	1.6122	0.6739	0.0000	0.0000
1.1611	1.6122	0.7113	0.0000	0.0000
1.2222	1.6122	0.7488	0.0000	0.0000
1.2833	1.6122	0.7862	0.0000	0.0000
1.3444	1.6122	0.8236	0.0000	0.0000
1.4056	1.6122	0.8611	0.0000	0.0000
1.4667	1.6122	0.8985	0.0000	0.0000
1.5278	1.6122	0.9360	0.0000	0.0000
1.5889	1.6122	0.9734	0.0000	0.0000
1.6500	1.6122	1.0108	0.0000	0.0000
1.7111	1.6122	1.0483	0.0000	0.0000

1.7722	1.6122	1.0857	0.0000	0.0000
1.8333	1.6122	1.1231	0.0000	0.0000
1.8944	1.6122	1.1606	0.0000	0.0000
1.9556	1.6122	1.1980	0.0000	0.0000
2.0167	1.6122	1.2355	0.0000	0.0000
2.0778	1.6122	1.2729	0.0000	0.0000
2.1389	1.6122	1.3103	0.0000	0.0000
2.2000	1.6122	1.3478	0.0000	0.0000
2.2611	1.6122	1.3852	0.0000	0.0000
2.3222	1.6122	1.4227	0.0000	0.0000
2.3833	1.6122	1.4601	0.0000	0.0000
2.4444	1.6122	1.4975	0.0000	0.0000
2.5056	1.6122	1.5350	0.0000	0.0000
2.5667	1.6122	1.5724	0.0000	0.0000
2.6278	1.6122	1.6099	0.0000	0.0000
2.6889	1.6122	1.6473	0.0000	0.0000
2.7500	1.6122	1.6847	0.0000	0.0000
2.8111	1.6122	1.7222	0.0000	0.0000
2.8722	1.6122	1.7596	0.0000	0.0000
2.9333	1.6122	1.7971	0.0000	0.0000
2.9944	1.6122	1.8345	0.0000	0.0000
3.0556	1.6122	1.8754	0.0000	0.0000
3.1167	1.6122	1.9163	0.0000	0.0000
3.1778	1.6122	1.9572	0.0000	0.0000
3.2389	1.6122	1.9980	0.0000	0.0000
3.3000	1.6122	2.0389	0.0000	0.0000
3.3611	1.6122	2.0798	0.0000	0.0000
3.4222	1.6122	2.1207	0.0000	0.0000
3.4833	1.6123	2.1616	0.0000	0.0000
3.5444	1.6123	2.2025	0.0000	0.0000
3.6056	1.6123	2.2434	0.0000	0.0000
3.6667	1.6123	2.2843	0.0000	0.0000
3.7278	1.6123	2.3252	0.0000	0.0000
3.7889	1.6123	2.3660	0.0000	0.0000
3.8500	1.6123	2.4069	0.0000	0.0000
3.9111	1.6123	2.4478	0.0000	0.0000
3.9722	1.6123	2.4887	0.0000	0.0000
4.0333	1.6123	2.5296	0.0000	0.0000
4.0944	1.6123	2.5705	0.0000	0.0000
4.1556	1.6123	2.6114	0.0000	0.0000
4.2167	1.6123	2.6523	0.0000	0.0000
4.2778	1.6123	2.6932	0.0000	0.0000
4.3389	1.6123	2.7340	0.0000	0.0000
4.4000	1.6123	2.7749	0.0000	0.0000
4.4611	1.6123	2.8158	0.0000	0.0000
4.5222	1.6123	2.9143	0.0000	0.0000
4.5833	1.6123	3.0129	0.0000	0.0000
4.6444	1.6123	3.1114	0.0000	0.0000
4.7056	1.6123	3.2099	0.0000	0.0000
4.7667	1.6123	3.3085	0.0000	0.0000
4.8278	1.6123	3.4070	0.0000	0.0000
4.8889	1.6123	3.5055	0.0000	0.0000
4.9500	1.6123	3.6040	0.0000	0.0000
5.0111	1.6123	3.7026	0.0000	0.0000
5.0722	1.6123	3.8011	0.0000	0.0000
5.1333	1.6123	3.8996	0.0000	0.0000
5.1944	1.6123	3.9982	0.0000	0.0000
5.2556	1.6123	4.0967	0.0000	0.0000

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5.3167	1.6123	4.1952	0.0000	0.0000
5.3778	1.6123	4.2938	0.0000	0.0000
5.4389	1.6123	4.3923	0.0000	0.0000

Bioretention Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	To Amended(cfs)	Infilt(cfs)
5.4389	1.6121	4.3923	0.0000	0.0000	0.0000
5.5000	1.6123	4.4908	0.0000	0.0000	0.0000
5.5611	1.6123	4.5893	0.0000	0.0000	0.0000
5.5000	1.6121	4.0669	0.0000	10.837	0.0000

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Surface retention 1

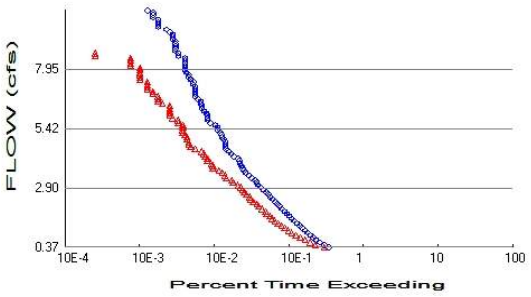
Element Flows To:

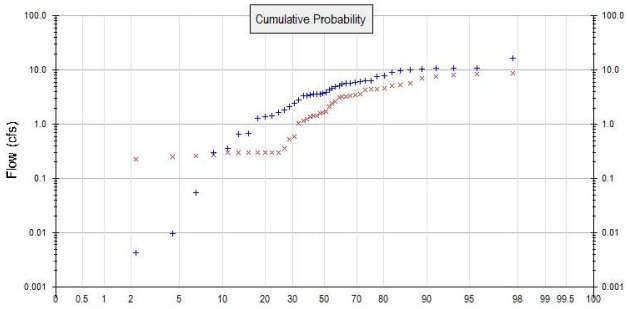
Outlet 1	Outlet 2
	Bioretention 1

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Analysis Results

POC 1





+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 23.46
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0
Total Impervious Area: 21.1

Flow Frequency Method: Weibull

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	3.71417
5 year	7.800651
10 year	10.478039
25 year	11.352683

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	1.62232
5 year	4.557257
10 year	7.216108
25 year	8.536963

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Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	Predeveloped	Mitigated
1960	3.810	1.378
1961	1.278	0.302
1962	3.636	2.090
1963	5.604	5.268
1964	0.646	1.141
1965	2.823	1.729
1966	2.430	1.039
1967	16.456	8.718
1968	3.571	2.456
1969	7.507	3.116
1970	5.670	1.622
1971	4.583	4.572
1972	0.010	0.590
1973	10.867	4.275

1974	6.179	0.302
1975	3.394	0.302
1976	0.002	0.205
1977	0.004	0.252
1978	5.590	1.421
1979	6.238	1.423
1980	4.982	3.600
1981	0.689	3.302
1982	10.149	8.520
1983	7.882	5.609
1984	3.488	3.181
1985	1.637	0.302
1986	10.797	8.045
1987	2.079	3.289
1988	0.055	0.226
1989	0.361	0.272
1990	1.838	0.302
1991	3.714	0.526
1992	3.313	1.612
1993	5.210	1.251
1994	1.379	0.302
1995	9.748	3.454
1996	10.607	4.504
1997	6.265	2.618
1998	9.163	5.149
1999	4.292	0.302
2000	3.544	4.389
2001	0.298	0.262
2002	1.454	0.355
2003	5.834	7.095
2004	10.409	7.444

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Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	16.4555	8.7178
2	10.8667	8.5197
3	10.7967	8.0448
4	10.6073	7.4440
5	10.4091	7.0946
6	10.1490	5.6092
7	9.7478	5.2684
8	9.1628	5.1489
9	7.8821	4.5721
10	7.5073	4.5039
11	6.2654	4.3888
12	6.2379	4.2749
13	6.1787	3.6004
14	5.8345	3.4545
15	5.6703	3.3016
16	5.6041	3.2894
17	5.5899	3.1809
18	5.2095	3.1156
19	4.9816	2.6183
20	4.5828	2.4563
21	4.2924	2.0897
22	3.8103	1.7286
23	3.7142	1.6223

24	3.6360	1.6122
25	3.5714	1.4229
26	3.5443	1.4210
27	3.4881	1.3779
28	3.3937	1.2508
29	3.3128	1.1414
30	2.8230	1.0387
31	2.4297	0.5903
32	2.0794	0.5263
33	1.8383	0.3555
34	1.6368	0.3022
35	1.4542	0.3022
36	1.3788	0.3022
37	1.2780	0.3022
38	0.6886	0.3022
39	0.6464	0.3022
40	0.3610	0.3022
41	0.2979	0.2717
42	0.0549	0.2625
43	0.0095	0.2523
44	0.0043	0.2257
45	0.0022	0.2047

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Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.3714	1346	1180	87	Pass
0.4735	1186	889	74	Pass
0.5756	1033	767	74	Pass
0.6777	918	652	71	Pass
0.7798	835	565	67	Pass
0.8819	770	489	63	Pass
0.9839	712	434	60	Pass
1.0860	658	391	59	Pass
1.1881	600	348	58	Pass
1.2902	553	318	57	Pass
1.3923	506	281	55	Pass
1.4944	466	258	55	Pass
1.5965	433	236	54	Pass
1.6985	400	219	54	Pass
1.8006	372	201	54	Pass
1.9027	348	193	55	Pass
2.0048	320	172	53	Pass
2.1069	299	155	51	Pass
2.2090	276	149	53	Pass
2.3111	258	132	51	Pass
2.4132	241	124	51	Pass
2.5152	221	118	53	Pass
2.6173	212	106	50	Pass
2.7194	196	100	51	Pass
2.8215	180	95	52	Pass
2.9236	166	89	53	Pass
3.0257	155	82	52	Pass
3.1278	146	71	48	Pass
3.2299	138	68	49	Pass
3.3319	125	57	45	Pass
3.4340	115	55	47	Pass
3.5361	104	51	49	Pass
3.6382	99	46	46	Pass
3.7403	96	38	39	Pass
3.8424	93	38	40	Pass
3.9445	87	36	41	Pass
4.0466	86	32	37	Pass
4.1486	82	32	39	Pass
4.2507	72	30	41	Pass
4.3528	68	29	42	Pass
4.4549	63	27	42	Pass
4.5570	57	22	38	Pass
4.6591	56	19	33	Pass
4.7612	56	18	32	Pass
4.8632	56	18	32	Pass
4.9653	53	17	32	Pass
5.0674	50	17	34	Pass
5.1695	49	16	32	Pass
5.2716	48	15	31	Pass
5.3737	44	15	34	Pass
5.4758	44	15	34	Pass
5.5779	41	15	36	Pass
5.6799	35	13	37	Pass

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5.7820	33	13	39	Pass
5.8841	32	11	34	Pass
5.9862	32	10	31	Pass
6.0883	31	10	32	Pass
6.1904	29	10	34	Pass
6.2925	27	10	37	Pass
6.3946	27	10	37	Pass
6.4966	26	8	30	Pass
6.5987	26	7	26	Pass
6.7008	24	7	29	Pass
6.8029	22	7	31	Pass
6.9050	22	6	27	Pass
7.0071	22	6	27	Pass
7.1092	22	5	22	Pass
7.2113	22	5	22	Pass
7.3133	21	5	23	Pass
7.4154	21	5	23	Pass
7.5175	19	4	21	Pass
7.6196	18	4	22	Pass
7.7217	18	4	22	Pass
7.8238	17	4	23	Pass
7.9259	16	4	25	Pass
8.0279	16	4	25	Pass
8.1300	16	3	18	Pass
8.2321	16	3	18	Pass
8.3342	16	3	18	Pass
8.4363	16	3	18	Pass
8.5384	13	1	7	Pass
8.6405	13	1	7	Pass
8.7426	12	0	0	Pass
8.8446	12	0	0	Pass
8.9467	12	0	0	Pass
9.0488	12	0	0	Pass
9.1509	12	0	0	Pass
9.2530	11	0	0	Pass
9.3551	11	0	0	Pass
9.4572	11	0	0	Pass
9.5593	10	0	0	Pass
9.6613	9	0	0	Pass
9.7634	7	0	0	Pass
9.8655	7	0	0	Pass
9.9676	7	0	0	Pass
10.0697	7	0	0	Pass
10.1718	6	0	0	Pass
10.2739	6	0	0	Pass
10.3760	6	0	0	Pass
10.4780	5	0	0	Pass

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Water Quality

Drawdown Time Results

Pond: Bioretention 1

Days	Stage(feet)	Percent of Total Run Time
1	1.576	4.5352
2	2.041	2.0690
3	2.664	0.5351
4	3.403	0.0152
5	4.258	N/A

Maximum Stage: 4.500 Drawdown Time: 05 00:00:10

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POC 2

POC #2 was not reported because POC must exist in both scenarios and both scenarios must have been run.

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Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

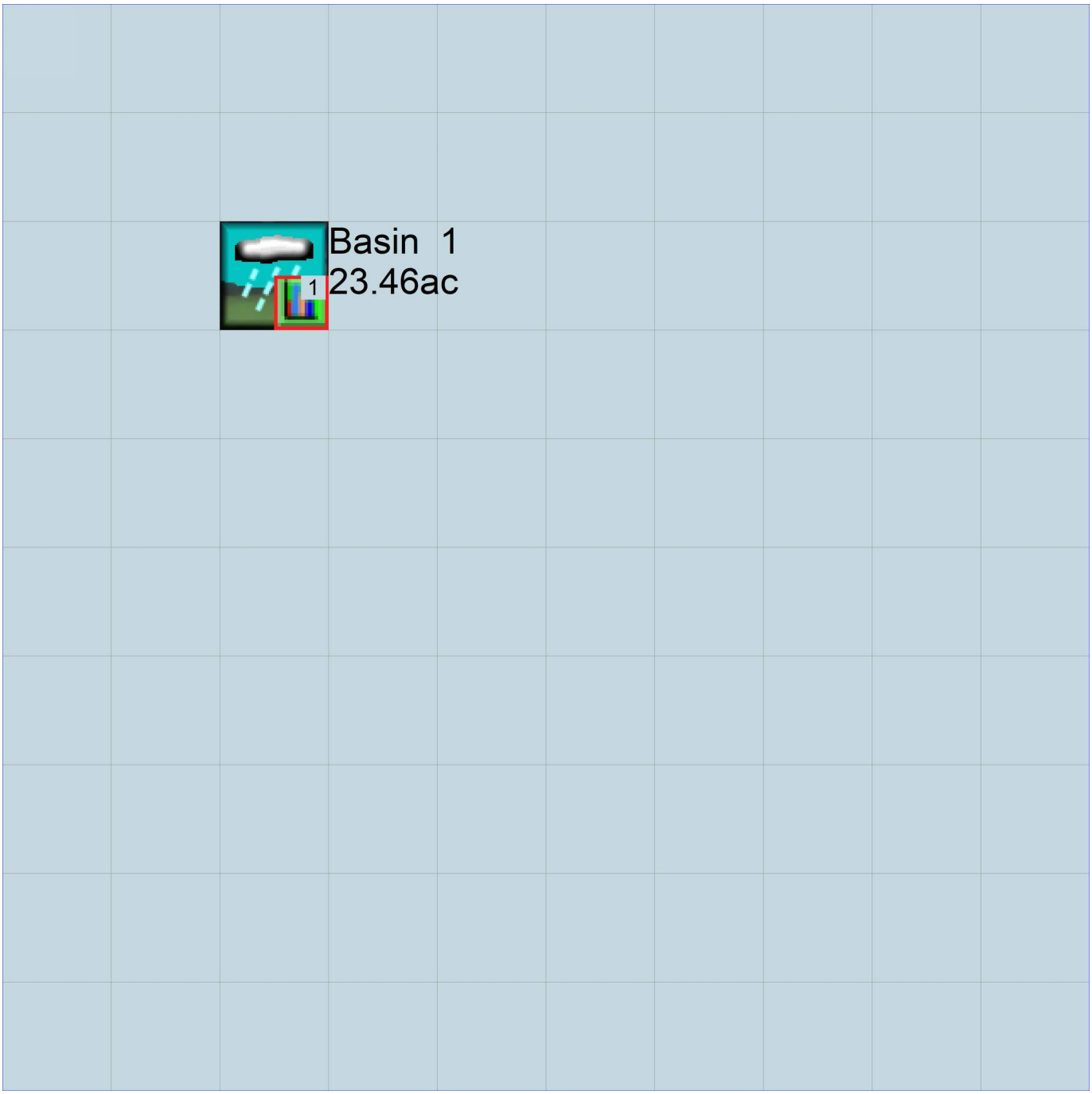
No PERLND changes have been made.

IMPLND Changes

No IMPLND changes have been made.

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Appendix
Predeveloped Schematic



Mitigated Schematic



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Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1959 10 01        END    2004 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM         26   FinalManualModel_1.22_BAHM_Fills.wdm
MESSU       25   MitFinalManualModel_1.22_BAHM_Fills.MES
            27   MitFinalManualModel_1.22_BAHM_Fills.L61
            28   MitFinalManualModel_1.22_BAHM_Fills.L62
            30   POCFinalManualModel_1.22_BAHM_Fills1.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:60
      IMPLND      14
      GENER        2
      RCHRES       1
      RCHRES       2
      COPY         1
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title---------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Surface retention  1        MAX                    1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
    2        24
  END OPCODE
  PARM
    #    #         K ***
    2             0.
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                        in  out           ***
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
```

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```
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
  END PWAT-PARM4
  MON-LZETPARM
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
  END MON-LZETPARM
  MON-INTERCEP
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
  END MON-INTERCEP

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS      UZS       IFWS      LZS       AGWS      GWVS
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                    in  out           ***
   14     Parking,Flat(0-5%)      1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    ***
   14         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL     *********
   14         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
   14         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
   14            100      0.05       0.1       0.1
  END IWAT-PARM2
```

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```
  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
   14              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
   14              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Basin  1***
IMPLND  14                        21.1     RCHRES   1      5

******Routing******
IMPLND  14                        21.1     COPY     1     15
RCHRES   1                           1     RCHRES   2      8
RCHRES   2                           1     COPY   501     16
RCHRES   1                           1     COPY   501     17
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   12.1       DISPLY   1     INPUT  TIMSER 1
GENER    2 OUTPUT TIMSER      .0002778     RCHRES   1     EXTNL  OUTDGT 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<----------------><---> User T-series  Engl Metr LKFG             ***
                                      in  out                               ***
    1     Surface retentio-026    2    1    1    1   28    0    1
    2     Bioretention  1         1    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
    2         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ****************** PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
    2         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                    ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
          FG FG FG FG  possible  exit  *** possible  exit      possible  exit
           *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
    1        0  1  0  0    4  5  0  0  0       0  1  0  0  0       2  1  2  2  2
```

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```
    2        0  1  0  0    4  0  0  0  0       0  0  0  0  0       2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN      DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><--------><-------> ***
    1              1      0.01       0.0       0.0       0.0       0.0
    2              2      0.05       0.0       0.0       0.0       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                          ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
    1            0         4.0  5.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
    2            0         4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
*** User-Defined Variable Quantity Lines
***                           addr
***                          <------>
*** kwd  varnam optyp  opn  vari  s1 s2 s3 tp multiply  lc ls ac as agfn ***
  <****> <----> <----> <-> <----><-><-><-><-><--------> <><-> <><-> <--> ***
  UVQUAN vol2   RCHRES   2 VOL              4
  UVQUAN v2m2   GLOBAL     WORKSP  1        3
  UVQUAN vpo2   GLOBAL     WORKSP  2        3
  UVQUAN v2d2   GENER    2 K       1        3
*** User-Defined Target Variable Names
***                  addr or                      addr or
***                 <------>                     <------>
*** kwd   varnam ct  vari  s1 s2 s3  frac oper     vari  s1 s2 s3  frac oper
  <****>  <----><-> <----><-><-><-> <---> <-->    <----><-><-><-> <---> <-->
  UVNAME  v2m2    1 WORKSP  1          1.0 QUAN
  UVNAME  vpo2    1 WORKSP  2          1.0 QUAN
  UVNAME  v2d2    1 K       1          1.0 QUAN
*** opt foplop dcdts  yr mo dy hr mn d t   vnam  s1 s2 s3 ac quantity  tc  ts rp
  <****><-><--><><-><--> <> <> <> <><><>  <----><-><-><-><-><--------> <> <-><->
  GENER   2                               v2m2            =  108021.62
*** Compute remaining available pore space
  GENER   2                               vpo2            =  v2m2
  GENER   2                               vpo2           -=  vol2
*** Check to see if VPORA goes negative; if so set VPORA = 0.0
IF (vpo2 < 0.0) THEN
  GENER   2                               vpo2            =  0.0
END IF
*** Infiltration volume
  GENER   2                               v2d2            =  vpo2
END SPEC-ACTIONS
FTABLES
  FTABLE      2
   76    4
     Depth      Area    Volume  Outflow1 Velocity  Travel Time***
      (ft)   (acres) (acre-ft)   (cfs)   (ft/sec)    (Minutes)***
  0.000000  1.612144  0.000000  0.000000
  0.060440  1.612144  0.018513  0.000000
  0.120879  1.612144  0.037026  0.000000
  0.181319  1.612144  0.055539  0.000000
  0.241758  1.612144  0.074052  0.000000
  0.302198  1.612144  0.092565  0.000000
  0.362637  1.612144  0.111079  0.000000
  0.423077  1.612144  0.129592  0.000000
  0.483516  1.612144  0.148105  0.000000
  0.543956  1.612144  0.166618  0.000000
  0.604396  1.612144  0.185131  0.000000
  0.664835  1.612144  0.203644  0.000000
  0.725275  1.612144  0.222157  0.000000
  0.785714  1.612144  0.240670  0.000000
  0.846154  1.612144  0.259183  0.000000
```

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```
0.906593  1.612144  0.277696  0.000000
0.967033  1.612144  0.296209  0.000000
1.027473  1.612144  0.314722  0.000000
1.087912  1.612144  0.333236  0.000000
1.148352  1.612144  0.351749  0.000000
1.208791  1.612144  0.370262  0.000000
1.269231  1.612144  0.388775  0.000000
1.329670  1.612144  0.425801  0.000000
1.390110  1.612144  0.462827  0.000000
1.450549  1.612144  0.499853  0.000000
1.510989  1.612144  0.536879  0.022706
1.571429  1.612144  0.573906  0.048343
1.631868  1.612144  0.610932  0.064482
1.692308  1.612144  0.647958  0.077320
1.752747  1.612144  0.684984  0.088309
1.813187  1.612144  0.722010  0.098072
1.873626  1.612144  0.759036  0.106946
1.934066  1.612144  0.796063  0.115138
1.994505  1.612144  0.833089  0.122783
2.054945  1.612144  0.870115  0.129980
2.115385  1.612144  0.907141  0.136798
2.175824  1.612144  0.944167  0.143292
2.236264  1.612144  0.981193  0.149504
2.296703  1.612144  1.018220  0.155469
2.357143  1.612144  1.055246  0.161213
2.417582  1.612144  1.092272  0.166761
2.478022  1.612144  1.129298  0.172131
2.538462  1.612144  1.166324  0.177340
2.598901  1.612144  1.203350  0.182401
2.659341  1.612144  1.240377  0.187327
2.719780  1.612144  1.277403  0.192130
2.780220  1.612144  1.314429  0.196817
2.840659  1.612144  1.351455  0.201398
2.901099  1.612144  1.388481  0.205881
2.961538  1.612144  1.425507  0.210272
3.021978  1.612144  1.465944  0.214580
3.082418  1.612144  1.506380  0.218809
3.142857  1.612144  1.546817  0.222969
3.203297  1.612144  1.587253  0.227066
3.263736  1.612144  1.627690  0.231114
3.324176  1.612144  1.668126  0.235135
3.384615  1.612144  1.708563  0.239209
3.445055  1.612144  1.748999  0.245570
3.505495  1.612144  1.789436  0.249213
3.565934  1.612144  1.829872  0.252803
3.626374  1.612144  1.870309  0.256344
3.686813  1.612144  1.910745  0.259836
3.747253  1.612144  1.951182  0.263282
3.807692  1.612144  1.991618  0.266683
3.868132  1.612144  2.032055  0.270042
3.928571  1.612144  2.072491  0.273359
3.989011  1.612144  2.112928  0.276636
4.049451  1.612144  2.153364  0.279875
4.109890  1.612144  2.193800  0.283077
4.170330  1.612144  2.234237  0.286243
4.230769  1.612144  2.274673  0.289375
4.291209  1.612144  2.315110  0.292473
4.351648  1.612144  2.355546  0.295539
4.412088  1.612144  2.395983  0.298573
4.472527  1.612144  2.436419  0.301576
4.500000  1.612144  2.479835  0.302932
END FTABLE  2
FTABLE      1
 18    5
   Depth      Area    Volume  Outflow1  Outflow2  Velocity  Travel Time***
    (ft)   (acres) (acre-ft)   (cfs)     (cfs)   (ft/sec)    (Minutes)***
0.000000  1.612144  0.000000  0.000000  0.000000
0.060440  1.612144  0.097437  0.000000  8.127900
0.120879  1.612144  0.194875  0.000000  8.455398
0.181319  1.612144  0.292312  0.000000  8.619147
```

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```
  0.241758  1.612144  0.389749  0.000000  8.782896
  0.302198  1.612144  0.487186  0.000000  8.946645
  0.362637  1.612144  0.584624  0.000000  9.110393
  0.423077  1.612144  0.682061  0.000000  9.274142
  0.483516  1.612144  0.779498  0.000000  9.437891
  0.543956  1.612144  0.876936  0.146622  9.601640
  0.604396  1.612144  0.974373  0.535530  9.765389
  0.664835  1.612144  1.071810  1.056867  9.929138
  0.725275  1.612144  1.169247  1.669534  10.09289
  0.785714  1.612144  1.266685  2.338680  10.25664
  0.846154  1.612144  1.364122  3.028884  10.42038
  0.906593  1.612144  1.461559  3.704036  10.58413
  0.967033  1.612144  1.558997  4.329606  10.74788
  1.000000  1.612144  1.612144  4.876229  10.83720
  END FTABLE  1
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1.133          PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1.133          IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    1              PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    1              IMPLND   1 999 EXTNL  PETINP
WDM      2 PREC     ENGL    1.133          RCHRES   1     EXTNL  PREC
WDM      1 EVAP     ENGL    0.5            RCHRES   1     EXTNL  POTEV
WDM      1 EVAP     ENGL    0.7            RCHRES   2     EXTNL  POTEV

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
COPY     1 OUTPUT MEAN   1 1     12.1      WDM    701 FLOW     ENGL      REPL
COPY   501 OUTPUT MEAN   1 1     12.1      WDM    801 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5

  MASS-LINK        8
RCHRES     OFLOW  OVOL   2                 RCHRES         INFLOW IVOL
  END MASS-LINK    8

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15

  MASS-LINK       16
RCHRES     ROFLOW                          COPY           INPUT  MEAN
  END MASS-LINK   16

  MASS-LINK       17
RCHRES     OFLOW  OVOL   1                 COPY           INPUT  MEAN
  END MASS-LINK   17


END MASS-LINK

END RUN
```

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ERROR/WARNING ID: 341 6

DATE/TIME: 1963/ 2/ 1 5: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.0606E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1963/ 2/ 1 5: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-1.636E+05	1.1647	1.1647E+00	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1967/ 1/21 20: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.5686E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1967/ 1/21 20: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-4.718E+05	3.3590	3.3589E+00	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1967/ 1/21 21: 0

RCHRES: 1

DRAFT

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	8.4156E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1967/ 1/21 21: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-9.856E+05	7.0177	7.0177E+00	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1967/ 1/21 22: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	8.5215E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1967/ 1/21 22: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-1.050E+06	7.4751	7.4751E+00	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1967/ 1/21 23: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.2919E+04

DRAFT

ERROR/WARNING ID: 341 5

DATE/TIME: 1967/ 1/21 23: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive approximations, converged to an invalid value (not in range 0.0 to 1.0). Probably ftable was extrapolated. If extrapolation was small, no problem. Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-3.039E+05	2.1637	2.1637E+00	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1982/ 1/ 4 21: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value in the "volume" column of the last row of RCHTAB(). To continue the simulation the table has been extrapolated, based on information contained in the last two rows. This will usually result in some loss of accuracy. If depth is being calculated it will also cause an error condition. Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.5694E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1982/ 1/ 4 21: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive approximations, converged to an invalid value (not in range 0.0 to 1.0). Probably ftable was extrapolated. If extrapolation was small, no problem. Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-4.722E+05	3.3624	3.3624	2

ERROR/WARNING ID: 341 6

DATE/TIME: 1982/ 1/ 4 22: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value in the "volume" column of the last row of RCHTAB(). To continue the simulation the table has been extrapolated, based on information contained in the last two rows. This will usually result in some loss of accuracy. If depth is being calculated it will also cause an error condition. Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	8.4376E+04

ERROR/WARNING ID: 341 5

DATE/TIME: 1982/ 1/ 4 22: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive approximations, converged to an invalid value (not in range 0.0 to 1.0).

DRAFT

Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-9.990E+05	7.1127	7.1127E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 1982/ 1/ 4 23: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.6204E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 1982/ 1/ 4 23: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-5.032E+05	3.5829	3.5828E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 1982/ 1/ 4 24: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.2322E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 1982/ 1/ 4 24: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-2.676E+05	1.9056	1.9056	2

ERROR/WARNING ID: 341   6

DATE/TIME: 1982/ 1/ 5 1: 0

DRAFT

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.2983E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 1982/ 1/ 5 1: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-3.078E+05	2.1915	2.1915E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 1983/ 1/24 2: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.2050E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 1983/ 1/24 2: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-2.512E+05	1.7882	1.7882E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 1986/ 2/18 22: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

DRAFT

```
NROWS         V1         V2         VOL
18 6.7910E+04 7.0225E+04 7.7243E+04
```

```
ERROR/WARNING ID:   341   5

DATE/TIME: 1986/ 2/18 22: 0

RCHRES:     1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated.  If extrapolation was small, no problem.
Remedy; extend ftable.  Relevant data are:

A          B          C      RDEP1      RDEP2  COUNT
0.0000E+00 1.4045E+05 -5.662E+05    4.0314  4.0314E+00      2
```

```
ERROR/WARNING ID:   341   6

DATE/TIME: 1986/ 2/18 23: 0

RCHRES:     1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB().  To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows.  This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS         V1         V2         VOL
18 6.7910E+04 7.0225E+04 8.2365E+04
```

```
ERROR/WARNING ID:   341   5

DATE/TIME: 1986/ 2/18 23: 0

RCHRES:     1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated.  If extrapolation was small, no problem.
Remedy; extend ftable.  Relevant data are:

A          B          C      RDEP1      RDEP2  COUNT
0.0000E+00 1.4045E+05 -8.770E+05    6.2439  6.2439E+00      2
```

```
ERROR/WARNING ID:   341   6

DATE/TIME: 2002/12/16  3: 0

RCHRES:     1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB().  To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows.  This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS         V1         V2         VOL
18 6.7910E+04 7.0225E+04 7.3282E+04
```

```
ERROR/WARNING ID:   341   5

DATE/TIME: 2002/12/16  3: 0

RCHRES:     1
```

DRAFT

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-3.259E+05	2.3205	2.3205E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 2002/12/16 4: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.8340E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 2002/12/16 4: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-6.328E+05	4.5055	4.5055E+00	2

ERROR/WARNING ID: 341   6

DATE/TIME: 2004/ 1/ 1 12: 0

RCHRES: 1

The volume of water in this reach/mixed reservoir is greater than the value
in the "volume" column of the last row of RCHTAB(). To continue the
simulation the table has been extrapolated, based on information contained
in the last two rows. This will usually result in some loss of accuracy.
If depth is being calculated it will also cause an error condition.
Relevant data are:

NROWS	V1	V2	VOL
18	6.7910E+04	7.0225E+04	7.9821E+04

ERROR/WARNING ID: 341   5

DATE/TIME: 2004/ 1/ 1 12: 0

RCHRES: 1

Calculation of relative depth, using Newton's method of successive
approximations, converged to an invalid value (not in range 0.0 to 1.0).
Probably ftable was extrapolated. If extrapolation was small, no problem.
Remedy; extend ftable. Relevant data are:

A	B	C	RDEP1	RDEP2	COUNT
0.0000E+00	1.4045E+05	-7.226E+05	5.1448	5.1448	2

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DRAFT

STORM WATER POLLUTION PREVENTION PLAN

for

On-Site Improvements for New Dublin High School

WDID: _____

RISK LEVEL 2

Legally Responsible Person (LRP):

DUBLIN UNIFIED SCHOOL DISTRICT
7471 LARKDALE AVENUE, DUBLIN, CA 94568
CHRIS STEVENS
(925) 828-2551

Project Address:

8151 Village Parkway
Dublin, CA 94568

SWPPP Prepared by:

901 E Main St.
Visalia, CA 93292
Monique Mello, PE, QSD/QSP

SWPPP Preparation Date

February 2020

Estimated Project Dates:

Start of Construction: June 1, 2020 Completion of Construction: August 1, 2022

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Qualified SWPPP Developer (QSD)

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL

Project Number/ID:

"This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ). I certify that I am a Qualified SWPPP Developer in good j

QSD Signature	*Date*
Monique Mello, P.E.	22554
QSD Name	*QSD Certificate Number*
Senior Project Manager, QSD	(559) 733-0440
Title and Affiliation	*Telephone Number*
Monique.Mello@qkinc.com	
Email	

Amendment Log

Project Name: ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL

Project Number/ID:

Amendment No.	Date	Brief Description of Amendment, include section and page number	Prepared and Approved By
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#

Section 1 SWPPP Requirements

1.1 INTRODUCTION

The New Dublin High School is comprised of 6 separate parcels totaling approximately 22.3 acres and is located between Dublin Boulevard and Central Parkway at Grafton Street in Dublin, California. The property is owned and will be developed by the Dublin Unified School District. The project will consist of the construction of a new high school with proposed new buildings with associated landscaping, pavement and sidewalk improvements throughout the school campus. The project location is shown on the Site Map in Appendix B.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DWQ as amended by Order No. 2010-0014-DWQ (NPDES No. CAS000002) issued by the State Water Resources Control Board (State Water Board). This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater *Best Management Practice Handbook Portal: Construction* (CASQA, 2010). In accordance with the General Permit, Section XIV, this SWPPP is designed to address the following:

- Pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity are controlled;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard;

Calculations, design details, and BMP controls are included in the Appendices.

Identify and provide methods to implement Rain Event Action Plan (REAP).

1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. The project-specific PRDs include:

1. Notice of Intent (NOI);
2. Risk Assessment (Construction Site Sediment and Receiving Water Risk Determination);
3. Site Map;
4. Annual Fee;
5. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal); and

6. SWPPP.

Site Map can be found in Appendix B. A copy of the submitted PRDs shall also be kept in Appendix C along with the Waste Discharge Identification (WDID) confirmation.

1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The discharger shall make the SWPPP available at the construction site during working hours (see Section 7.5 of CSMP for working hours) while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone. (CGP Section XIV.C)

The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

1.4 SWPPP AMENDMENTS

The SWPPP should be revised when:

- If there is a General Permit violation.
- When there is a reduction or increase in total disturbed acreage (General Permit Section II Part C).
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater discharges.

Additionally, the SWPPP shall be amended when:

- There is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- When there is a change in the project duration that changes the project's risk level; or
- When deemed necessary by the QSD. The QSD has determined that the changes listed in Table 1.1 can be field determined by the QSP. All other changes shall be made by the QSD as formal amendments to the SWPPP.

The following items shall be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP proposed, if any; and
- The new BMP proposed.

Amendment shall be logged at the front of the SWPPP and certification kept in Appendix D. The SWPPP text shall be revised replaced, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by a QSD. The following changes have been designated by the QSD as "to be field determined" and constitute minor changes that the QSP may implement based on field conditions.

Table 1.1 List of Changes to be Field Determined

Candidate changes for field location or determination by QSP (1)	Check changes that can be field located or field determined by QSP
Increase quantity of an Erosion or Sediment Control Measure	✓
Relocate/Add stockpiles or stored materials	✓
Relocate or add toilets	✓
Relocate vehicle storage and/or fueling locations	✓
Relocate areas for waste storage	✓
Relocate water storage and/or water transfer location	✓
Changes to access points (entrance/exits)	✓
Change type of Erosion or Sediment Control Measure	✓
Changes to location of erosion or sediment control	✓
Minor changes to schedule or phases	✓
Changes in construction materials	✓
(1) Any field changes not identified for field location or field determination by QSP must be approved by QSD	

1.5 RETENTION OF RECORDS

Paper or electronic records of all documents required by this SWPPP shall be retained for a minimum of three years from the date generated or date submitted, whichever is later. These records shall be available at the Site until construction is complete. Records assisting in the determination of compliance with the General Permit shall be made available within a reasonable time, to the Regional Water Board, State Water Board or U.S. Environmental Protection Agency (EPA) upon request. Requests by the Regional Water Board for retention of records for a period longer than three years shall be adhered to.

1.6 REQUIRED NON-COMPLIANCE REPORTING

If a discharge violation occurs the QSP shall immediately notify the LRP and the LRP shall file a violation report electronically to the Regional Water Board within 30 days of identification of non-compliance using SMARTS. Corrective measures will be implemented immediately following the discharge or written notice of non-compliance from the Regional Water Board. Discharges and corrective actions will be documented on the NAL/NEL Exceedance Site Evaluation Report Form in CSMP Attachment 3 "Example Forms."

The report to the LRP and to the Regional Water Board will contain the following items:

- The date, time, location, nature of operation and type of unauthorized discharge.
- The cause or nature of the notice or order.

- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order.
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence.
- Reporting requirements for Numeric Action Levels (NALs) exceedances are discussed in Section 7.7.2.7.

1.7 ANNUAL REPORT

The General Permit requires that permittees prepare, certify, and electronically submit an Annual Report no later than September 1st of each year. Reporting requirements are identified in Section XVI of the General Permit. Annual reports will be filed in SMARTS and in accordance with information required by the on-line forms.

1.8 CHANGES TO PERMIT COVERAGE

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, shall be logged at the front of the SWPPP and cetrification of SWPPP amendments are to be kept in Appendix D. Updated PRDs submitted electronically via SMARTS can be found in Appendix E.

1.9 NOTICE OF TERMINATION

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the General Permit. The NOT must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted within 90 days of completion of construction. The Regional Water Board will consider a construction site complete when the conditions of the General Permit, Section II.D have been met.

Section 2 Project Information

2.1 PROJECT AND SITE DESCRIPTION

2.1.1 Site Description

The Dublin Unified New High School is comprised of 6 separate parcels totaling approximately 22.3 acres and is along the northern edge of the Amador Valley within the eastern portion of the City of Dublin in Alameda County, California. The project site is located approximately 0.5-mile North of Highway 580. The project is located at longitude 121.86576° West and latitude 37.709120° North, and it is identified on the Site Map in Appendix B.

2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is comprised of a recently graded vacant lot located in a partially developed area. The project site is bound to the north, east and west by multi-family and single-family residential construction; and to the south by commercial developments. There are no known historical sources of contamination at this site.

2.1.3 Existing Drainage

The project site is relatively level and has been recently graded as part of a mass development. The elevation of the project site is approximately 350 to 361 feet above mean sea level (msl). Storm water is collected within drainage swales along the edges of the site and diverted to a storm water drainage system. Stormwater discharges, from the site, are considered direct discharges, as defined by the State Water Board into the South San Francisco Bay. The minor drainage-course that trended through the site and vicinity had been backfilled as part of the mass grading performed on the site and surrounding properties. The minor watercourse identified as the Arroyo Las Pasitas is located approximately 4,000 feet south of the subject site. The existing site of topography, drainage patterns, and stormwater conveyance system are shown on the project construction drawings.

2.1.4 Geology and Groundwater

The surface and near surface soils encountered during the initial investigation generally consist of silty clays and sandy clays to depths of about 10 to 15 feet below existing site grade. The upper soils consisted of approximately 1 to 4 feet of fill material of clayey sand, silty clay and sandy clay with minor gravel and concrete pieces. Below the fill material, there was approximately 4 to 5 feet of firm to hard sandy clay and gravelly sandy clay or loose to very dense clayey sand. Penetration resistance ranged from 14 blows per foot to greater than 50 blows per 6 inches. Soils encountered below 6 to 9 feet were layers of loose to very dense silty sand, sandy silt and clayey sand or firm to hard silty clay and sandy clay. Penetration resistance ranged from 6 to 50 blows per foot. Free groundwater was encountered at depths of 15½ to 21 feet below existing site grade. For additional information, please reference the project geotechnical report dated September 6, 2019 prepared by Krazan and Associates, Inc. (Report No. 042-19017).

2.1.5 Project Description

Project grading will occur on all 22.3 acres of the project. The limits of the project are shown in Appendix B. Grading will include both cut and fill activities. No fill is expected to complete grading activates; however, if soil is to be imported, it will be placed immediately, or stockpiled in conformance with this document and the Construction General Permit requirements. At the time this document was prepared, construction activities are intended to be phased.

2.1.6 Developed Condition

Post construction surface drainage will be directed to overflow riser pipes and storm trench drains located on site and to existing drain inlets located on the surrounding streets. The surface drainage will first surface flow, and then be collected through a stormwater conveyance system. Proposed storm trench drains and overflow riser pipes will discharge into the proposed underground storm drainpipes and directed towards the existing drain inlets located in the surrounding streets which will then flow to the Dublin City drainage basin at the South East end of the project, to the Arroyo Motcho trail, then to the south Ramon Creek. Post construction drainage patterns and conveyance systems are presented in Appendix B. See Appendix C for the site area and runoff information in the Permit Registrations Documents.

2.2 PERMITS AND GOVERNING DOCUMENTS

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP:

- Regional Water Board requirements
- Basin Plan requirements
- Contract Documents
- Air Quality Regulations and Permits
- Federal Endangered Species Act
- National Historic Preservation Act/Requirements of the State Historic Preservation Office
- State of California Endangered Species Act
- Clean Water Act Section 401 Water Quality Certifications and 404 Permits
- CA Department of Fish and Game 1600 Streambed Alteration Agreement

2.3 STORMWATER RUN-ON FROM OFFSITE AREAS

There is some anticipated offsite run-on to this construction site from the North and East. The adjacent properties to the south are developed with stormwater being self-contained. The roadway paralleling the property to the west is already developed and currently drains to a discharge location.

2.4 FINDINGS OF THE CONSTRUCTION SITE SEDIMENT AND RECEIVING WATER RISK DETERMINATION

A construction site risk assessment has been performed for the project and the resultant risk level is Risk Level 2.

The risk level was determined through the use of the K, LS provided in SMARTS. The risk level is based on project duration, location, proximity to impaired receiving waters and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix C.

Risk Level 2 sites are subject to both the narrative effluent limitations and numeric effluent standards. The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures and best management practices. Discharges from Risk Level 2 site are subject to NALs for pH and turbidity shown in Table 2-4. This SWPPP has been prepared to address Risk Level 2 requirements (General Permit Attachment D).

Table 2.4 Numeric Action Levels

Parameter	Unit	Numeric Action Level Daily Average
pH	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	NTU	250 NTU

2.5 CONSTRUCTION SCHEDULE

The site sediment risk was determined based on construction taking place between 06/01/2020 and 08/01/2022. Mass grading operations are expected to be completed by 09/01/2020. Modification or extension of the schedule (start and end dates) may affect risk determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated project schedule for planned work can be found in Appendix F.

2.6 POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES

Appendix G includes a list of construction activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in Section 3 to select the Best Management Practices for the project. Location of anticipated pollutants and associated BMPs are show on the Site Map in Appendix B.

For sampling requirements for non-visible pollutants associated with construction activity please refer to Section 7.7.1. For a full and complete list of onsite pollutants, refer to the Material Safety Data Sheets (MSDS), which are retained onsite at the construction trailer.

2.7 IDENTIFICATION OF NON-STORMWATER DISCHARGES

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants.

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are authorized from this project site include the following:

- NONE

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in Section 3 of this SWPPP and will be minimized by the QSP.

Activities at this site that may result in unauthorized non-stormwater discharges include:

- NONE

Steps will be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

2.8 REQUIRED SITE MAP INFORMATION

The construction project's Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography and other requirements identified in Attachment B of the General Permit is located in Appendix B. The following table identifies Map and/or Sheet Nos. where required elements are illustrated.

Table 2.8 Required Map Information

Included on Map/Plan Sheet No. [1]	Required Element
Appendix B	The project's surrounding area (vicinity)
Appendix B	Site layout
Appendix B	Construction site boundaries
Appendix B	Drainage areas
Appendix B	Discharge locations
Appendix B	Sampling locations
Appendix B	Areas of soil disturbance (temporary or permanent)
Appendix B	Active areas of soil disturbance (cut or fill)
Appendix B	Locations of runoff BMPs
Appendix B	Locations of erosion control BMPs

Table 2.8 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
Appendix B	Locations of sediment control BMPs
N/A	ATS location (if applicable)
N/A	Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
Appendix B	Locations of all post construction BMPs
Appendix B	Waste storage areas
Appendix B	Vehicle storage areas
Appendix B	Material storage areas
Appendix B	Entrance and Exits
Appendix B	Fueling Locations

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps, etc.)

Section 3 Best Management Practices

3.1 SCHEDULE FOR BMP IMPLEMENTATION

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
Erosion Control	EC-1, Scheduling	Prior to Construction	Entirety of Project
	EC-2, Preservation of Existing Vegetation	Start of Construction	Entirety of Project
Sediment Control	SE-1, Silt Fence	Start of Construction	Entire Project / As Needed
	SE-3m, Curb Grading	Start of Construction	Entire Project/As Needed
	SE-5, Fiber Rolls	Start of Construction	Entire Project / As Needed
	SE-6, Gravel Berm Bag	Start of Construction	Entire Project / As Needed
	SE-7, Street Sweeping and Vacuuming	Start of Construction	Entire Project / As Needed
	SE-10, Storm Drain Inlet Protection	Start of Construction	Entire Project

Table 3.1 BMP Implementation Schedule

	BMP	Implementation	Duration
Tracking Control	TC-1, Stabilized Construction Entrance/Exit	Start of Construction	Entirety of Project
Wind Erosion	WE-1, Wind Erosion Control	Start of Construction	Entirety of Project

3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the General Permit to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.
2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP. The following temporary erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix H.

Table 3.2.1 Temporary Erosion Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement [1]	BMP Used		If not used, state reason
			YES	NO	
EC-1	Scheduling	✓	✓		
EC-2	Preservation of Existing Vegetation	✓	✓		Not Necessary
EC-3m	Modified Curb				
EC-3	Hydraulic Mulch	✓[2]		✓	Not Necessary
EC-4	Hydroseed	✓[2]		✓	Not Necessary
EC-5	Soil Binders	✓[2]		✓	Not Necessary
EC-6	Straw Mulch	✓[2]		✓	Not Necessary
EC-7	Geotextiles and Mats	✓[2]		✓	Not Necessary
EC-8	Wood Mulching	✓[2]		✓	Not Necessary
EC-9	Earth Dike and Drainage Swales	✓[3]		✓	Not Necessary
EC-10	Velocity Dissipation Devices			✓	Not Necessary
EC-11	Slope Drains			✓	Not Necessary
EC-12	Stream Bank Stabilization			✓	Not Necessary
EC-14	Compost Blankets	✓[2]		✓	Not Necessary
EC-15	Soil Preparation-Roughening			✓	Not Necessary
EC-16	Non-Vegetated Stabilization	✓[2]		✓	Not Necessary
WE-1	Wind Erosion Control	✓	✓		
Alternate BMPs Used:					**If used, state reason:**

[1] Applicability to a specific project shall be determined by the QSD.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting

3.2.2 Sediment Controls

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix H.

Table 3.2.2 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement [1]	BMP used		If not used, state reason
			YES	NO	
SE-1	Silt Fence	✓[2] [3]	✓		
SE-2	Sediment Basin			✓	Not Necessary
SE-3	Sediment Trap			✓	Not Necessary
SE-4	Check Dams			✓	Not necessary
SE-5	Fiber Rolls	✓[2][3]	✓		
SE-6	Gravel Bag Berm	✓[3]	✓		
SE-7	Street Sweeping	✓	✓		
SE-8	Sandbag Barrier			✓	Not Necessary
SE-9	Straw Bale Barrier			✓	Not Necessary
SE-10	Storm Drain Inlet Protection	✓ RL2&3	✓		
SE-11	ATS			✓	Not Necessary
SE-12	Temporary Silt Dike			✓	Not Necessary
SE-13	Compost Sock and Berm	✓[3]		✓	Not Necessary
SE-14	Biofilter Bags	✓[3]		✓	Not Necessary
TC-1	Stabilized Construction Entrance and Exit	✓	✓		
TC-2	Stabilized Construction Roadway			✓	Not Necessary
TC-3	Entrance Outlet Tire Wash			✓	Not Necessary
Alternate BMPs Used:					**If used, state reason:**

[1] Applicability to a specific project shall be determined by the QSD
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements
[3] Risk Level 2 &3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope

3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit, are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix H.

Table 3.3.1 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement (1)	BMP used		If not used, state reason
			YES	NO	
NS-1	Water Conservation Practices	✓	✓		
NS-2	Dewatering Operation			✓	Not Necessary
NS-3	Paving and Grinding Operation		✓		
NS-4	Temporary Stream Crossing			✓	Not Necessary
NS-5	Clear Water Diversion			✓	Not Necessary
NS-6	Illicit Connection- Illegal Discharge Connection	✓	✓		
NS-7	Potable Water Irrigation Discharge Detection			✓	Not Necessary
NS-8	Vehicle and Equipment Cleaning	✓	✓		
NS-9	Vehicle and Equipment Fueling	✓	✓		
NS-10	Vehicle and Equipment Maintenance	✓	✓		
NS-11	Pile Driving Operation			✓	Not Necessary
NS-12	Concrete Curing		✓		Not Necessary
NS-13	Concrete Finishing		✓		Not Necessary
NS-14	Material and Equipment Use Over Water			✓	Not Necessary
NS-15	Demolition Removal Adjacent to Water			✓	Not Necessary
NS-16	Temporary Batch Plants			✓	Not Necessary

Table 3.3.1 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement [1]	BMP used		If not used, state reason
			YES	NO	
Alternate BMPs Used:			**If used, state reason:**		
[1] Applicability to a specific project shall be determined by the QSD					

3.3.2 Materials Management and Waste Management

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix H.

Table 3.3.2 Temporary Materials Management BMPs

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement [(1)]	BMP used		If not used, state reason
			YES	NO	
WM-1	Material Delivery and Storage	✓	✓		
WM-2	Material Use	✓	✓		
WM-3	Stockpile Management	✓	✓		
WM-4	Spill Prevention and Control	✓	✓		
WM-5	Solid Waste Management	✓	✓		
WM-6	Hazardous Waste Management	✓	✓		
WM-7	Contaminated Soil Management	✓	✓		
WM-8	Concrete Waste Management	✓	✓		
WM-9	Sanitary-Septic Waste Management	✓	✓		
WM-10	Liquid Waste Management		✓		
Alternate BMPs Used:				**If used, state reason:**	
[(1)] Applicability to a specific project shall be determined by the QSD.					

3.4 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is located in an area subject to a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) permit approved Stormwater Management Plan. ☒ Yes ☐ No

Post construction runoff reduction requirements have been satisfied through the MS4 program; this project is exempt from provision XIII A of the General Permit.

The following source control post construction BMPs to comply with General Permit Section XIII.B and local requirements have been identified for the site:

- Street cleaning and maintenance within the Cities right of way will be done by the LRP until such time that the improvements are accepted by the City. Once accepted, the City or their designated contractor will provide the required cleaning and maintenance. LRP will be required to maintan site cleanup and maintenace within the onsite location.

- Solid waste containers will be provided and picked up by the City of Dublin or their designated waste management contractor.
- Landscape maintenance within the Cities right of way will be done by the LRP until such time that the improvements are accepted by the City. Once accepted, the City or their designated contractor will provide the required landscape maintenance.

The post construction BMPs that are described above shall be funded and maintained by the LRP, unless otherwise applicable.

Section 4 BMP Inspection and Maintenance

4.1 BMP INSPECTION AND MAINTENANCE

The General Permit requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist includes the necessary information covered in Section 7.6. A blank inspection checklist can be found in Appendix I. Completed checklists shall be kept in CSMP Attachment 2 "Monitoring Records.

BMPs shall be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP shall be prepared by the QSD.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix H.

4.2 RAIN EVENT ACTION PLANS

The Rain Event Action Plans (REAP) is a written document designed to be used as a planning tool by the QSP to protect exposed portions of project sites and to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures. These measures are intended to reduce the amount of sediment and other pollutants that could be generated during the rain event. It is the responsibility of the QSP to be aware of precipitation forecast and to obtain and print copies of forecasted precipitation from NOAA's National Weather Service Forecast Office.

The SWPPP includes REAP templates but the QSP will need to customize them for each rain event. Site-specific REAP templates for each applicable project phase can be found in Appendix J. The QSP shall maintain a paper copy of completed REAPs in compliance with the record retention requirements Section 1.5 of this SWPPP. Completed REAPs shall be maintained in Appendix J.

The QSP will develop an event specific REAP 48 hours in advance of a precipitation event forecast to have a 50% or greater chance of producing precipitation in the project area. The REAP will be onsite and be implemented 24 hours in advance of any the predicted precipitation event.

At minimum the REAP will include the following site and phase-specific information:

1. Site Address;
2. Calculated Risk Level 2;
3. Site Stormwater Manager Information including the name, company and 24-hour emergency telephone number;
4. Erosion and Sediment Control Provider information including the name, company and 24-hour emergency telephone number;
5. Stormwater Sampling Agent information including the name, company, and 24-hour emergency telephone number;

6. Activities associated with each construction phase;
7. Trades active on the construction site during each construction phase;
8. Trade contractor information; and
9. Recommended actions for each project phase.

Section 5 Training

Appendix L identifies the QSPs for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel shall be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed.

The QSP shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix K, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall correspond to the specific task delegated including: SWPPP implementation; BMP inspection and maintenance; and record keeping.

Documentation of training activities (formal and informal) is retained in SWPPP Appendix K.

Section 6 Responsible Parties and Operators

6.1 RESPONSIBLE PARTIES

Approved Signatories who are responsible for SWPPP implementation and have authority to sign permit-related documents are listed below. Written authorizations from the LRP for these individuals are provided in Appendix L. The Approved Signatories assigned to this project are:

Name	Title	Phone Number
Chris Stevens	Chief Facilities Operations Officer	(925) 828-2551

QSPs identified for the project are identified in Appendix L. The QSP shall have primary responsibility and significant authority for the implementation, maintenance and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project. Duties of the QSP include but are not limited to:

- Implementing all elements of the General Permit and SWPPP, including but not limited to:
  - Ensuring all BMPs are implemented, inspected, and properly maintained;
  - Performing non-stormwater and stormwater visual observations and inspections;
  - Performing non-stormwater and storm sampling and analysis, as required;
  - Performing routine inspections and observations;
  - Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.;
- The QSP may delegate these inspections and activities to an appropriately trained employee but shall ensure adequacy and adequate deployment.
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure all of the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the General Permit and approved plans at all times.
- Notifying the LRP or Authorized Signatory immediately of off-site discharges or other non-compliance events.

6.2 CONTRACTOR LIST

The contractor subcontractors are not known at this time. The list will be updated when the information is available.

Contractor

Name:

Title:

Company:

Address:

Phone Number:

Number (24/7):

Section 7 Construction Site Monitoring Program

7.1 PURPOSE

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions and Numeric Action Levels (NALs) of the Construction General Permit;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs included in the SWPPP and REAP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 APPLICABILITY OF PERMIT REQUIREMENTS

This project has been determined to be a Risk Level 2 project. The General Permit identifies the following types of monitoring as being applicable for a Risk Level 2 project.

Risk Level 2

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site related to qualifying storm events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for pH and turbidity;
- Sampling and analysis of construction site runoff for non-visible pollutants when applicable; and
- Sampling and analysis of non-stormwater discharges when applicable.

7.3. WEATHER AND RAIN EVENT TRACKING

Visual monitoring, inspections, and sampling requirements of the General Permit are triggered by a qualifying rain event. The General Permit defines a qualifying rain event as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying storm events.

7.3.1 Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. These forecasts can be obtained at http://www.srh.noaa.gov/. Weather reports should be printed and maintained with the SWPPP in CSMP Attachment 1 "Weather Reports".

7.3.2 Rain Gauges

The QSP shall install 1 rain gauge on the project site. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. Log rain gauge readings in CSMP Attachment 1 "Weather Records". Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied, and the gauge reset.

For comparison with the site rain gauge, the nearest appropriate governmental rain gauge is located at the Fresno Yosemite International.

7.4 MONITORING LOCATIONS

Monitoring locations are shown on the Site Maps in Appendix B. Monitoring locations are described in the Sections 7.6 and 7.7.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

7.5 SAFETY AND MONITORING EXEMPTIONS

Safety practices for sample collection will be in accordance with all local, state and federal requirements.

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above, then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in CSMP Attachment 2 "Monitoring Records".

7.6 VISUAL MONITORING

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7.6 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in Section 7.6.3.

Table 7.6 Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections	
BMP Inspections	
SE-1, Silt Fence	Weekly[1]
SE-3m, Modified Curb	As Necessary
SE-5, Fiber Rolls	Weekly[1]
SE-6, Gravel Berm Bags	Weekly[1]
SE-7, Street Sweeping	As Necessary
SE-10, Storm Drain Inlet Protection	Weekly[1]
TC-1, Stabilized Construction Entrance/Exit	Daily
WE-1, Wind Erosion Control	Daily
Concrete Washout	Weekly
Non-Stormwater Discharge Observations	Quarterly during daylight hours
Rain Event Triggered Inspections	
Site Inspections Prior to a Qualifying Event	Within 48 hours of a qualifying event [2]
BMP Inspections During an Extended Storm Event	Every 24-hour period of a rainevent[2]
Site Inspections Following a Qualifying Event	Within 48 hours of a qualifying event[2]

[1] Most BMPs must be inspected weekly; those identified below must be inspected more frequently.

[2] Inspections are only required during scheduled site operating hours. Note however, these inspections are required daily regardless of the amount of precipitation.

7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is in compliance with the requirements of the Construction General Permit.

7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

7.6.2 Rain-Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying rain event; following a qualifying rain event, and every 24-hour period during a qualifying rain event. Pre-rain inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50% or greater probability of precipitation has been predicted.

7.6.2.1 Visual Observations Prior to a Forecasted Qualifying Rain Event

Within 48-hours prior to a qualifying event a stormwater visual monitoring site inspection will include observations of the following locations:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

Consistent with guidance from the State Water Resources Control Board, pre-rain BMP inspections and visual monitoring will be triggered by a NOAA forecast that indicates a probability of precipitation of 50% or more in the project area.

7.6.2.2 BMP Inspections During an Extended Storm Event

During an extended rain event BMP inspection will be conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

7.6.2.3 Visual Observations Following a Qualifying Rain Event

Within 48 hours following a qualifying rain event (0.5 inches of rain) a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- Need for additional BMPs;

- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard; and
- Discharge of stored or contained rainwater.

7.6.3 Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP or staff trained by and under the supervision of the QSP.

The name(s) and contact number(s) of the site visual monitoring personnel are listed below, and their training qualifications are provided in Appendix K.

Assigned inspector: _____ Contact phone: _____

Alternate inspector: _____ Contact phone: _____

Stormwater observations shall be documented on the *Visual Inspection Field Log Sheet* (see CSMP Attachment 3 "Example Forms"). BMP inspections shall be documented on the site-specific BMP inspection checklist. Any photographs used to document observations will be referenced on stormwater site inspection report and maintained with the Monitoring Records in Attachment 2.

The completed reports will be kept in CSMP Attachment 2 "Monitoring Records".

7.6.4 Visual Monitoring Follow-Up and Reporting

Correction of deficiencies identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated and completed as soon as possible.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be initiated within 72 hours of identification and be completed as soon as possible. When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* and shall be submitted to the QSP and shall be kept in CSMP Attachment 2 "Monitoring Records".

The QSP shall within 5 days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to the QSD (if applicable).

Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.5 Visual Monitoring Locations

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section. BMP locations are shown on the Site Maps in SWPPP Appendix A.

7.7 WATER QUALITY SAMPLING AND ANALYSIS

7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operational locations are shown on the Site Maps in Appendix B.

- See Appendix G

The project has the potential to receive stormwater run-on from the following locations with the potential to contribute non-visible pollutants to stormwater discharges from the project. Locations of such run-on to the project site are shown on the Site Maps in Appendix B.

7.7.1.1 Sampling Schedule

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly

implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

7.7.1.2 Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations are shown on the Site Maps in Appendix B and include the locations identified in Table 7.5 through 7.10.

Two sampling locations have been identified for the collection of samples of run-on to the project site. Run-on from these locations has the potential to combine with discharges from the site being sampled for non-visible pollutants. These samples are intended to identify potential sources of non-visible pollutants that originate off the project site.

If a stormwater visual monitoring site inspection conducted prior to or during a storm event identifies the presence of a material storage, waste storage, or operations area with spills or the potential for the discharge of non-visible pollutants to surface waters or a storm drain system that is at a location not listed above and has not been identified on the Site Maps, sampling locations will be selected by the QSP using the same rationale as that used to identify planned locations. Non-visible pollutant sampling locations shall be identified by the QSP on the pre-rain event inspection form and/or Rain Event Action Plan prior to a forecasted qualifying rain event.

7.7.1.3 Monitoring Preparation

Non-visible pollutant samples will be collected by:

Contractor	☒ Yes	☐ No
Consultant	☐ Yes	☒ No
Laboratory	☐ Yes	☒ No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Telephone Number: _____

Alternate(s)/Telephone Number: _____

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, appropriate number and volume

of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and Chain of Custody (CoC) forms, which are provided in CSMP Attachment 3 "Example Forms".

7.7.1.4 Analytical Constituents

Table 7.11 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

Table 7.11 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Common Non-Visible Pollutants and Water Quality Indicator Constituents Worksheet	
General Work Activity/Potential Pollutants	**Water Quality Indicators of Potential Constituents** (Review product literature and Material Safety Data Sheets to confirm potential constituents)
Adhesives	COD, Phenols, SVOCs
Asphalt Work	VOCs
Cleaning	
Acids	pH
Bleaches	Residual chlorine
TSP	Phosphate
Solvents	VOCs, SVOCs
Detergents	MBAS
Concrete / Masonry Work	
Sealant (Methyl methacrylate)	SVOC
Curing compounds	VOCs, SVOCs, pH
Ash, slag, sand	pH, Al, Ca, Va, Zn
Drywall	Cu, Al, General Minerals
Framing / Carpentry	
Treated Wood	Cu, Cr, As, Zn
Particle board	Formaldehyde
Untreated wood	BOD
Grading / Earthworks	
Gypsum / Lime amendments	pH
Contaminated Soil	Constituents specific to known contaminants, check with Laboratory
Heating, Ventilation, Air Conditioning	Freon
Insulation	Al, Zn

Table 7.11 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Common Non-Visible Pollutants and Water Quality Indicator Constituents Worksheet	
General Work Activity/Potential Pollutants	**Water Quality Indicators of Potential Constituents** (Review product literature and Material Safety Data Sheets to confirm potential constituents)
Landscaping	
Pesticides/Herbicides	Product dependent, see label and check with Laboratory
Fertilizers	TKN, NO_3, BOD, COD, DOC, Sulfate, NH_3, Phosphate, Potassium
Aluminum sulfate	Al, TDS, Sulfate
Liquid Waste	Constituents specific to materials, check with Laboratory
Painting	
Resins	COD, SVOCs
Thinners	COD, VOCs
Paint strippers	VOCs, SVOCs, metals
Lacquers, varnishes, enamels	COD, VOCs, SVOCs
Sealants	COD
Adhesives	Phenols, SVOCs
Planting / Vegetation Management	
Vegetation stockpiles	BOD
Fertilizers	TKN, NO_3, BOD, COD, DOC, sulfate, NH_3, Phosphate, Potassium
Pesticides/Herbicides	Product dependent, see label and check with Laboratory
Plumbing	
Solder, flux, pipe fitting	Cu, Pb, Sn, Zn
Pools and Fountains	Residual chlorine, Cu, chloramines
Removal of existing structures	Zn, VOCs, PCBs (see also other applicable activity categories, e.g., grading, painting)
Roofing	Cu, Pb, VOCs
Sanitary Waste Sewer line breaks and Portable Toilets (using clear fluid – blue fluid is visible if discharged)	BOD, Total/Fecal coliform

Table 7.11 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Common Non-Visible Pollutants and Water Quality Indicator Constituents Worksheet	
General Work Activity/Potential Pollutants	**Water Quality Indicators of Potential Constituents** (Review product literature and Material Safety Data Sheets to confirm potential constituents)
Soil Preparation / Amendments/Dust Control	
Polymer/Co-polymers	TKN, NO_3, BOD, COD, DOC, Sulfate, Ni
Lignin sulfate	TDS, alkalinity
Psyllium	COD, TOC
Guar/Plant Gums	COD, TOC, Ni
Solid Waste (leakage)	BOD
Utility Line Testing and Flushing	Residual chlorine, chloramines
Vehicle and Equipment Use	
Batteries	Sulfuric acid; Pb, pH

Adapted from *Attachment S, Caltrans SWPPP/WPCP Preparation Manual, February 2003*, and *CASQA Construction BMP Handbook*, 2003

7.7.1.5 Sample Collection

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations shown on the Site Map in Appendix B or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table, "Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants" provided in Section 7.7.1.6. Only the QSP, or personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

7.7.1.6 Sample Analysis

Samples shall be analyzed using the analytical methods identified in the Table 7.12 Samples will be analyzed by a qualified laboratory hired by the contractor or LRP as applicable.

Table 7.12 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Reporting Limit	Maximum Holding Time
Fertilizer	EPA 300.0	100 ml	500ml Poly	N/A	0.10	48 hours
Solvents, VOC / SVOC	EPA 601/602, 624, or 625	40 ml	3 VOA	HCL	Multiple	14 Days
Notes:						

7.7.1.7 Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results.

Runoff/downgradient results shall be compared with the associated-up gradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

The General Permit prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

Results of non-visible pollutant monitoring shall be reported in the Annual Report.

7.7.2 Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges

Sampling and analysis of runoff for pH and turbidity is required for this project. This Sampling and Analysis Plan describes the strategy for monitoring turbidity and pH levels of stormwater runoff discharges from the project site and run-on that may contribute to an exceedance of a Numeric Action Level (NAL).

Samples for turbidity will be collected from all drainage areas with disturbed soil areas and samples for pH will be collected from all drainage areas with a high risk of pH discharge.

7.7.2.1 Sampling Schedule

Stormwater runoff samples shall be collected for turbidity from all qualifying rain events that result in a discharge from the project site. At minimum, turbidity samples will be collected from each site discharge location draining a disturbed area. A minimum of three samples will be collected per day of discharge during a qualifying event. Samples should be representative of the total discharge from the project each day of discharge during the qualifying event. Typically, representative samples will be spaced in time throughout the daily discharge event.

Stormwater runoff samples shall be collected for pH from all qualifying rain events that result in a discharge from the project site. At minimum, pH samples will be collected from each site discharge location during project phases and drainage areas with a high risk of pH discharge. A minimum of three samples will be collected per day of discharge during a qualifying event. Samples should be representative of the total discharge from the location each day of discharge during the qualifying event. Typically, representative samples will be spaced in time throughout the daily discharge event.

Stored or collected water from a qualifying storm event when discharged shall be tested for turbidity and pH (when applicable). Stored or collected water from a qualifying event may be

sampled at the point it is released from the storage or containment area or at the site discharge location.

Run-on samples shall be collected whenever the QSP identifies that run-on has the potential to contribute to an exceedance of a NAL.

7.7.2.2 Sampling Locations

Sampling locations are based on the site runoff discharge locations and locations where run-on enters the site; accessibility for sampling; and personnel safety. Planned pH and turbidity sampling locations are shown on the Site Maps in Appendix B and include the locations identified in Table 7.13 and Table 7.14.

Two sampling location(s) on the project site and the contractor's yard have been identified for the collection of runoff samples.

Table 7.13 Turbidity and pH Runoff Sample Locations

Sample Location Number	**Sample Location**	**Estimate of Site Drainage** [Factor] **(%)**
1	Southeast corner of project site	100%

Four sampling locations have been identified for the collection of run-on samples where the run-on has the potential to contribute to an exceedance of a NAL or NEL.

Table 7.14 Turbidity and pH Run-On Sample Locations

Sample Location Number	**Sample Location**	**Sample Location Latitude and Longitude** (Decimal Degrees)
1	South east corner of project site	37.705317 121.864928
2	Northeast corner of project site	37.709144 -121.864981
3	Northwest corner of project	37.709075 121.868514
4	Southwest corner of project	37.707847 121.868531

7.7.2.3 Monitoring Preparation

Turbidity and pH samples will be collected and analyzed by:

Contractor ☒ Yes ☐ No

Consultant ☐ Yes ☒ No

Laboratory ☐ Yes ☒ No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Telephone Number:

Alternate(s)/Telephone Number:

An adequate stock of monitoring supplies and equipment for monitoring turbidity and will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, field meters, extra batteries; clean powder-free nitrile gloves, sample collection equipment, appropriate sample containers, paper towels, personal rain gear, and *Effluent Sampling Field Log Sheets* and CoC forms provided in CSMP Attachment 3 "Example Forms".

The contractor will obtain and maintain the field testing instruments, as identified in Section 7.7.2.6, for analyzing samples in the field by contractor sampling personnel.

Samples on the project site will be collected by the following [specify laboratory or environmental consultant]:

Company Name:

Street Address:

City, State, Zip:

Telephone Number:

Point of Contact:

Name of Sampler(s):

Name of Alternate(s):

The QSP or his/her designee will contact [specify name of laboratory or environmental consultant] 24 hours prior to a predicted rain event or for an unpredicted event, as soon as a rain event begins to ensure that adequate sample collection personnel, supplies for monitoring pH and turbidity are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule.

7.7.2.4 Field Parameters

Samples shall be analyzed for the constituents indicated in the table below "Sample Collection, and Analysis for Monitoring Turbidity and pH."

Table 7.15 Sample Collection and Analysis for Monitoring Turbidity and pH

Parameter	Test Method	Minimum Sample Volume [(1)]	Sample Collection Container Type	Detection Limit (minimum)
Turbidity	Field meter/probe with calibrated portable instrument	500 mL	Polypropylene or Glass (Do not collect in meter sample cells)	1 NTU
pH	Field meter/probe with calibrated portable instrument or calibrated pH test kit	100 mL	Polypropylene	0.2 pH units

Notes: [1] Minimum sample volume recommended. Specific volume requirements will vary by instrument; check instrument manufacturer instructions.

L – Liter
mL – Milliliter
NTU – Nephelometric Turbidity Unit

7.7.2.5 Sample Collection

Samples of discharge shall be collected at the designated runoff and run-on sampling locations shown on the Site Maps in Appendix B. Run-on samples shall be collected within close proximity of the point of run-on to the project.

Only personnel trained in water quality sampling and field measurements working under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

7.7.2.6 Field Measurements

Samples collected for field analysis, collection, analysis and equipment calibration shall be in accordance with the field instrument manufacturer's specifications.

Immediately following collection, samples for field analysis shall be tested in accordance with the field instrument manufacturer's instructions and results recorded on the *Effluent Sampling Field Log Sheet*.

The field instrument(s) listed in Table 7.16 will be used to analyze the following constituents:

Table 7.16 Field Instruments

Field Instrument (Manufacturer and Model)	Constituent
Omega PHH-126	pH
Oakton Turbidimeter T-100	Turbidity

The manufacturers' instructions are included in CSMP Attachment 4 "Field Meter Instructions". Field sampling staff shall review the instructions prior to each sampling event and follow the instructions in completing measurement of the samples.

- The instrument(s) shall be maintained in accordance with manufacturer's instructions.
- The instrument(s) shall be calibrated before each sampling and analysis event.
- Maintenance and calibration records shall be maintained with the SWPPP.

The QSP may authorize alternate equipment provided that the equipment meets the Construction General Permit's requirements and the manufacturers' instructions for calibration and use are added to CSMP Attachment 4 "Field Meter Instructions".

7.7.2.7 Data Evaluation and Reporting

Immediately upon completing the measurements for the sampling event, provide the *Effluent Sampling Field Log Sheets* to the QSP for evaluation.

Numeric Action Levels

This project is subject to NALs for pH and turbidity (Table 7.17). Compliance with the NAL for pH and turbidity is based on a daily average. Upon receiving the field log sheets, the QSP shall immediately calculate the arithmetic average of the pH and turbidity samples to determine if the NALs, shown in the table below, have been exceeded.

Table 7.17 Numeric Action Levels

Parameter	Unit	Daily Average
pH	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	NTU	250 NTU

The QSP shall within 5 days of the sample collection submit copies of the completed *Effluent Sampling Field Log Sheets* to Chris Stevens.

In the event that the pH or turbidity NAL is exceeded, the QSP shall immediately notify Chris Stevens and investigate the cause of the exceedance and identify corrective actions.

Exceedances of NALs shall be electronically reported to the State Water Board by Chris Stevens through the SMARTs system within 10 days of the conclusion of the storm event. If requested by the Regional Board, a NAL Exceedance report will be submitted. The NAL Exceedance Report must contain the following information:

- Analytical method(s), method reporting unit(s), and MDL(s) of each parameter;
- Date, place, time of sampling, visual observation, and/or measurements, including precipitation; and
- Description of the current BMPs associated with the sample that exceeded the NAL and the proposed corrective actions taken.

7.7.3 Additional Monitoring Following an NEL Exceedance

This project is not subject to NELs.

7.7.4 Sampling and Analysis Plan for Non-Stormwater Discharges

This Sampling and Analysis Plan for non-stormwater discharges describes the sampling and analysis strategy and schedule for monitoring pollutants in authorized and unauthorized non-stormwater discharges from the project site in accordance with the requirements of the Construction General Permit.

Sampling of non-stormwater discharges will be conducted when an authorized or unauthorized non-stormwater discharge is observed discharging from the project site. In the event that non-stormwater discharges run-on to the project site from offsite locations, and this run-on has the potential to contribute to a violation of a NAL, the run-on will also be sampled.

The following authorized non-stormwater discharges identified in Section 2.7, have the potential to be discharged from the project site.

- NONE

In addition to the above authorized stormwater discharges, some construction activities have the potential to result in an unplanned (unauthorized) non-stormwater discharge if BMPs fail. These activities include:

- NONE

7.7.4.1 Sampling Schedule

Samples of authorized or unauthorized non-stormwater discharges shall be collected when they are observed.

7.7.5 Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board

- The Regional Water Board has no specified monitoring for additional pollutants.

7.7.6 Training of Sampling Personnel

Sampling personnel shall be trained to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring program (SWAMP) 2008 Quality Assurance Program Plan (QAPrP). Training records of designated contractor sampling personnel are provided in Appendix K.

The stormwater sampler(s) and alternate(s) have received the following stormwater sampling training:

Name	**Training**
_____	_____
_____	_____

The stormwater sampler(s) and alternates have the following stormwater sampling experience:

Name	Experience

7.7.7 Sample Collection and Handling

7.7.7.1 Sample Collection

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the SWAMP 2008 Quality Assurance Program Plan (QAPrP).

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel shall follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sites;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers;
- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

i. For small streams and flow paths, simply dip the bottle facing upstream until full.
ii. For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
iii. For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
iv. Avoid collecting samples from ponded, sluggish or stagnant water.
v. Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should **never** be dipped into the stream but filled indirectly from the collection container.

7.7.7.2 Sample Handling

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels;
- Sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the *Effluent Sampling Field Log Sheet*; and
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

Laboratory Name: _____

Address: _____

City, State Zip: _____

Telephone Number: _____

Point of Contact: _____

7.7.7.3 Sample Documentation Procedures

All original data documented on sample bottle identification labels, *Effluent Sampling Field Log Sheet*, and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the Effluent Sampling Field Log Sheet.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location.

Field Log Sheets: Sampling personnel shall complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC when the sample(s) is turned over to the testing laboratory or courier.

7.8 ACTIVE TREATMENT SYSTEM MONITORING

An Active Treatment System (ATS) will be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for an ATS because deployment of an ATS is not planned.

7.9 BIOASSESSMENT MONITORING

This project is not subject to bioassessment monitoring because it is not a Risk Level 3 project.

7.10 WATERSHED MONITORING OPTION

This project is not participating in a watershed monitoring option.

7.11 QUALITY ASSURANCE AND QUALITY CONTROL

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- CoCs;
- QA/QC Samples; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

7.11.1 Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log and Effluent Sampling Field Log Sheet are included in CSMP Attachment 3 “Example Forms”.

7.11.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in Section 7.7.7, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

7.11.3 Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in CSMP Attachment 3 "Example Forms".

7.11.4 QA/QC Samples

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. The following types of QA/QC will be conducted for this project:

☒ Field Duplicates at a frequency of 5 percent or 1 duplicate minimum per sampling event (Required for all sampling plans with field measurements or laboratory analysis)

7.11.4.1 Field Duplicates

Field duplicates provide verification of laboratory or field analysis and sample collection. Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

7.11.5 Data Verification

After results are received from the analytical laboratory, the QSP shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports.
  Make sure all requested analyses were performed and all samples are accounted for in the reports.
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory.
  Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and

corrected quickly by the laboratory. The QSP should especially note data that is an order of magnitude or more different than similar locations or is inconsistent with previous data from the same location.

- Check laboratory QA/QC results.
  EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.
- Check the data set for outlier values and, accordingly, confirm results and re-analyze samples where appropriate.
  Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.

Field data including inspections and observations must be verified as soon as the field logs are received, typically at the end of the sampling event. Field data verification shall include:

- Check field logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent;
  Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;
- Verify equipment calibrations;
- Review observations noted on the field logs; and
- Review notations of any errors and actions taken to correct the equipment or recording errors.

7.12 RECORDS RETENTION

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;

- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exemption records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections;
- NAL Exceedance Reports.

CSMP Attachment 1: Weather Reports

CSMP Attachment 2: Monitoring Records

CSMP Attachment 3: Example Forms

Rain Gauge Log Sheet				
Construction Site Name: On-Site Improvements for New Dublin High School				
WDID #:				
Date (mm/dd/yy)	Time (24-hr)	Initials	Rainfall Depth (Inches)	Notes:

Risk Level 1, 2, 3 ***Visual Inspection Field Log Sheet***						
Date and Time of Inspection:				Report Date:		
Inspection Type:	☐ Weekly	☐ Before predicted rain	☐ During rain event	☐ Following qualifying rain event	☐ Contained stormwater release	☐ Quarterly non-stormwater
Site Information						
Construction Site Name:						
Construction stage and completed activities:					Approximate area of exposed site:	
Weather and Observations						
Date Rain Predicted to Occur:				Predicted % chance of rain:		
Estimate storm beginning: _____ (date and time)		Estimate storm duration:_____ (hours)		Estimate time since last storm: _____ (days or hours)	Rain gauge reading:_____ (inches)	
Observations: If yes identify location						
Odors	Yes ☐ No ☐					
Floating material	Yes ☐ No ☐					
Suspended Material	Yes ☐ No ☐					
Sheen	Yes ☐ No ☐					
Discolorations	Yes ☐ No ☐					
Turbidity	Yes ☐ No ☐					
Site Inspections						
Outfalls or BMPs Evaluated			**Deficiencies Noted**			
(add additional sheets or attached detailed BMP Inspection Checklists)						
Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:			
Corrective Actions Identified (note if SWPPP/REAP change is needed)						
Inspector Information						
Inspector Name:				Inspector Title:		
Signature:					Date:	

Risk Level 2 ***Effluent Sampling Field Log Sheets***			
Construction Site Name:		Date:	Time Start:
Sampler:			
Sampling Event Type:	☐ Stormwater	☐ Non-stormwater	☐ Non-visible pollutant
Field Meter Calibration			
pH Meter ID No./Desc.: Calibration Date/Time:		Turbidity Meter ID No./Desc.: Calibration Date/Time:	
Field pH and Turbidity Measurements			
Discharge Location Description	pH	Turbidity	Time
Grab Samples Collected			
Discharge Location Description	Sample Type		Time
Additional Sampling Notes:			
Time End:			

NAL or NEL Exceedance Evaluation Summary Report	Page __ of __
Project Name	**On-Site Improvements for New Dublin High School**
Project WDID	
Project Location	
Date of Exceedance	
Type of Exceedance	**NAL Daily Average ☐ pH ☐ Turbidity** **NEL Daily Average ☐ pH ☐ Turbidity** **☐ Other (specify) _____**
Measurement or Analytical Method	**☐ Field meter** **(Sensitivity: _____)** **☐ Lab method (specify) _____** **(Reporting Limit: _____)** **(MDL: _____)**
Calculated Daily Average	**☐ pH _ pH units** **☐ Turbidity __ NTU**
Rain Gauge Measurement	**_____ inches**
Compliance Storm Event	**_____ inches (5-year, 24-hour event)**
Visual Observations on Day of Exceedance	

NAL or NEL Exceedance Evaluation Summary Report	Page __ of __
Description of BMPs in Place at Time of Event	
Initial Assessment of Cause	
Corrective Actions Taken (deployed after exceedance)	
Additional Corrective Actions Proposed	
Report Completed By	_____ **(Print Name, Title)**
Signature	_____

CHAIN-OF-CUSTODY **DATE:** **Lab ID:**

DESTINATION LAB: ATTN: **ADDRESS:** **Office Phone:** **Cell Phone:**							REQUESTED ANALYSIS				Notes:
SAMPLED BY:											
Contact:											
Project Name											
Client Sample ID	**Sample Date**	**Sample Time**	**Sample Matrix**	**Container #**	**Container Type**	**Container Pres.**					

SENDER COMMENTS:	**RELINQUISHED BY**		
	Signature:		
	Print:		
	Company:		
	Date:		TIME:
LABORATORY COMMENTS:	**RECEIVED BY**		
	Signature:		
	Print:		
	Company:		
	Date:	TIME:	

CSMP Attachment 4: Field Meter Instructions

OMEGA-PHH-126

Operating Information

1. Connect the power supply. Connect the pH electrode to the BNC jack on the left of the instrument. Remove the protective cap.
2. Turn on the meter by pressing the "ON" key.
3. Immerse the two electrodes in the solution to be tested. Stir gently and wait for the reading to stabilize.
4. Press the "°C/°F" key, choose the °C/°F for measuring. Press the "MODE" key, choose EC, CF, or ppm for measuring conductivity.
5. After use, turn off the meter. Rinse the electrode with distilled water to minimize contamination. Replace the protective cap with pH4 buffer to keep the pH electrode wet.

Calibration

1. pH Calibration

- Immerse the pH electrode in pH 7.0 buffer solution, and gently stir it.
- Allow the reading to stabilize and with a small screwdriver turn the "pH 7.0" calibration trimmer until the display shows "7.0" pH. Rinse the electrode with distilled water and wipe it with the filter paper.

2. EC, CF, ppm Calibration

- Press the "MODE" key. Choose the "EC" for operating. Immerse the sensor in 1413µs/cm (1.413mS) calibration solution.
- Allow the reading to stabilize and with a small screwdriver turn the CAL calibration trimmer until the display shows "'1.413EC". Rinse the electrode with distilled water and wipe it with filter-paper.

Important

The instrument's pH range must be re-calibrated whenever:

- The electrode has been used (laid) for a long time from the last calibration.
- The electrode has been used in particularly taxing conditions.
- The utmost accuracy is required.

Notice

- Stir the sensor gently when using.
- In case of abnormal phenomena such as high measured deviation, blinking measured value, no zero resetting, etc., please immerse the electrode in alcohol for cleaning (5 minutes maximum) or replace as needed.
- If the protective cap has been without electrolyte, or if the electrode has not been used for a short time, the electrode may be reactivated by leaving it for several hours in a beaker containing normal tap water, or buffer 4. If reactivation cannot be done; the electrode must be replaced.

TN-100/T-100 Turbidimeter

Overview

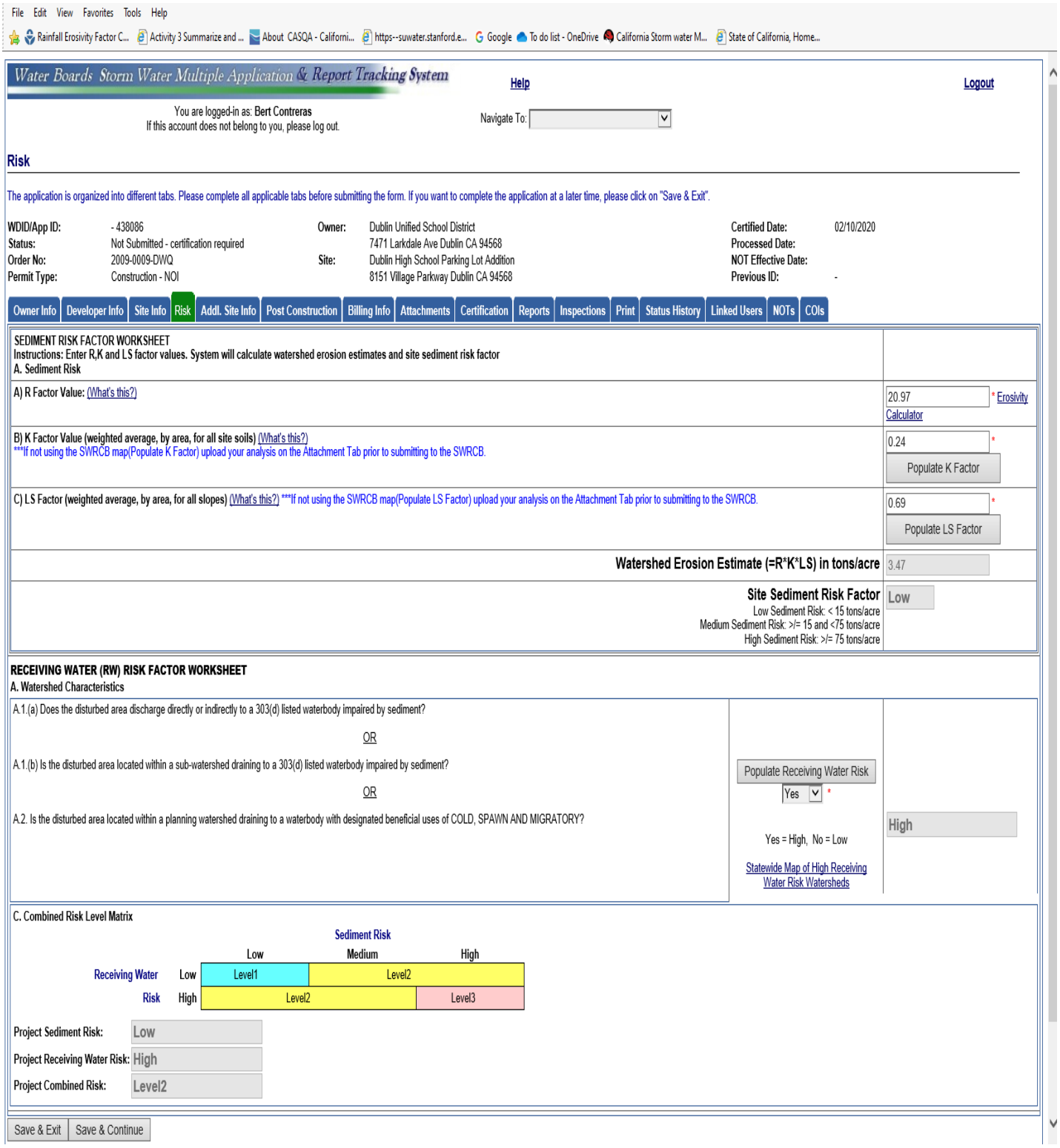
The TN-100/ T-100 allows you to measure turbidity of an aqueous sample in the field. This instrument operates on the nephelometric principle of turbidity measurement and is designed to meet the criteria specified in ISO 7027 and DIN 27027 standards. (see instruction manual here: http://www.4oakton.com/Assets/manual_pdfs/35635-00.pdf)

Section 8 References

1. Project Plans and Specifications No. 190217 dated January 9, 2020, prepared by QK Inc.
2. State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.
3. State Water Resources Control Board (2010). Order 2010-0014-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.
4. CASQA 2009, *Stormwater BMP Handbook Portal: Construction*, November 2009, www.casqa.org
5. Geotechnical Engineering Investigation, dated September 6, 2019, prepared by Krazan & Associates, Inc. Report No. 042-19017.

Appendix A: Calculations

RISK ASSESSEMENT CALCULATIONS



File Edit View Favorites Tools Help

Rainfall Erosivity Factor C... | Activity 3 Summarize and ... | About CASQA - Californi... | https--suwater.stanford.e... | Google | To do list - OneDrive | California Storm water M... | State of California, Home...

Water Boards Storm Water Multiple Application & Report Tracking System

Help | Logout

You are logged-in as: Bert Contreras
If this account does not belong to you, please log out.

Navigate To:

Risk

The application is organized into different tabs. Please complete all applicable tabs before submitting the form. If you want to complete the application at a later time, please click on "Save & Exit".

WDID/App ID:	- 438086	Owner:	Dublin Unified School District	Certified Date:	02/10/2020
Status:	Not Submitted - certification required		7471 Larkdale Ave Dublin CA 94568	Processed Date:	
Order No:	2009-0009-DWQ	Site:	Dublin High School Parking Lot Addition	NOT Effective Date:	
Permit Type:	Construction - NOI		8151 Village Parkway Dublin CA 94568	Previous ID:	-

Owner Info | Developer Info | Site Info | Risk | Addl. Site Info | Post Construction | Billing Info | Attachments | Certification | Reports | Inspections | Print | Status History | Linked Users | NOTs | COIs

SEDIMENT RISK FACTOR WORKSHEET
Instructions: Enter R,K and LS factor values. System will calculate watershed erosion estimates and site sediment risk factor
A. Sediment Risk

A) R Factor Value: (What's this?)	20.97 * Erosivity Calculator
B) K Factor Value (weighted average, by area, for all site soils) (What's this?) ***If not using the SWRCB map(Populate K Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	0.24 * Populate K Factor
C) LS Factor (weighted average, by area, for all slopes) (What's this?) ***If not using the SWRCB map(Populate LS Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	0.69 * Populate LS Factor
Watershed Erosion Estimate (=R*K*LS) in tons/acre	3.47
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >/= 15 and <75 tons/acre High Sediment Risk: >/= 75 tons/acre	Low

RECEIVING WATER (RW) RISK FACTOR WORKSHEET
A. Watershed Characteristics

A.1.(a) Does the disturbed area discharge directly or indirectly to a 303(d) listed waterbody impaired by sediment? OR A.1.(b) Is the disturbed area located within a sub-watershed draining to a 303(d) listed waterbody impaired by sediment? OR A.2. Is the disturbed area located within a planning watershed draining to a waterbody with designated beneficial uses of COLD, SPAWN AND MIGRATORY?	Populate Receiving Water Risk Yes * Yes = High, No = Low Statewide Map of High Receiving Water Risk Watersheds	High

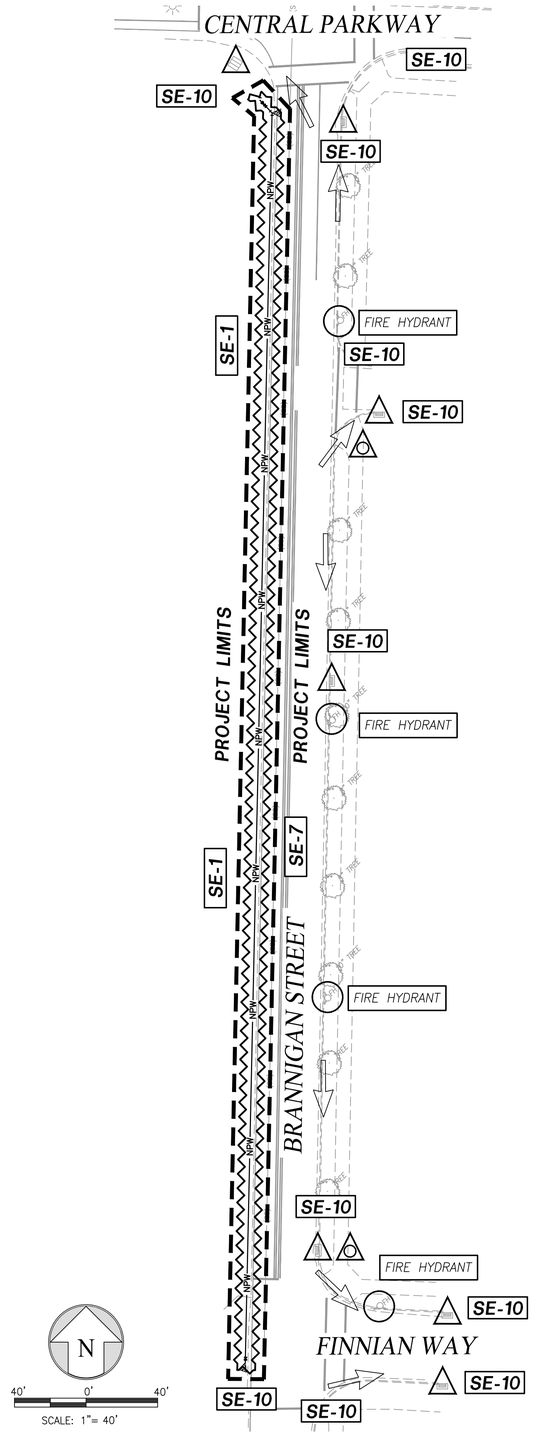
C. Combined Risk Level Matrix

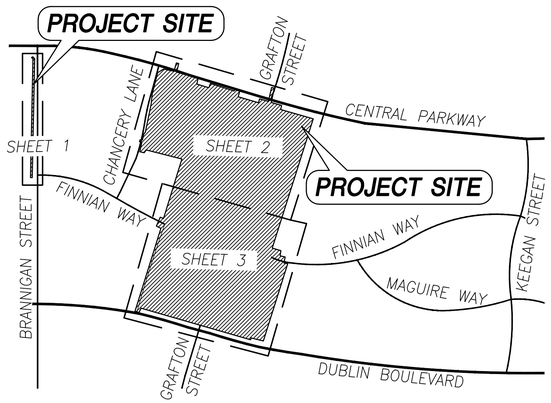
Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level1	Level2	
High	Level2		Level3

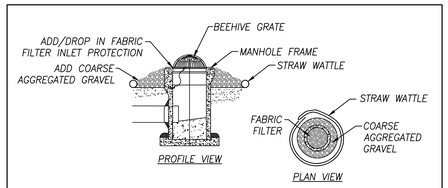
Project Sediment Risk:	Low
Project Receiving Water Risk:	High
Project Combined Risk:	Level2

Save & Exit | Save & Continue

Appendix B: Site Map



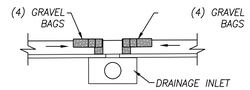




KEEP SEDIMENTS FROM ENTERING OVERFLOW RISER PIPE.

OVERFLOW STRUCTURE DETAIL

NOT TO SCALE



KEEP SEDIMENTS FROM ENTERING STORM DRAIN INLET.

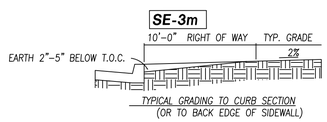
② **GRAVEL BAG DETAIL**

NOT TO SCALE



STRAW WATTLE DETAIL

NOT TO SCALE



DETAIL SE-3m (MODIFIED)

NOT TO SCALE

GENERAL EROSION CONTROL NOTES:

1. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL A NOTICE OF INTENT AND ALL PROJECT REQUIRED DOCUMENTS HAVE BEEN SUBMITTED VIA SMARTS, AND APPROVED BY GOVERNING AUTHORITIES.
2. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DURING CONSTRUCTION OPERATIONS. IF FIELD CONDITIONS WARRANT IT, THE SWPPP MAY BE MODIFIED AS LONG AS THE CONSTRUCTION GENERAL PERMIT CONDITIONS ARE MET. ANY ALTERATIONS TO THE SWPPP MUST BE NOTED IN THE SWPPP BINDER KEPT ON SITE.
3. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED.
4. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE AND BE IN COMPLIANCE WITH THE CONSTRUCTION GENERAL PERMIT.
5. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
6. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
7. DRAIN INLET PROTECTION SHALL BE PROVIDED THROUGHOUT THE DURATION OF THE PROJECT. EXISTING DRAIN INLETS SHALL BE PROTECTED UNTIL FINAL REMOVAL AND THE CONNECTING PIPE SHALL BE PROPERLY CAPPED TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.
8. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION ON ANY EXPOSED AREAS WHEN THE PROJECT IS COMPLETE.

SITE SPECIFIC NOTES:

THIS SITE HAS BEEN CALCULATED AS A RISK LEVEL 2 DISCHARGER AND SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF THE PROJECT SWPPP AND AS SPECIFIED IN ATTACHMENT C OF THE GENERAL PERMIT.

1. CONSTRUCT WORK EQUIPMENT STORAGE AREAS AS NEED FOR CONSTRUCTION PER THE CALIFORNIA BMP HANDBOOK.
2. PROVIDE STANDARD STORM DRAIN INLET PROTECTION PER BMP STANDARD SE-10 OF THE CALIFORNIA BMP HANDBOOK. PROVIDE INLET PROTECTION FOR EXISTING INLETS AT START OF CONSTRUCTION. AS PROPOSED INLETS ARE CONSTRUCTED INLET PROTECTION SHALL BE INSTALLED.
3. STREET SWEEPING SHALL BE IMPLEMENTED ON THE PROJECT IN ACCORDANCE WITH THE SWRCB CONSTRUCTION GENERAL PERMIT REQUIREMENTS.
4. RISK 2 DISCHARGERS SHALL MONITOR AND REPORT SITE RUN-ON FROM SURROUNDING AREAS IF THERE IS REASON TO BELIEVE RUN-ON MAY CONTRIBUTE TO AN EXCEEDANCE OF NAL OR NELS. DISCHARGERS SHALL COLLECT EFFLUENT SAMPLES AT ALL DISCHARGE POINTS WHERE STORM WATER IS DISCHARGED OFFSITE. SAMPLING FOR THIS PROJECT IS REQUIRED FOR NON-VISIBLE POLLUTANT MONITORING ONLY IF A BREACH, MALFUNCTION, LEAKAGE, OR SPILL HAS OCCURRED PER THE SWPPP AND CONSTRUCTION GENERAL PERMIT.
5. NEAREST WATER SOURCE: APPROXIMATE LOCATION OF NEARBY EXISTING FIRE HYDRANTS TO THE PROJECT SITE AS SHOWN. PROPOSED WATER SOURCE LOCATIONS AS SHOWN.
6. PERIMETER CONTROL BMP: EC-2. SE-1. SE-3m, SE-5 OR OTHER APPROPRIATE MEASURES.
7. SILT FENCE AND/OR FIBER ROLLS SITUATED TO PREVENT SEDIMENTATION AND EROSION ONTO AND FROM SITE DURING CONSTRUCTION. LOCATION AND UTILIZATION MAY BE ADJUSTED IN ACCORDANCE WITH EXISTING SITE CONDITIONS.
8. SPILL KITS ARE LOCATED IN STORAGE AREA AT ALL TIMES.
9. ENCIRCLE TEMPORARY DIRT STOCKPILES WITH FIBER ROLLS (SE-5) A FOOT FROM THE TOE OF THE SLOPE PER CASQA BMP WM-3. COVER AND BERM LOOSE STOCKPILED CONSTRUCTION MATERIALS THAT ARE NOT ACTIVELY BEING USED (I.E. SOIL, AGGREGATE, FLY-ASH, STUCCO, HYDRATED LIME, ETC.)
10. RISK 2 DISCHARGERS SHALL WASH VEHICLES IN SUCH A MANNER AS TO PREVENT NON-STORM WATER DISCHARGES TO SURFACE WATERS OR MS4 DRAINAGE SYSTEMS.

EXISTING

PROPOSED

SWPPP BMP LEGEND

EC-1	SCHEDULING	NS-12	CONCRETE CURING
EC-2	PRESERVATION OF EXISTING VEGETATION	NS-13	CONCRETE FINISHING
SE-1	SILT FENCE	WM-1	MATERIAL DELIVERY AND STORAGE
SE-3m	CURB GRADING DETAIL PER THIS SHEET	WM-2	MATERIAL USE
SE-5	FIBER ROLLS	WM-3	STOCK PILE MANAGEMENT
SE-6	GRAVEL BAG BERM	WM-4	SPILL PREVENTION AND CONTROL
SE-7	STREET SWEEPING AND VACUUMING	WM-5	SOLID WASTE MANAGEMENT
SE-10	PROTECTED DRAINAGE INLET FROM SEDIMENT INFILTRATION.	WM-6	HAZARDOUS WASTE MANAGEMENT
TC-1	STABILIZED CONSTRUCTION ENTRANCE	WM-7	CONTAMINATED SOIL MANAGEMENT
WE-1	WIND EROSION CONTROL	WM-8	CONCRETE WASTE MANAGEMENT
NS-1	WATER CONSERVATION PRACTICES	WM-9	SANITARY/SEPTIC WASTE MANAGEMENT
NS-3	PAVING AND GRADING OPERATIONS	WM-10	LIQUID WASTE MANAGEMENT
NS-6	ILLICIT CONNECTION/DISCHARGE		EXISTING DRAINAGE
NS-8	VEHICLE AND EQUIPMENT CLEANING		PROPOSED DRAINAGE
NS-9	VEHICLE AND EQUIPMENT FUELING		PROJECT LIMITS
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE		

NOTES:
***STREET SWEEP (DURING GRADING ACTIVITIES, STREETS WILL BE SWEPT AS NECESSARY TO PREVENT DIRT AND DUST FROM LEAVING THE CONSTRUCTION AREA)**

*** CONTRACTOR SHALL PROVIDE ADEQUATE DUST SUPPRESSION TO MEET ALL SJVAPCD REQUIREMENTS.**

REVISIONS

NO.	DATE	BY	DESCRIPTION

QK
901 EAST MAIN STREET
VISALIA, CA 93292
TEL: (559) 733-0440
WWW.QKINC.COM

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SIM-PBK ARCHITECTS
7790 N. PALM AVENUE
FRESNO, CA 93711
(559) 446-0400

ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL
WATER POLLUTION CONTROL DRAWING

PROJECT NO.: **190217**
DRAWN BY: **GG**
QA/QC BY: **AAP**
SCALE: **AS SHOWN**
SHEET NO.: **1** OF **3**

PROGRESS SET - NOT FOR CONSTRUCTION

L:\PROJECTS\2019\190217\ENGINEERING\EC\SWPPP\ACAD\190217-SWPPP EXHIBIT.DWG, 2/24/2020 2:12 PM

MATCHLINE
SEE SHEET 1

CENTRAL PARKWAY

PROJECT LIMITS

DUNMORE
LANE

CHANCERY LANE

CONSTRUCTION
TRAILER AND
MATERIAL
STORAGE AREA
NS-1, 3, 6,
8-10 &
WM-1-6, 8-10

EC-2

TC-1

WM-8

SE-1

SE-3m

SE-7

SE-10

FIRE HYDRANT

BUS STOP

SCALE: 1"= 40'

MATCHLINE
SEE SHEET 3

REVISIONS

NO.	DATE	BY	DESCRIPTION

QK
901 EAST MAIN STREET
VISALIA, CA 93292
TEL: (559) 733-0440
WWW.QKINC.COM

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FRESNO, CA 93711
(559) 449-3400

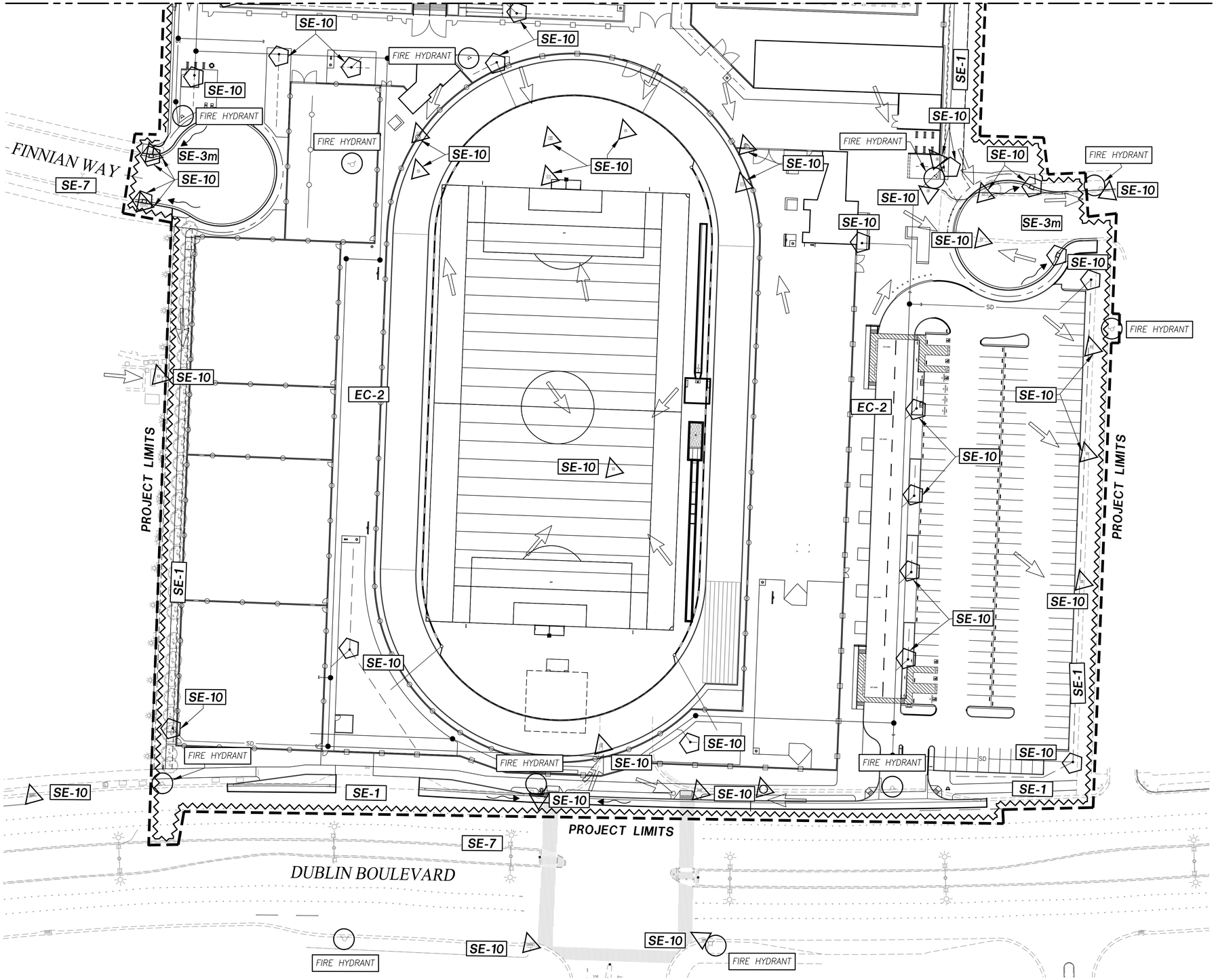
ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL
WATER POLLUTION CONTROL DRAWING

PROJECT NO.: **190217**
DRAWN BY: **GG**
QA/QC BY: **AAP**
SCALE: **AS SHOWN**
SHEET NO.: **2** OF **3**

PROGRESS SET - NOT FOR CONSTRUCTION

L:\PROJECTS\2019\190217\ENGINEERING\EC1\SWPPP\ACAD\190217-SWPPP_EXHIBIT.DWG, 2/24/2020, 2:12 PM

MATCHLINE
SEE SHEET 2



REVISIONS

NO.	DATE	BY	DESCRIPTION

QK
901 EAST MAIN STREET
VISALIA, CA 93292
TEL: (559) 733-0440
WWW.QKINC.COM

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SIM-PBK ARCHITECTS
7780 N. PALM AVENUE
FRESNO, CA 93711
(559) 447-8400

ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL
WATER POLLUTION CONTROL DRAWING

PROJECT NO.:	190217
DRAWN BY:	DZ
QA/QC BY:	AAP
SCALE:	AS SHOWN
SHEET NO.:	3 OF 3

PROGRESS SET - NOT FOR CONSTRUCTION

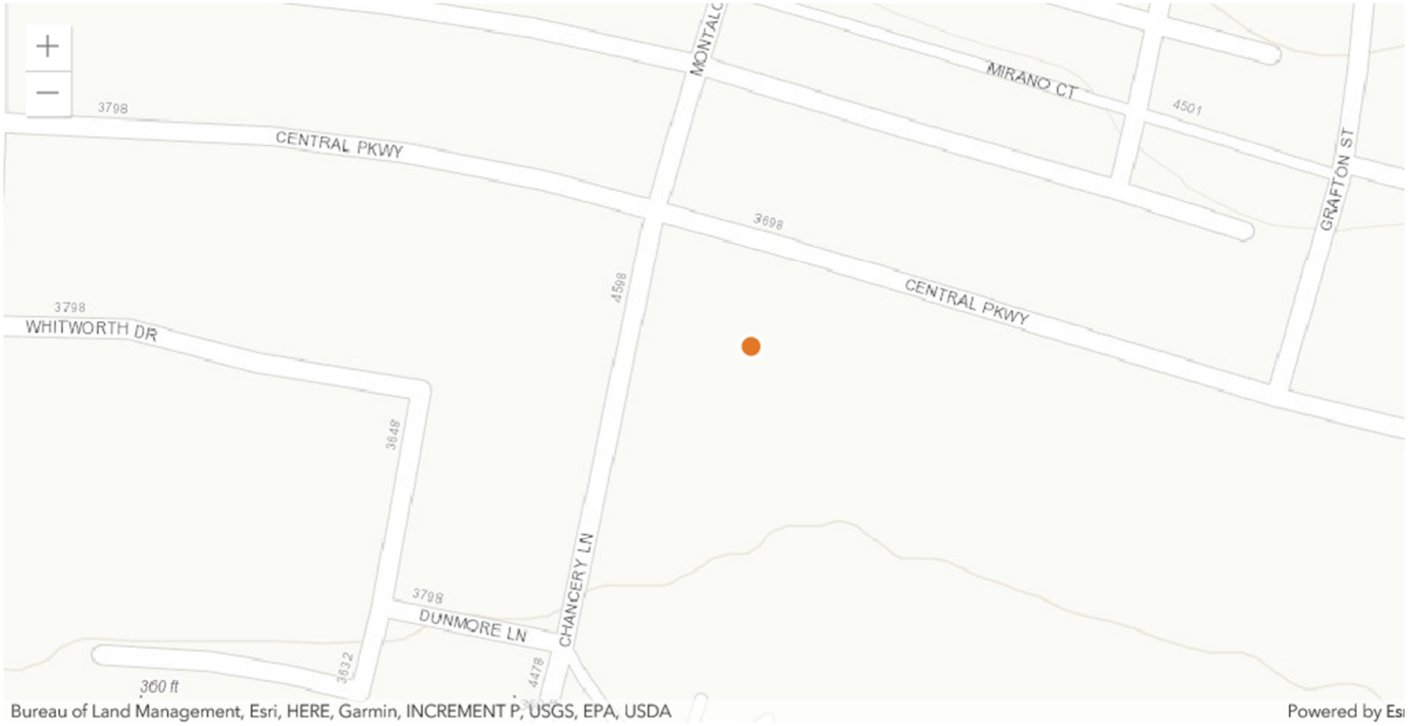
L:\PROJECTS\2019\190217\ENGINEERING\EEC\SWPPP\ACAD\190217-SWPPP EXHIBIT.DWG 2/24/2020 2:13 PM

Appendix C: Permit Registration Documents

Permit Registration Documents included in this Appendix

Y/N	**Permit Registration Document**
Y	Notice of Intent
Y	Risk Assessment, see Appendix A
Y	Certification
N	Post Construction Water Balance
N	Copy of Annual Fee Receipt
N	ATS Design Documents
Y	Site Map, see Appendix B

CALCULATION OF R-FACTOR



3 Click the "Calculate R Factor" button below to calculate an R Factor for your small construction project.

Calculate R Factor

Facility Information

Start Date: 06/01/2020	**Latitude:** 37.7091
End Date: 08/01/2022	**Longitude:** -121.8658

Calculation Results

Rainfall erosivity factor (R Factor) = **78.8**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority, you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

DRAINAGE & RUNOFF INFORMATION

The ground surface should slope away from building pad and pavement areas towards appropriate drop inlets or other surfaces drainage devices. In accordance with section 1804 of the 2017 California Building Code, it is recommended that the ground surface adjacent to foundation be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and offsite. These grades should be maintained for the life of the project.

Slots or weep holes should be placed in drop inlets or other surfaces drainage devices in pavement areas to allow free drainage of adjoining base course materials. Cutoff walls should be installed at pavement edges adjacent to vehicular traffic areas; these walls should extend to a minimum depth of 6” below pavement subgrades to limit the amount of seepage water that can infiltrate the pavements. Where cutoff walls are undesirable, subgrade drains can be constructed to transport excess water away from planters to drainage interceptors. If cutoff walls can be successfully used at the site, construction of subgrade drains is considered unnecessary.

Appendix D: SWPPP Amendment Certifications

SWPPP Amendment No. _____

Project Name: *ON-SITE IMPROVEMENTS FOR NEW DUBLIN HIGH SCHOOL*

Project Number: _____

Qualified SWPPP Developer's Certification of the

Stormwater Pollution Prevention Plan Amendment

"This Stormwater Pollution Prevention Plan and attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Order No. 2009-009-DWQ as amended by 2010-0014-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature	Date
Monique Mello, P.E	22554
QSD Name	QSD Certificate Number
Senior Project Manager, QSD	(559) 733-0440
Title and Affiliation	Telephone
901 E. Main St, Visalia, CA 93292	Monique.Mello@qkinc.com
Address	Email

Appendix E: Submitted Changes to PRDs

Log of Updated PRDs

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in Appendix C. Updated PRDs submitted electronically via SMARTS can be found in this Appendix.

This appendix includes all of the following updated PRDs (check all that apply):

☐ Revised Notice of Intent (NOI);

☐ Revised Site Map;

☐ Revised Risk Assessment;

☐ New landowner's information (name, address, phone number, email address); and

☐ New signed certification statement.

Dublin Unified School District

Legally Responsible Person (organization)

Signature of Legally Responsible Person or Approved Signatory	Date
Chris Stevens	(925)828-2551
Name of Legally Responsible Person or Approved Signatory	Telephone Number

Appendix F: Construction Schedule

THE CONSTRUCTION SCHEDULE WILL BE INCLUDED BY THE CONTRACTOR PRIOR TO CONSTRUCTION

Appendix G: Construction Activities, Materials Used, and Associated Pollutants

Appendix H: CASQA Stormwater BMP Handbook Portal: Construction Fact Sheets

The following is a list of construction materials that may be used and construction activities that will have the potential to contribute to the discharge of pollutants to stormwater.

Table G POLLUTANTS ASSOCIATED WITH CONSTRUCTION ACTIVITIES

General Work Activity/ Products with Potential Stormwater Pollutants	Specific Work Activity/Products with Potential Stormwater Pollutants	Pollutant Categories
Adhesives	• Adhesives, glues, resins, epoxy synthetics, PVC cement • Caulks, sealers, putty, sealing agents and • Coal tars (naphtha, pitch)	Oil and Grease, Synthetic Organics[1]
Asphalt paving/curbs	• Hot and cold mix asphalt	Oil and Grease
Cleaners	• Polishes (metal, ceramic, tile) • Etching agents • Cleaners, ammonia, lye, caustic sodas, bleaching agents and chromate salts	Metals, Synthetic Organics
Concrete / Masonry	• Cement and brick dust • Colored chalks • Concrete curing compounds • Glazing compounds • Surfaces cleaners • Saw cut slurries • Tile cutting	Metals, Synthetic Organics
Drywall	• Saw-cutting drywall	Metals
Framing/Carpentry	• Sawdust, particle board dust, and treated woods • Saw cut slurries	Metals, Synthetic Organics
Heating, Ventilation, Air Conditioning	• Demolition or construction of air condition and heating systems	Metals, Synthetic Organics
Insulation	• Demolition or construction involving insulation, venting systems	Metals, Synthetic Organics
Liquid waste	• Wash waters • Irrigation line testing/flushing	Metals, Synthetic Organics
Painting	• Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding	Metals, Synthetic Organics
Planting / Vegetation Management	• Vegetation control (pesticides/herbicides) • Planting • Plant maintenance • Vegetation removal	Nutrients, Metals, Synthetic Organics
Plumbing	• Solder (lead, tin), flux (zinc chloride), pipe fitting • Galvanized metal in nails, fences, and electric wiring	Metals, Synthetic Organics
Pools/fountains	• Chlorinated water	Synthetic Organics
Removal of existing structures	• Demolition of asphalt, concrete, masonry, framing, roofing, metal structures.	Metals, Oil and Grease, Synthetic Organics
Roofing	• Flashing • Saw cut slurries (tile cutting) • Shingle scrap and debris	Metals, Oil and Grease, Synthetic Organics

Table G POLLUTANTS ASSOCIATED WITH CONSTRUCTION ACTIVITIES

General Work Activity/ Products with Potential Stormwater Pollutants	Specific Work Activity/Products with Potential Stormwater Pollutants	Pollutant Categories
Sanitary waste	• Portable toilets • Disturbance of existing sewer lines.	Nutrients
Soil preparation/amendments	• Use of soil additives/amendments	Nutrients
Solid waste	• Litter, trash and debris • Vegetation	Gross Pollutants
Utility line testing and flushing	• Hydrostatic test water • Pipe flushing	Synthetic Organics
Vehicle and equipment use	• Equipment operation • Equipment maintenance • Equipment washing • Equipment fueling	Oil and Grease
[1] Synthetic Organics are defined in Table 1.2 of the CASQA *Stormwater BMP Handbook Portal: Construction* as adhesives, cleaners, sealants, solvents, etc. These are generally categorized as VOCs or SVOCs.		

Appendix I: BMP Inspection Form

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Storm *Complete Parts I,II,III,IV and VII*	During Rain Event *Complete Parts I, II, III, V, and VII*	Post-Storm *Complete Parts I,II,III,VI and VII*

Part I. General Information

Site Information

Construction Site Name: On-Site Improvements for New Dublin High School	
Construction stage and completed activities:	Approximate area of site that is exposed:

Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time)	Estimate storm duration: (hours)
Estimate time since last storm: (days or hours)	Rain gauge reading and location: (in)

Is a "Qualifying Event" predicted or did one occur (i.e., 0.5" rain with 48-hrs or greater between events)? (Y/N)
If yes, summarize forecast:

Exemption Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as flooding or electrical storms.

Inspector Information

Inspector Name:	Inspector Title:
Signature:	Date:

Part II. BMP Observations. Describe deficiencies in Part III.

Minimum BMPs for Risk Level _____ Sites	Failures or other short comings (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)			
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective			
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system			
Portable toilets are contained to prevent discharges of waste			
Sanitation facilities are clean and with no apparent for leaks and spills			
Equipment is in place to cover waste disposal containers at the end of business day and during rain events			
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water			
Stockpiled waste material is securely protected from wind and rain if not actively in use			
Procedures are in place for addressing hazardous and non-hazardous spills			
Appropriate spill response personnel are assigned and trained			
Equipment and materials for cleanup of spills is available onsite			
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil			
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters			
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs			
Vehicle and equipment leaks are cleaned immediately and disposed of properly			

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 1 Sites	Adequately designed, implemented and effective	Action Required (yes/no)	Action Implemented (Date)

	(yes, no, N/A)		
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations			
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled			
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems			
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.			
Erosion Controls			
Wind erosion controls are effectively implemented			
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots			
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.			
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site			
Entrances and exits are stabilized to control erosion and sediment discharges from the site			
Sediment basins are properly maintained			
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)			
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)			
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)			
Inspect all immediate access roads daily (Risk Level 2 & 3 Only)			
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.			

Other			
Are the project SWPPP and BMP plan up to date, available on-site and being properly implemented?			

Part III. Descriptions of BMP Deficiencies		
Deficiency	**Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.**	
	Start Date	**Action**
1.		
2.		
3.		
4.		

Part IV. Additional Pre-Storm Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During Storm Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points,

and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-Storm Observations. **Visually observe (inspect) stormwater discharges at all discharge locations within two business days (48 hours) after each qualifying rain event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.**	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. **Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.**	
Required Actions	**Implementation Date**

Appendix J: Project Specific Rain Event Action Plan

Rain Event Action Plans are required for Risk Level 2 projects.

Date:_____20_____ WDID Number:

APPENDIX 3: REAP TEMPLATES

Rain Event Action Plan (REAP)

Grading and Land Development Phase

Preparation of land for utility installation and vertical building including clearing and grubbing, demolition, blasting or rock crushing, if necessary, and soil excavation and mass grading. This form is to be reviewed and completed by the qualified SWPPP practitioner within 48 hours prior to a rain event during the Grading and Land Development Phase.

Site Information:

_____

Site Name, City and Zip Code □ Risk Level 2 □ Risk Level 3

Site Storm Water Manager Information:

_____

Name, Company and Emergency Phone Number (24/7)

Erosion and Sediment Control Provider – Labor Force Contracted for the Site:

_____

Name, Company and Emergency Phone Number (24/7)

Storm Water Sampling Agent Information:

_____

Name, Company and Emergency Phone Number (24/7)

Activities Associated with Land Surface Development

Check ALL the boxes below that apply to your site.

☐ Demolition	☐ Vegetation Removal	☐ Vegetation Salvage-Harvest
☐ Rough Grade	☐ Finish Grade	☐ Blasting
☐ Soil Amendment(s):	☐ Over Excavation (_____ft)	☐ Soils Testing
☐ Rock Crushing	☐ Erosion and Sediment Control	☐ Surveying
☐ Equip. Maintenance/Fueling	☐ Material Delivery and Storage	☐ Other:

Trades Active on Site During Land Surface Development

Check ALL the boxes below that apply to your site.

☐ Demolition	☐ Grading Contractor	☐ Erosion and Sediment Control
☐ Storm Drain Improvement	☐ Water, Sewer, Electric Utilities	☐ Surveyor – Soils Technician
☐ Street Improvements	☐ Rock Products	☐ Sanitary Station Provider
☐ Material Delivery	☐ Equipment Fueling/Maintenance	☐ Laborers
☐ Other:	☐ Other:	☐ Other:

Trade Contractor Information Provided

☐ Educational Material Handout	☐ Tailgate Meetings	☐ Training Workshop
☐ Contractual Language	☐ Fines and Penalties	☐ Signage
☐ Other:	☐ Other:	☐ Other:

Rain Event Action Plan (REAP)

Grading and Land Development Phase

Predicted Rain Event Triggered Actions

Below is a list of suggested actions for this project phase. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to review before rain event
☐ Information & Scheduling	☐ Inform trade supervisors of predicted rain ☐ Check scheduled activities and rescheduled as needed ☐ Alert erosion/sediment control provider ☐ Alert sample collection contractor (if applicable) ☐ Schedule staff for extended rain inspections (including weekends & holidays) ☐ Check Erosion and Sediment Control (ESC) material stock ☐ Review BMP map ☐ Other:_____ ☐ _____ ☐ _____
☐ Material storage areas	☐ Material under cover or in sheds (ex: treated woods and metals) ☐ Perimeter control around stockpiles ☐ Other:_____ ☐ _____ ☐ _____
☐ Waste management areas	☐ Dumpsters closed ☐ Drain holes plugged ☐ Recycling bins covered ☐ Sanitary stations bermed and protected from tipping ☐ Other:_____ ☐ _____ ☐ _____
☐ Trade operations	☐ Exterior operations shut down for event (ex: no concrete pours or paving) ☐ Do not apply soil treatments (ex: fertilizer) within 24 hours of event ☐ Materials and equipment (ex: tools) properly stored and covered ☐ Waste and debris disposed in covered dumpsters or removed from site ☐ Trenches and excavations protected ☐ Perimeter controls around disturbed areas ☐ Cover and berm fueling and repair areas ☐ Other:_____ ☐ _____ ☐ _____
☐ Site ESC BMPs	☐ Adequate capacity in sediment basins and traps ☐ Site perimeter controls in place ☐ Catch basin and drop inlet protection in place ☐ Deploy temporary erosion control on inactive areas ☐ Deploy temporary perimeter control around disturbed areas or stockpiles ☐ Sweep roads; stabilize site ingress and egress points ☐ Other:_____ ☐ _____ ☐ _____

☐ Concrete rinse out area	☐ Adequate capacity for rain ☐ Cover wash-out bins ☐ Other:_____ ☐ _____ ☐ _____

☐ Spill and drips	☐ Clean up all incident spills and drips, including paint, stucco, fuel, and oil ☐ Empty drip pans ☐ Other:_____ ☐ _____ ☐ _____
☐ Other / Discussion / Diagrams	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____

Site Storm Water Manager Signature (Use ink please)

Date:_____20_____ WDID Number: | |

Rain Event Action Plan (REAP)

Streets and Utilities Phase

Finish grading activities and installation of electrical, gas, water, sewer, stormwater control, and communication systems; Installation of roadways, curbs, gutters and other site design features for stormwater control. This form to be reviewed and completed by the qualified SWPPP practitioner within 48 hours prior to a rain event during the Streets and Utilities Phase.

Site Information:

_____

Site Name, City and Zip Code □ Risk Level 2 □ Risk Level 3

Site Storm Water Manager Information:

_____

Name, Company and Emergency Phone Number (24/7)

Erosion and Sediment Control Provider – Labor Force Contracted for the Site:

_____

Name, Company and Emergency Phone Number (24/7)

Storm Water Sampling Agent Information:

_____

Name, Company and Emergency Phone Number (24/7)

Activities Associated with Streets and Utilities Development

Check ALL the boxes below that apply to your site.

☐ Rough Grade	☐ Utility Install: water-sewer-gas	☐ Paving Operations
☐ Finish Grade	☐ Storm Drain Installation	☐ Material Delivery & Storage
☐ Soil Amendment(s):	☐ Masonry	☐ Erosion and Sediment Control
☐ Equip. Maintenance/Fueling	☐ Curb and Gutter/Concrete Pour	☐ Other:

Trades Active on-Site During Streets and Utilities Development

Check ALL the boxes below that apply to your site.

☐ Storm Drain Improvement	☐ Grading Contractor	☐ Surveyor- Soil Technician
☐ Street Improvements	☐ Water Pipe Installation	☐ Sanitary Station Provider
☐ Material Delivery	☐ Sewer Pipe Installation	☐ Laborers
☐ Trenching	☐ Gas Pipe Installation	☐ Electrical
☐ Concrete Pouring	☐ Electrical Installation	☐ Carpentry
☐ Foundation	☐ Communication Installation	☐ Plumbing
☐ Other:	☐ Erosion and Sediment Control	☐ Masonry
☐ Other:	☐ Other:	☐ Other:

Trade Contractor Information Provided

☐ Educational Material Handout	☐ Tailgate Meetings	☐ Training Workshop
☐ Contractual Language	☐ Fines and Penalties	☐ Signage
☐ Other:	☐ Other:	☐ Other:

Rain Event Action Plan (REAP)

Streets and Utilities Phase

Predicted Rain Event Triggered Actions

Below is a list of suggested actions for this project phase. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to review before rain event
☐ Information & Scheduling	☐ Inform trade supervisors of predicted rain ☐ Check scheduled activities and rescheduled as needed ☐ Alert erosion/sediment control provider ☐ Alert sample collection contractor (if applicable) ☐ Schedule staff for extended rain inspections (including weekends & holidays) ☐ Check Erosion and Sediment Control (ESC) material stock ☐ Review BMP map ☐ Other:_____ ☐ _____ ☐ _____
☐ Material storage areas	☐ Material under cover or in sheds (ex: treated woods and metals) ☐ Perimeter control around stockpiles ☐ Other:_____ ☐ _____ ☐ _____
☐ Waste management areas	☐ Dumpsters closed ☐ Drain holes plugged ☐ Recycling bins covered ☐ Sanitary stations bermed and protected from tipping ☐ Other:_____ ☐ _____ ☐ _____
☐ Trade operations	☐ Exterior operations shut down for event (ex: no concrete pours or paving) ☐ Do not apply soil treatments (ex: fertilizer) within 24 hours of event ☐ Materials and equipment (ex: tools) properly stored and covered ☐ Waste and debris disposed in covered dumpsters or removed from site ☐ Trenches and excavations protected ☐ Perimeter controls around disturbed areas ☐ Cover and berm fueling and repair areas ☐ Other:_____ ☐ _____ ☐ _____
☐ Site ESC BMPs	☐ Adequate capacity in sediment basins and traps ☐ Site perimeter controls in place ☐ Catch basin and drop inlet protection in place ☐ Deploy temporary erosion control on inactive areas ☐ Deploy temporary perimeter control around disturbed areas or stockpiles ☐ Sweep roads; stabilize site ingress and egress points ☐ Other:_____ ☐ _____ ☐ _____

☐ Concrete rinse out area	☐ Adequate capacity for rain ☐ Cover wash-out bins ☐ Other:_____ ☐ _____ ☐ _____

☐ Spill and drips	☐ Clean up all incident spills and drips, including paint, stucco, fuel, and oil ☐ Empty drip pans ☐ Other:_____ ☐ _____ ☐ _____
☐ Other / Discussion / Diagrams	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____

Site Storm Water Manager Signature (Use ink please)

Date:_____20_____ WDID Number:

Rain Event Action Plan (REAP)
Vertical Construction Phase

Build out of structures from foundations to roofing, including rough landscaping. This form to be reviewed and completed by the qualified SWPPP practitioner within 48 hours prior to a rain event during the Vertical Construction Phase.

Site Information:

_____

Site Name, City and Zip Code □ Risk Level 2 □ Risk Level 3

Site Storm Water Manager Information:

_____

Name, Company and Emergency Phone Number (24/7)

Erosion and Sediment Control Provider – Labor Force Contracted for the Site:

_____

Name, Company and Emergency Phone Number (24/7)

Storm Water Sampling Agent Information:

_____

Name, Company and Emergency Phone Number (24/7)

Activities Associated with Vertical Construction

Check ALL the boxes below that apply to your site, and others that are active at your site.

☐ Framing	☐ Carpentry	☐ Concrete/Forms/Foundation
☐ Masonry	☐ Electrical	☐ Painting
☐ Drywall/Interior Walls	☐ Plumbing	☐ Stucco
☐ Equip. Maintenance/Fueling	☐ HVAC	☐ Tile
☐ Exterior Siding	☐ Insulation	☐ Landscaping & Irrigation
☐ Flooring	☐ Material Delivery & Storage	☐ Equip. Repair and Fueling
☐ Roofing	☐ Soil Amendment(s):	☐ Other:

Trades Active on Site During Vertical Construction

Check ALL the boxes below that apply to your site, and others that are active at your site.

☐ Grading Contractor	☐ Utilities, e.g., Sewer, Electric	☐ Erosion/ Sediment Control
☐ Tile Work- Flooring	☐ Foundation	☐ Surveyors
☐ Drywall	☐ Roofers	☐ Sanitary Station Provider
☐ Electricians	☐ Stucco	☐ Laborers
☐ HVAC installers	☐ Masons	☐ Painters
☐ Exterior Siding	☐ Landscapers	☐ Carpenters
☐ Insulation	☐ Riggers	☐ Plumbers
☐ Fireproofing	☐ Utility Line Testers	☐ Pest Control: termite prevent.
☐ Steel Systems	☐ Others:	☐ Other:

Trades that are storing materials and/or waste outside or conducting activities outside should be listed.

Trade Contractor Information Provided

☐ Educational Material Handout	☐ Tailgate Meetings	☐ Training Workshop
☐ Contractual Language	☐ Fines and Penalties	☐ Signage
☐ Other:	☐ Other:	☐ Other:

Rain Event Action Plan (REAP)
Vertical Construction Phase

Predicted Rain Event Triggered Actions

Below is a list of suggested actions for this project phase. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to review before rain event
☐ Information & Scheduling	☐ Inform trade supervisors of predicted rain ☐ Check scheduled activities and rescheduled as needed ☐ Alert erosion/sediment control provider ☐ Alert sample collection contractor (if applicable) ☐ Schedule staff for extended rain inspections (including weekends & holidays) ☐ Check Erosion and Sediment Control (ESC) material stock ☐ Review BMP map ☐ Other:_____ ☐ _____ ☐ _____
☐ Material storage areas	☐ Material under cover or in sheds (ex: treated woods and metals) ☐ Perimeter control around stockpiles ☐ Other:_____ ☐ _____ ☐ _____
☐ Waste management areas	☐ Dumpsters closed ☐ Drain holes plugged ☐ Recycling bins covered ☐ Sanitary stations bermed and protected from tipping ☐ Other:_____ ☐ _____ ☐ _____
☐ Trade operations	☐ Exterior operations shut down for event (ex: no concrete pours or paving) ☐ Do not apply soil treatments (ex: fertilizer) within 24 hours of event ☐ Materials and equipment (ex: tools) properly stored and covered ☐ Waste and debris disposed in covered dumpsters or removed from site ☐ Trenches and excavations protected ☐ Perimeter controls around disturbed areas ☐ Cover and berm fueling and repair areas ☐ Other:_____ ☐ _____ ☐ _____
☐ Site ESC BMPs	☐ Adequate capacity in sediment basins and traps ☐ Site perimeter controls in place ☐ Catch basin and drop inlet protection in place ☐ Deploy temporary erosion control on inactive areas ☐ Deploy temporary perimeter control around disturbed areas or stockpiles ☐ Sweep roads; stabilize site ingress and egress points ☐ Other:_____ ☐ _____ ☐ _____

☐ Concrete rinse out area	☐ Adequate capacity for rain ☐ Cover wash-out bins ☐ Other:_____ ☐ _____ ☐ _____

☐ Spill and drips	☐ Clean up all incident spills and drips, including paint, stucco, fuel, and oil ☐ Empty drip pans ☐ Other:_____ ☐ _____ ☐ _____
☐ Other / Discussion / Diagrams	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____

Site Storm Water Manager Signature (Use ink please)

Date:_____20_____ WDID Number: | |

Rain Event Action Plan (REAP)

Post – Construction Phase

Final landscaping and site stabilization, material removal, and post construction obligation installation such as storm drain inlet stenciling. This form to be reviewed and completed by the qualified SWPPP practitioner within 48 hours prior to a rain event during the Post-Construction Phase.

Site Information:

_____

Site Name, City and Zip Code □ Risk Level 2 □ Risk Level 3

Site Storm Water Manager Information:

_____

Name, Company and Emergency Phone Number (24/7)

Erosion and Sediment Control Provider – Labor Force Contracted for the Site:

_____

Name, Company and Emergency Phone Number (24/7)

Storm Water Sampling Agent Information:

_____

Name, Company and Emergency Phone Number (24/7)

Activities Associated with Site Post Construction

Check ALL the boxes below that apply to your site.

☐ Stabilization	☐ Vegetation Establishment	☐ E&S Control BMP Removal
☐ Finish Grade	☐ Storage Yard/ Material Removal	☐ Landscape Installation
☐ Painting and Touch-Up	☐ Irrigation System Testing	☐ Other:

Installation of Post-Construction BMPs:

☐ Drainage Inlet Stencils	☐ Inlet Filtration	☐ Perm. Water Quality Ponds
☐ Other:	☐ Other:	☐ Other:

Trades Active on During Site Post Construction

Check ALL the boxes below that apply to your site.

☐ Material Delivery	☐ Landscape Installation	☐ Erosion and Sediment Control
☐ Irrigation System Installation	☐ BMP Installation	☐ Sanitary Station Provider
☐ Pool Installation	☐ Water Feature Installation	☐ Laborers
☐ Painting	☐ Equipment Fueling	☐ Other:

Home Owner and HOA Information Provided

☐ Educational Material Handout	☐ Door Hangers	☐ Educational Workshop
☐ Educational Material Mailings	☐ Fines and Penalties	☐ Signage
☐ Community Postings	☐ Other:	☐ Other:

Rain Event Action Plan (REAP)

Post – Construction Phase

Predicted Rain Event Triggered Actions

Below is a list of suggested actions for this project phase. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to review before rain event
☐ Information & Scheduling	☐ Inform trade supervisors of predicted rain ☐ Check scheduled activities and rescheduled as needed ☐ Alert erosion/sediment control provider ☐ Alert sample collection contractor (if applicable) ☐ Schedule staff for extended rain inspections (including weekends & holidays) ☐ Check Erosion and Sediment Control (ESC) material stock ☐ Review BMP map ☐ Other:_____ ☐ _____ ☐ _____
☐ Material storage areas	☐ Material under cover or in sheds (ex: treated woods and metals) ☐ Perimeter control around stockpiles ☐ Other:_____ ☐ _____ ☐ _____
☐ Waste management areas	☐ Dumpsters closed ☐ Drain holes plugged ☐ Recycling bins covered ☐ Sanitary stations bermed and protected from tipping ☐ Other:_____ ☐ _____ ☐ _____
☐ Trade operations	☐ Exterior operations shut down for event (ex: no concrete pours or paving) ☐ Do not apply soil treatments (ex: fertilizer) within 24 hours of event ☐ Materials and equipment (ex: tools) properly stored and covered ☐ Waste and debris disposed in covered dumpsters or removed from site ☐ Trenches and excavations protected ☐ Perimeter controls around disturbed areas ☐ Cover and berm fueling and repair areas ☐ Other:_____ ☐ _____ ☐ _____
☐ Site ESC BMPs	☐ Adequate capacity in sediment basins and traps ☐ Site perimeter controls in place ☐ Catch basin and drop inlet protection in place ☐ Deploy temporary erosion control on inactive areas ☐ Deploy temporary perimeter control around disturbed areas or stockpiles ☐ Sweep roads; stabilize site ingress and egress points ☐ Other:_____ ☐ _____ ☐ _____

☐ Concrete rinse out area	☐ Adequate capacity for rain ☐ Cover wash-out bins ☐ Other:_____ ☐ _____ ☐ _____

☐ Spill and drips	☐ Clean up all incident spills and drips, including paint, stucco, fuel, and oil ☐ Empty drip pans ☐ Other:_____ ☐ _____ ☐ _____
☐ Other / Discussion / Diagrams	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____

Site Storm Water Manager Signature (Use ink please)

Date:_____20_____ WDID Number:

Rain Event Action Plan (REAP)
Inactive Construction Sites

Halted, or postponed construction activities. This form to be reviewed and completed by the qualified SWPPP practitioner within 48 hours prior to a rain event during the time period a site is designated inactive.

Site Information:

_____

Site Name, City and Zip Code □ Risk Level 2 □ Risk Level 3

Site Storm Water Manager Information:

_____

Name, Company and Emergency Phone Number (24/7)

Erosion and Sediment Control Provider – Labor Force Contracted for the Site:

_____

Name, Company and Emergency Phone Number (24/7)

Storm Water Sampling Agent Information:

_____

Name, Company and Emergency Phone Number (24/7)

Trades Active on Site During Inactive Construction

Check ALL the boxes below that apply to your site.

☐ E&S Control Device Installation	☐ Routine Site inspections	☐ Trash Removal
☐ E&S Control Device Maintenance	☐ Street Sweeping	☐ Other:
☐ Other:	☐ Other:	☐ Other:

Trade Contractor Information Provided

☐ Educational Material Handout	☐ Tailgate Meetings	☐ Training Workshop
☐ Contractual Language	☐ Fines and Penalties	☐ Signage
☐ Other:	☐ Other:	☐ Other:

Rain Event Action Plan (REAP)

Inactive Construction Sites

Predicted Rain Event Triggered Actions

Below is a list of suggested actions for this project phase. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to review before rain event
☐ Information & Scheduling	☐ Inform trade supervisors of predicted rain ☐ Check scheduled activities and rescheduled as needed ☐ Alert erosion/sediment control provider ☐ Alert sample collection contractor (if applicable) ☐ Schedule staff for extended rain inspections (including weekends & holidays) ☐ Check Erosion and Sediment Control (ESC) material stock ☐ Review BMP map ☐ Other:_____ ☐ _____ ☐ _____
☐ Material storage areas	☐ Material under cover or in sheds (ex: treated woods and metals) ☐ Perimeter control around stockpiles ☐ Other:_____ ☐ _____ ☐ _____
☐ Waste management areas	☐ Dumpsters closed ☐ Drain holes plugged ☐ Recycling bins covered ☐ Sanitary stations bermed and protected from tipping ☐ Other:_____ ☐ _____ ☐ _____
☐ Trade operations	☐ Exterior operations shut down for event (ex: no concrete pours or paving) ☐ Do not apply soil treatments (ex: fertilizer) within 24 hours of event ☐ Materials and equipment (ex: tools) properly stored and covered ☐ Waste and debris disposed in covered dumpsters or removed from site ☐ Trenches and excavations protected ☐ Perimeter controls around disturbed areas ☐ Cover and berm fueling and repair areas ☐ Other:_____ ☐ _____ ☐ _____
☐ Site ESC BMPs	☐ Adequate capacity in sediment basins and traps ☐ Site perimeter controls in place ☐ Catch basin and drop inlet protection in place ☐ Deploy temporary erosion control on inactive areas ☐ Deploy temporary perimeter control around disturbed areas or stockpiles ☐ Sweep roads; stabilize site ingress and egress points ☐ Other:_____ ☐ _____ ☐ _____
☐ Other / Discussion / Diagrams	☐ _____ ☐ _____ ☐ _____

	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Date: _____

Site Storm Water Manager Signature (Use ink please)

Appendix K: Training Reporting Form

Trained Contractor Personnel Log

Stormwater Management Training Log and Documentation

Project Name: On-Site Improvements for New Dublin High School
WDID #: _____

Stormwater Management Topic: (check as appropriate)

☐ Erosion Control
☐ Sediment Control
☐ Wind Erosion Control
☐ Tracking Control
☐ Non-Stormwater Management
☐ Waste Management and Materials Pollution Control
☐ Stormwater Sampling

Specific Training Objective: _____

Location: _____ Date: _____

Instructor: _____ Telephone: _____

Course Length (hours): _____

Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, credentials for QSP, QSD).

Appendix L: Responsible Parties

Authorization of Approved Signatories

Project Name: On-Site Improvements for New Dublin High School

WDID #: _____

Name of Personnel	Project Role	Company	Signature	Date

_____ _____

LRP's Signature Date

Chris Stevens, Chief Facilities Operations Officer (925)828-2551

_____ _____

LRP Name and Title Telephone Number

Identification of QSP

Project Name: On-Site Improvements for New Dublin High School

WDID #: _____

The following are QSPs associated with this project

Name of Personnel(1)	Company	Date

(1) If additional QSPs are required on the job site add additional lines and include information here

Appendix M: Contractors and Subcontractors

THE CONTRACTORS AND SUBCONTRACTORS ARE NOT KNOWN AT THIS TIME.

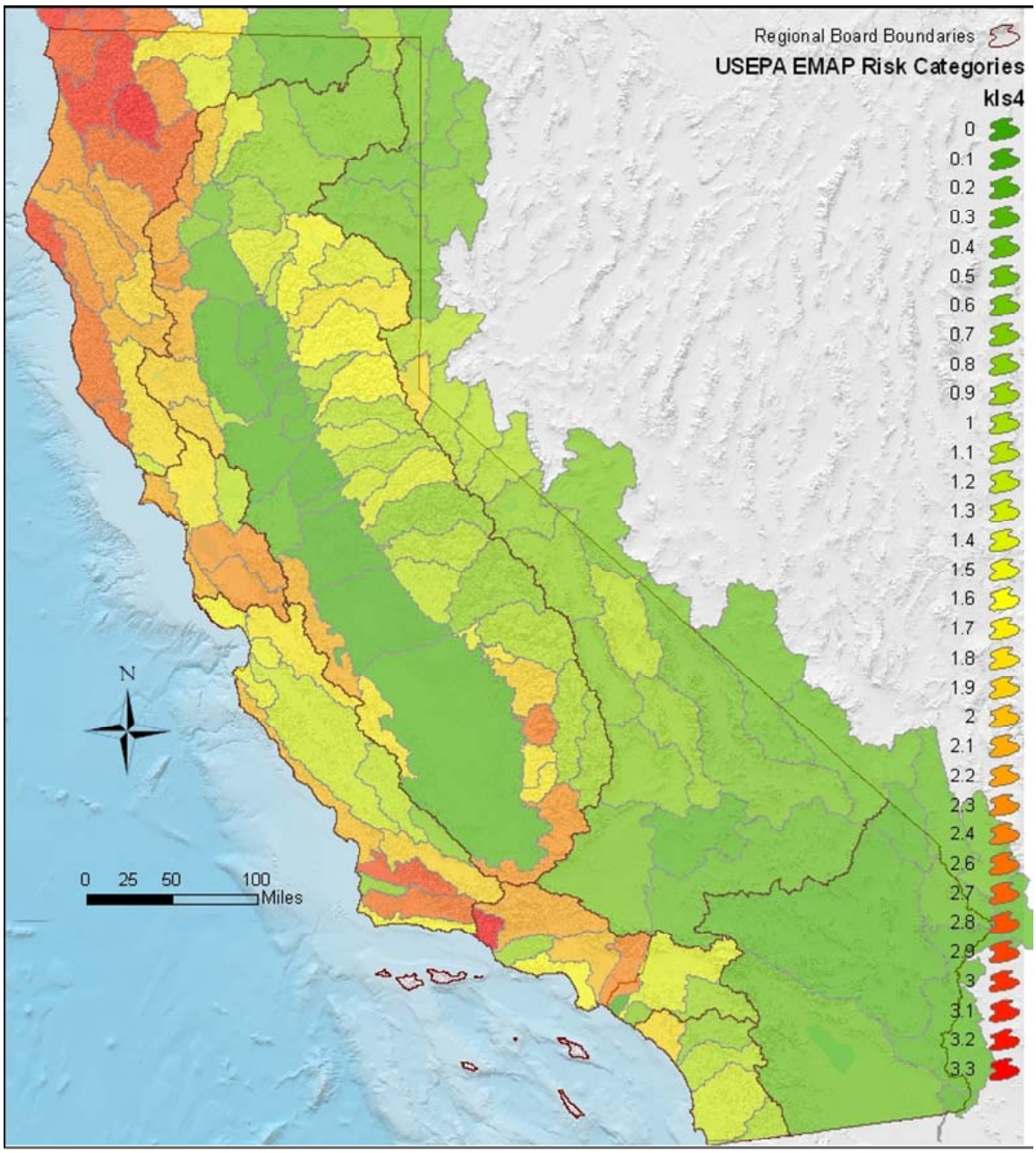
Appendix N: Construction General Permit

Risk Determination Worksheet

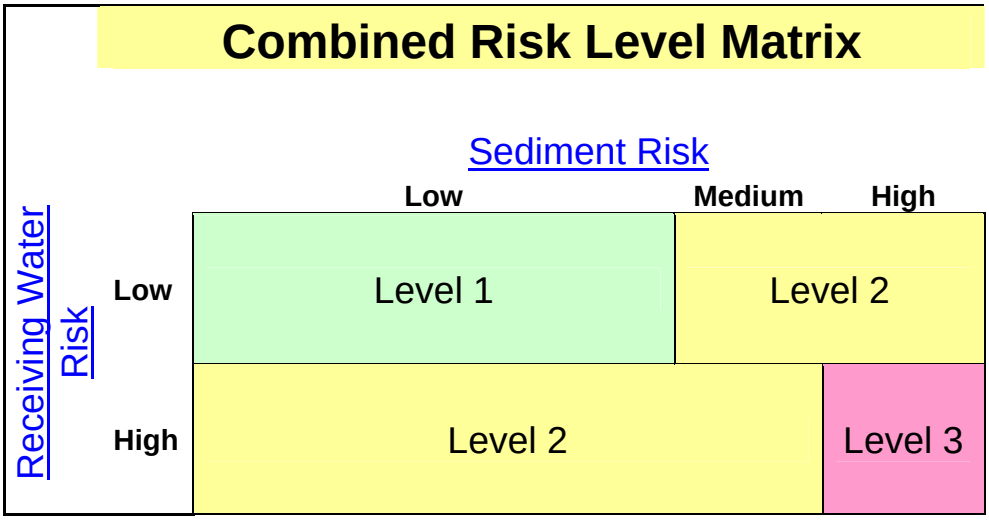
Step 1	Determine Sediment Risk via one of the options listed: 1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map 2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data
Step 2	Determine Receiving Water Risk via one of the options listed: 1. GIS map of Sediment Sensitive Watersheds provided (in development) 2. List of Sediment Sensitive Watersheds provided
Step 3	Determine Combined Risk Level

Sediment Risk Factor Worksheet	Entry
A) R Factor	
Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm	
R Factor Value	0
B) K Factor (weighted average, by area, for all site soils)	
The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. Site-specific K factor guidance	
K Factor Value	0
C) LS Factor (weighted average, by area, for all slopes)	
The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. LS Table	
LS Factor Value	0
Watershed Erosion Estimate (=RxKxLS) in tons/acre	0
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre	**Low**

For the GIS Map Method, the R factor for the project is calculated using the online calculator at (see cell to right). The product of K and LS are shown on the figure below. To determine soil loss in tons per acre, multiply the R factor times the value for K times LS from the map.
http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm



Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment**? (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml **OR**	**Yes**	**High**
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbguse.asp		



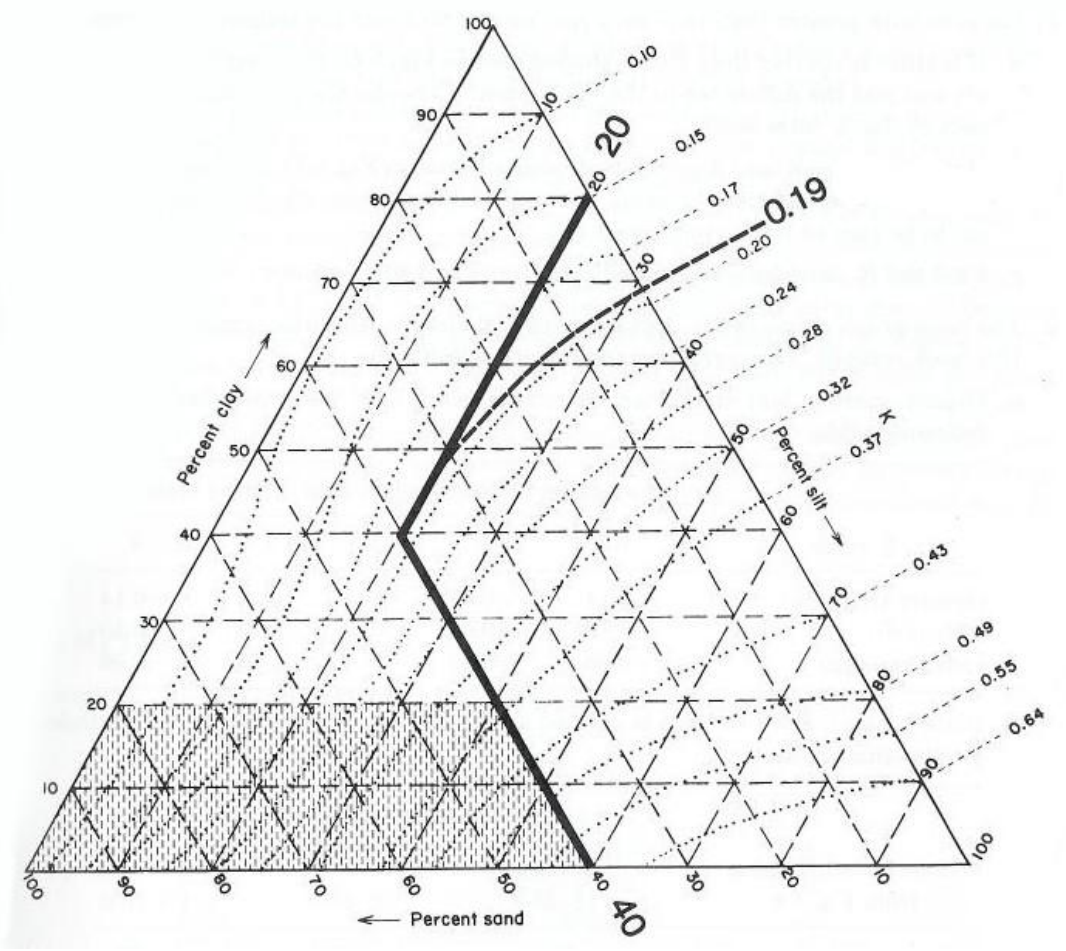
Project Sediment Risk: **Low**

Project RW Risk: **High**

Project Combined Risk: **Level 2**

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.
The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability).
Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.

	Average Watershed Slope (%)														
Sheet Flow Length (ft)	**0.2**	**0.5**	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**	**16.0**	**20.0**	
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	0.41	
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	0.84	
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	1.24	
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	2.31	2.73	3.57	
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	3.09	3.68	4.85	
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	3.60	4.48	5.37	7.16	
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	4.09	5.11	6.15	8.23	1
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	5.01	6.30	7.60	10.24	1
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	6.67	8.45	10.26	13.94	1
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	8.17	10.40	12.69	17.35	2
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	9.57	12.23	14.96	20.57	2

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

APPENDIX 2:
Post-Construction Water Balance Performance Standard Spreadsheet

The discharger shall submit with their Notice of Intent (NOI) the following information to demonstrate compliance with the New and Re-Development Water Balance Performance Standard.

Map Instructions

The discharger must submit a small-scale topographic map of the site to show the existing contour elevations, pre- and post-construction drainage divides, and the total length of stream in each watershed area. Recommended scales include 1 in. = 20 ft., 1 in. = 30 ft., 1 in. = 40 ft., or 1 in = 50 ft. The suggested contour interval is usually 1 to 5 feet, depending upon the slope of the terrain. The contour interval may be increased on steep slopes. Other contour intervals and scales may be appropriate given the magnitude of land disturbance.

Spreadsheet Instructions

The intent of the spreadsheet is to help dischargers calculate the project-related increase in runoff volume and select impervious area and runoff reduction credits to reduce the project-related increase in runoff volume to pre-project levels.

The discharger has the option of using the spreadsheet (**Appendix 2.1)** or a more sophisticated, watershed process-based model (e.g. Storm Water Management Model, Hydrological Simulation Program Fortran) to determine the project-related increase in runoff volume.

In* Appendix 4.1**, ***you must complete the worksheet for each land use/soil type combination for each project sub-watershed.

Steps 1 through 9 pertain specifically to the Runoff Volume Calculator:

Step 1: Enter the county where the project is located in cell H3.

Step 2: Enter the soil type in cell H6.

Step 3: Enter the existing pervious (dominant) land use type in cell H7.

Step 4: Enter the proposed pervious (dominant) land use type in cell H8.

Step 5: Enter the total project site area in cell H11 or J11.

Step 6: Enter the sub-watershed area in cell H12 or J12.

Step 7: Enter the existing rooftop area in cell H17 or J17, the existing non-rooftop impervious area in cell H18 or J18, the proposed rooftop area in cell H19 or J19, and the proposed non-rooftop impervious area in cell H20 or J20

Step 8: Work through each of the impervious area reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Step 9: Work through each of the impervious volume reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Non-structural Practices Available for Crediting

- ***Porous Pavement***
- ***Tree Planting***
- ***Downspout Disconnection***
- ***Impervious Area Disconnection***
- ***Green Roof***
- ***Stream Buffer***
- ***Vegetated Swales***
- ***Rain Barrels and Cisterns***
- ***Landscaping Soil Quality***

Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.

(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below

(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.

SACRAMENTO

(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recgonize any of these locations, leave this drop-down menu at location. The average value for the County will be used.

SACRAMENTO FAA ARPT

Project Information

Project Name:	***Optional***
Waste Discharge Identification (WDID):	***Optional***
Date:	***Optional***
Sub Drainage Area Name (from map):	***Optional***

Runoff Curve Numbers

Existing Pervious Runoff Curve Number	**82**
Proposed Development Pervious Runoff Curve Number	**74**

Design Storm

Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	**0.62**	**in**
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	**0.44**	**In**
P used for calculations (in) (the greater of the above two criteria)	**0.62**	**In**

^Available at www.cabmphandbooks.com

Pre-Project Runoff Volume (cu ft)	**247**	**Cu.Ft.**
Project-Related Runoff Volume Increase w/o credits (cu ft)	**0**	**Cu.Ft.**
Project-Related Volume Increase with Credits (cu ft)	**0**	**Cu.Ft.**

You have achieved your minimum requirements

Runoff Calculations

(Step 2) Indicate the Soil Type (dropdown menu to right): ***Group C Soils*** — **Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.**

(Step 3) Indicate the existing **dominant** non-built land Use Type (dropdown menu to right): ***Wood & Grass: <50% ground cover***

(Step 4) Indicate the proposed **dominant** non-built land Use Type (dropdown menu to right): ***Lawn, Grass, or Pasture covering more than 75% of the open space***

	Complete Either Sq Ft	Acres	Acres
(Step 5) Total Project Site Area:		5.00	5.00
(Step 6) Sub-watershed Area:		5.00	5.00
Percent of total project :		100%	

(Step 7) Sub-watershed Conditions	Complete Either Sq Ft	Acres	Calculated Acres
Sub-watershed Area (acres)			5.00
Existing Rooftop Impervious Coverage		0	0.00
Existing Non-Rooftop Impervious Coverage		0	0.00
Proposed Rooftop Impervious Coverage		0	0.00
Proposed Non-Rooftop Impervious Coverage		0	0.00

Credits	Acres	Square Feet
Porous Pavement	0.00	0
Tree Planting	0.00	0
Downspout Disconnection	0.00	0
Impervious Area Disconnection	0.00	0
Green Roof	0.00	0
Stream Buffer	0.00	0
Vegetated Swales	0.00	0
Subtotal	0.00	0
Subtotal Runoff Volume Reduction Credit	0 Cu. Ft.	

(Step 9) Impervious Volume Reduction Credits	Volume (cubic feet)
Rain Barrels/Cisterns	0 Cu. Ft.
Soil Quality	0 Cu. Ft.
Subtotal Runoff Volume Reduction	0 Cu. Ft.
Total Runoff Volume Reduction Credit	0 Cu. Ft.

Porous Pavement Credit Worksheet

Please fill out a porous pavement credit worksheet for each project sub-watershed.

For the PROPOSED Development:

Proposed Porous Pavement	Runoff Reduction*	Fill in either Acres or SqFt		Equivalent Acres
		In SqFt.	In Acres	
Area of **Brick without Grout** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Brick without Grout** on more than 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.30			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.60			0.00
Area of **Reinforced Grass Pavement** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Reinforced Grass Pavement** on at least 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Porous Gravel Pavement** on less than 12 inches of base with at least 20% void space over soil	0.38			0.00
Area of **Porous Gravel Pavement** on at least 12 inches of base with at least 20% void space over soil	0.75			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with less than 4 inches of gravel base (washed stone)	0.40			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 4 to 8 inches of gravel base (washed stone)	0.60			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 8 to 12 inches of gravel base (washed stone)	0.80			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 12 or more inches of gravel base (washed stone)	1.00			0.00

*=1-Rv**

Return to Calculator

**Using Site Design Techniques to meet Development Standards for Stormwater Quality (BASMAA 2003)

**NCDENR Stormwater BMP Manual (2007)

Tree Planting Credit Worksheet

Please fill out a tree canopy credit worksheet for each project sub-watershed.

Tree Canopy Credit Criteria	Number of Trees Planted	Credit (acres)
Number of proposed evergreen trees to be planted (credit = number of trees x 0.005)*	0	0.00
Number of proposed deciduous trees to be planted (credit = number of trees x 0.0025)*		0.00
	Square feet Under Canopy	
Square feet under an existing tree canopy, that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is LESS than 12 in diameter.		0.00
Square feet under an existing tree canopy that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is 12 in diameter or GREATER.		0.00
Please describe below how the project will ensure that these trees will be maintained.		

0

Return to Calculator

* credit amount based on credits from Stormwater Quality Design Manual for the Sacramento and South Placer Regions

Downspout Disconnection Credit Worksheet

Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria		
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?	○ Yes	◉ No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?	○ Yes	◉ No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?	○ Yes	◉ No
The Stream Buffer and/or Vegetated Swale credits **will not** be taken in this sub-watershed area?	○ Yes	◉ No

Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts	
Percentage of the proposed	0.00	Acres	of rooftop surface has disconnected downspouts	50

Return to Calculator

Impervious Area Disconnection Credit Worksheet

Please fill out an impervious area disconnection credit worksheet for each project sub-watershed. If you answer yes to all questions, all non-rooftop impervious surface area will be subtracted from your proposed non-rooftop impervious coverage.

Non-Rooftop Disconnection Credit Criteria	Response
Is the maximum contributing impervious flow path length less than 75 feet or, if equal or greater than 75 feet, is a storage device (e.g. French drain, bioretention area, gravel trench) implemented to achieve the required disconnection length?	◉ Yes ○ No
Is the impervious area to any one discharge location less than 5,000 square feet?	◉ Yes ○ No
The Stream Buffer credit **will not** be taken in this sub-watershed area?	◉ Yes ○ No

Percentage of existing	0.00	Acres non-rooftop surface area disconnected	
Percentage of the proposed	0.00	Acres non-rooftop surface area disconnected	70

Return to Calculator

Green Roof Credit Worksheet

Please fill out a greenroof credit worksheet for each project sub-watershed. If you answer yes to all questions, 70% of the greenroof area will be subtracted from your proposed rooftop impervious coverage.

Green Roof Credit Criteria				Response
Is the roof slope less than 15% or does it have a grid to hold the substrate in place until it forms a thick vegetation mat?				◉ Yes ○ No
Has a professional engineer assessed the necessary load reserves and designed a roof structure to meet state and local codes?				◉ Yes ○ No
Is the irrigation needed for plant establishment and/or to sustain the green roof during extended dry periods, is the source from stored, recycled, reclaimed, or reused water?				◉ Yes ○ No
Percentage of existing	0.00	Acres	rooftop surface area in greenroof	
Percentage of the proposed	0.00	Acres	rooftop surface area in greenroof	

Return to Calculator

Stream Buffer Credit Worksheet

Please fill out a stream buffer credit worksheet for each project sub-watershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout and/or Impervious Area Disconnection credits.

Stream Buffer Credit Criteria				Response
Does runoff enter the floodprone width* or within 500 feet (whichever is larger) of a stream channel as sheet flow**?				○ Yes ◉ No
Is the contributing overland slope 5% or less, or if greater than 5%, is a level spreader used?				○ Yes ◉ No
Is the buffer area protected from vehicle or other traffic barriers to reduce compaction?				○ Yes ◉ No
Will the stream buffer be maintained in an ungraded and uncompacted condition and will the vegetation be maintained in a natural condition?				○ Yes ◉ No
Percentage of existing	0.00	Acres	impervious surface area draining into a stream buffer:	
Percentage of the proposed	0.00	Acres	impervious surface area that will drain into a stream buffer:	
Please describe below how the project will ensure that the buffer areas will remain in ungraded and uncompacted condition and that the vegetation will be maintained in a natural condition.				

Return to Calculator

* floodprone width is the width at twice the bankfull depth.
** the maximum contributing length shall be 75 feet for impervious area

Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at www.cabmphandbooks.com)?	○ Yes ◉ No
Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?	○ Yes ◉ No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	0.00	Acres of impervious area draining to a vegetated swale	

Return to Calculator

Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria	Response
Total number of rain barrel(s)/cisterns	
Average capacity of rain barrel(s)/cistern(s) (in gallons)	
Total capacity rain barrel(s)/cistern(s) (in cu ft) [1]	0

[1] accounts for 10% loss

Return to Calculator

Please fill out a soil quality worksheet for each project sub-watershed.

	Response
Will the landscaped area be lined with an impervious membrane?	
Will the soils used for landscaping meet the ideal bulk densities listed in Table 1 below? [1]	○ Yes ◉ No
If you answered yes to the question above, and you know the area-weighted bulk density within the top 12 inches for soils used for landscaping (in g/cm^3)* , fill in the cell to the right and skip to cell G11. If not select from the drop-down menu in G10.	1.3
If you answered yes to the question above, but you do not know the exact bulk density, which of the soil types in the drop down menu to the right best describes the top 12 inches for soils used for landscaping (in g/cm^3).	Sandy loams, loams
What is the average depth of your landscaped soil media meeting the above criteria (inches)?	12
What is the total area of the landscaped areas meeting the above criteria (in acres)?	2.97

Return to Calculator

Table 1

Sands, loamy sands	<1.6
Sandy loams, loams	<1.4
Sandy clay loams, loams, clay loams	<1.4
Silts, silt loams	<1.3
Silt loams, silty clay loams	<1.1
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.1
Clays (>45% clay)	<1.1

Porosity (%) 50.94%

Mineral grains in many soils are mainly quartz and feldspar, so 2.65 a good average for particle density. To determine percent porosity, use the formula: Porosity (%) = (1-Bulk Density/2.65) X 100

[1] USDA NRCS. "Soil Quality Urban Technical Note No.2-Urban Soil Compaction". March 2000. http://soils.usda.gov/sqi/management/files/sq_utn_2.pdf

* To determine how to calculate density see: http://www.globe.gov/tctg/bulkden.pdf?sectionID=94

APPENDIX 3
Bioassessment Monitoring Guidelines

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project is rated Risk Level 3 or LUP Type 3
2. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY
3. Total project-related ground disturbance exceeds 30 acres.

For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.
Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

<u>Bioassessment Exception</u>
If a site qualifies for bioassessment, but construction commences out of an index period for the site location, the discharger shall:

1. Receive Regional Water Board approval for the sampling exception
2. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
3. Send a copy of the check to the Regional Water Board office for the site's region
4. Invest **7,500.00 X The number of samples required** into the SWAMP program as compensation (upon Regional Water Board approval).
5. Conduct bioassessment monitoring, as described in Appendix 4
6. Include the collection and reporting of specified instream biological data and physical habitat
7. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP)

<u>Site Locations and Frequency</u>
Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The "after" sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. "Before" and "after" samples shall be collected both upstream and downstream of the project's

discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)
Macroinvertebrate sampling shall be conducted during the time of year (i.e., the "index period") most appropriate for bioassessment sampling, depending on ecoregion. This map is posted on the State Water Board's Website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Field Methods for Macroinvertebrate Collections
In collecting macroinvertebrate samples, the discharger shall use the "Reachwide Benthos (Multi-habitat) Procedure" specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007).[1]

Physical - Habitat Assessment Methods
The discharger shall conduct, concurrently with all required macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program's *Stream Habitat Characterization Form — Full Version*.

Laboratory Methods
Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[2] and using a fixed-count of 600 organisms per sample.

Quality Assurance
The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where

[1] This document is available on the Internet at: ~~http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf~~. http://swamp.mpsl.mlml.calstate.edu/wp-content/uploads/2009/04/swamp_sop_bioassessment_collection_020107.pdf.

[2] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: ~~http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf~~ http://www.safit.org/Docs/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

errors are identified). External QA checks shall be performed on one of the discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.[3]

The physical/habitat data shall be reported using the standard format titled *SWAMP Stream Habitat Characterization Form — Full Version*.[4]

[3] Any version of Excel, 2000 or later, may be used.
[4] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.[5]

[5] Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/
More information on AIS More information on AIS
http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/

Appendix 4 Sediment TMDLs

Implemented Sediment TMDLs in California. Construction was listed as a source in all fo these TMDLs in relation to road construction. Although construction was mentioned as a source, it was not given a specific allocation amount. The closest allocation amount would be for the road activity management WLA. **Implementation Phase** – Adoption process by the Regional Board, the State Water Resources Control Board, the Office of Administrative Law, and the US Environmental Protection Agency completed and TMDL being implemented.

A. Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.albionfinaltmdl	R	Albion River	Sedimentation	Road Construction	2001	43 acres	See A (table 6)

B Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelR-middle.mainSed.temp	R	Middle Main Eel River and Tributaries (from Dos Rios to the South Fork)	Sedimentation Road	Construction	2005-2006 521	mi^2	100

C Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelRsouth.sed.temp	R	South Fork Eel River	Sedimentation	Road Construction	12 1999	See chart	473

D Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.bigfinaltmdl	R Big	River	Sedimentation	Road Construction	12 2001	181 mi^2 watershed drainage	TMDL = loading capacity = nonpoint sources + background =

							393 t mi2 yr

E Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-lower.Sed.temp-121807-signed	R	Lower Eel River	Sedimentation	Road Construction	12 2007	300 square-mile watershed	898

F Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-middle.Sed.temp-	R	Middle Fork Eel River	Sedimentation	Road Construction	12 2003	753 mi^2 (approx. 482,000 acres)	82

G Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelRnorth-Sed.temp.final-121807-signed	R	North Fork Eel River	Sedimentation	Road Construction	12 30 2002	289 (180,020 acres)	20

H Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelR-upper.mainSed.temp-	R	Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sedimentation	Road Construction	12 29 2004	688 (approx. 440,384 acres)	14

I Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.gualalafinaltmdl	R	Gualala River	Sedimentation	Road Construction	Not sure	300 (191,145 acres)	7

J Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.Mad-sed.turbidity	R	Mad River	Sedimentation	Road Construction	12 21 2007	480	174

K Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.mattole.sediment	R	Mattole River	Sedimentation	Road Construction	12 30 2003	296	27 or 520+27 = 547

L Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.navarro.sed.temp	R	Navarro River	Sedimentation	Road Construction	Not sure	315 (201,600 acres).	50

M Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.noyo.sediment	R	Noyo River	Sedimentation	Road Construction	12 16 1999	113 (72,323 acres)	68 (three areas measured) Table 16 in the TMDL

N Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.RedwoodCk.sed	Cr	Redwood Creek	Sedimentation	Road Construction	12 30 1998	278	1900 Total allocation

O Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA – Roads** tons mi^2 yr
1 R1.epa.tenmile.sed	R	Ten Mile River	Sedimentation	Road Construction	2000	120	9

P Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA management** tons mi^2 yr
1 R1.epa.trinity.sed	R	Trinity River	Sedimentation	Road Construction	12 20 2001	2000 of 3000 covered in this TMDL	See rows below
1	Cr	Horse Linto Creek	Sedimentation	Road Construction	12 20 2001	64	528
1	Cr	Mill creek and Tish Tang	Sedimentation	Road Construction	12 20 2001	39	210
1	Cr	Willow Creek	Sedimentation	Road Construction	12 20 2001	43	94
1	Cr	Campbell Creek and Supply Creek	Sedimentation	Road Construction	12 20 2001	11	1961
1	Cr	Lower Mainstem and Coon Creek	Sedimentation	Road Construction	12 20 2001	32	63
1 R		Reference Subwatershed [1]	Sedimentation	Road Construction	12 20 2001	434	24
1	Cr	Canyon Creek	Sedimentation	Road	12 20 2001	64	326

				Construction			
1 R		Upper Tributaries[2]	Sedimentation	Road Construction	12 20 2001	72	67
1 R		Middle Tributaries[3]	Sedimentation	Road Construction	12 20 2001	54	53
1 R		Lower Tributaries[4]	Sedimentation	Road Construction	12 20 2001	96	55
1	Cr	Weaver and Rush Creeks	Sedimentation	Road Construction	12 20 2001	72	169
1 Cr		Deadwood Creek Hoadley Gulch Poker Bar	Sedimentation	Road Construction	12 20 2001	47	68
1	L	Lewiston Lake	Sedimentation	Road Construction	12 20 2001	25	49
1 Cr		Grassvalley Creek	Sedimentation	Road Construction	12 20 2001	37	44
1	Cr	Indian Creek	Sedimentation	Road Construction	12 20 2001	34	81
1	Cr	Reading and Browns Creek	Sedimentation	Road Construction	12 20 2001	104	66
1 Cr		Reference Subwatersheds[5]	Sedimentation	Road Construction	12 20 2001	235	281
1	L, Cr	Westside tributaries[6]	Sedimentation	Road Construction	12 20 2001	93	105
1 R,	Cr, G	Upper trinity[7]	Sedimentation	Road Construction	12 20 2001	161	690
1 R,	Cr, G	East Fork Tributaries[8]	Sedimentation	Road Construction	12 20 2001	115	65
1	R, L	Eastside Tributaries[9]	Sedimentation	Road Construction	12 20 2001	89	60

1 New River, Big French, Manzanita, North Fork, East Fork, North Fork
2 Dutch, Soldier, Oregon gulch, Conner Creek
3 Big Bar, Prairie Creek, Little French Creek
4 Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quimby, Hawkins, Sharber
5 Stuarts Fork, Swift Creek, Coffee Creek
6 Stuart Arm, Stoney Creek, Mule Creek, East Fork, Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek,
7 Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstream, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch, Scorpion Creek
8 East Fork Trinity, Cedar Creek, Squirrel Gulch

9 East Side Tributaries, Trinity Lake

Q Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.trinity.so.sed	R, Cr	South Fork Trinity River and Hayfork Creek	Sedimentation	Road Construction	12 1998	Not given, 19 miles long	33 (road total)

R Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.vanduzen.sed	R, Cr	Van Duzen River and Yager Creek	Sedimentation	Various	12 16 1999	429	1353 total allocation
1		Upper Basin	Sedimentation	Road Construction			7
1		Middle Basin	Sedimentation	Road Construction			22
1		Lower Basin	Sedimentation	Road Construction			20

S Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
6 R6.blackwood.sed Cr		Blackwood Creek (Placer County)	Bedded Sediment	Various	9 2007	11	17272 total

T Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
6 R6.SquawCk.sed R		Squaw Creek (Placer County)	Sedimentation /controllable sources	Various – basin plan amendment	4 13 2006	8.2	10,900

Adopted TMDLs for Construction Sediment Sources

Region	Type	Name	Pollutant Stressor	Potential Sources	**TMDL Completion Date**	**Watershed Area** mi^2	Waste load Allocation tons mi^2 yr
8 R		Newport Bay San Diego Creek Watershed	Sedimentation	Construction Land Development	1999 2.24	(1432 acres)	125,000 tons per Year (no more than 13,000 tons per year from construction sites)

Appendix 4 Non Sediment TMDLs

Region 1 Lost River-DIN and CBOD

Region 1 Source: Cal Trans Construction TMDL Completion Date: 12 30 2008 TMDL Type: River, Lake Watershed Area= 2996 mi^2	**Pollutant Stressors/WLA**	
	Dissolved inorganic nitrogen (DIN) (metric tons/yr)	**Carbonaceous biochemical oxygen demand (CBOD) (metric tons/yr)**
Lost River from the Oregon border to Tule Lake	.1 .2	
Tule Lake Refuge	.1	.2
Lower Klamath Refuge	.1	.2

Region 2 San Francisco Bay-Mercury

Region 2 Source:Non-Urban Stormwater Runoff TMDL Type: Bay	**Name**	**Pollutant Stressor/WLA**	**TMDL Completion Date**
	San Francisco Bay	Mercury 25 kg/year	08 09 2006

Region 4 Machado Lake Nutrients - Resolution No. 2008-006 (Effective Date - March 11, 2009)

General Construction Stormwater Permit WLAs	Years After Effective Date	Total Phosphorus (mg/L)	Total Nitrogen (TKN + NO3-N + NO2-N) (mg/L)
Interim WLAs[1]	At Effective Date	1.25	3.50
Interim WLAs[2] 5	years	1.25	2.45
Final WLAs[2]	9.5 years	0.10	1.00

[1] The compliance points for effective date interim WLAs are measured in the lake.
[2] No compliance points are specified for general construction stormwater permits for the year 5 interim WLAs and final WLAs

Region 4 Ballona Creek-Metals and Selenium – Resolution No. 2007-015 (Effective Date October 29, 2008)

Wet Weather WLAs

Region 4 Source: NPDES General Construction TMDL Completion Date: 10 29 2008 TMDL Type: Creek	Copper (Cu)		Lead (Pb)		Selenium (Se)		Zinc (Zn)	
	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre
Ballona Creek	4.94E-07 x Daily storm volume (L)	2.20E-10 x Daily storm volume (L)	1.62E-06 x Daily storm volume (L)	7.20E-10 x Daily storm volume (L)	1.37E-07 x Daily storm volume (L)	6.10E-11 x Daily storm volume (L)	3.27E-06 x Daily storm volume (L)	1.45E-09 x Daily storm volume (L)

Wet-weather WLA Implementation

- Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Dry-weather WLAs

A waste load allocation of zero is assigned to all general construction storm water permits during dry weather.

Dry-weather WLA Implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:

(1) infeasible to eliminate
(2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
(3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.
Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.

Region 4 Los Angeles River and Tributaries-Metals– Resolution No. 2007-014
(Effective Date October 29, 2008)

Wet Weather WLAs

	Cadmium (Cd)		Copper (Cu)		Lead (Pb)		Zinc (Zn)	
	kg/day	g/day/acre	kg/day	g/day/acre	kg/day	g/day/acre	kg/day	g/day/acre
5.9x10	$^{-11}$ x Daily storm volume (L)	$7.6x10^{-12}$ x Daily storm volume (L)	$3.2x10^{-10}$ x Daily storm volume (L)	$4.2x10^{-11}$ x Daily storm volume (L)	$1.2x10^{-9}$ x Daily storm volume (L)	$1.5x10^{-10}$ x Daily storm volume (L)	$3.01x10^{-9}$ x Daily storm volume (L)	$3.9x10^{-10}$ x Daily storm volume (L)

Wet-weather WLA Implementation

- Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Dry-weather WLAs

A waste load allocation of zero is assigned to all general construction storm water permits during dry weather.

Dry-weather WLA Implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as

long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:

(1) infeasible to eliminate
(2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
(3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.

Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.

Region 4 Calleguas Creek Metals TMDL – Resolution No. 2006-012
(Effective Date - March 26, 2007)

Interim Limits and Final WLAs for Total Recoverable Copper, Nickel, and Selenium

Interim limits and waste load allocations are applied to receiving water.

A. Interim Limits

Constituents	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC (ug/L)	Dry CCC (ug/L)	Wet CMC (ug/L)	Dry CMC (ug/L)	Dry CCC (ug/L)	Wet CMC (ug/L)
Copper*	23	19	204	23	19	204
Nickel	15	13	(a)	15	13	(a)
Selenium	(b)	(b)	(b)	14	13	(a)

(a) The current loads do not exceed the TMDL under wet conditions; interim limits are not required.
(b) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.
(c) Attainment of interim limits will be evaluated in consideration of background loading data, if available.

B. Final WLAs for Total Recoverable Copper, Nickel, and Selenium

Dry-Weather WLAs in Water Column

Flow Range	Calleguas and Conejo Creek			Revolon Slough		
	Low Flow	Average Flow	Elevated Flow	Low Flow	Average Flow	Elevated Flow
Copper1 (lbs/day)	0.04*WER - 0.02	0.12*WER - 0.02	0.18*WER - 0.03	0.03*WER - 0.01	0.06*WER - 0.03	0.13*WER - 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116
Selenium (lbs/day)	(a)	(a)	(a)	0.004	0.003	0.004

[1] If site-specific WERs are approved by the Regional Board, TMDL waste load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Regardless of the final WERs, total copper loading shall not exceed current loading.

(a) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.

Wet-Weather WLAs in Water Column

Constituent	Calleguas Creek	Revolon Slough
Copper[1] (lbs/day)	(0.00054*Q^2*0.032*Q - 0.17)*WER - 0.06	(0.0002*Q2+0.0005*Q)*WER
Nickel[2] (lbs/day)	0.014*Q^2+0.82*Q	0.027*Q^2+0.47*Q
Selenium[2] (lbs/day)	(a)	0.027*Q^2+0.47*Q

[1] If site-specific WERs are approved by the Regional Board, TMDL waste load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Regardless of the final WERs, total copper loading shall not exceed current loading.

[2] Current loads do not exceed loading capacity during wet weather. Sum of all loads cannot exceed loads presented in the table

(a) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.

Q: Daily storm volume.

Interim Limits and Final WLAs for Mercury in Suspended Sediment

Flow Range	Calleguas Creek		Revolon Slough	
	Interim (lbs/yr)	Final (lbs/yr)	Interim (lbs/yr)	Final (lbs/yr)
0-15,000 MGY	3.3	0.4	1.7	0.1
15,000-25,000 MGY	10.5	1.6	4	0.7
Above 25,000 MGY	64.6	9.3	10.2	1.8

MGY: million gallons per year.

In accordance with current practice, a group concentration-based WLA has been developed for all permitted stormwater discharges, including municipal separate storm sewer systems (MS4s), Caltrans, general industrial and construction stormwater permits, and Naval Air Weapons Station Point Mugu. Dischargers will have a required 25%, 50% and 100% reduction in the difference between the current loadings and the load allocations at 5, 10 and 15 years after the effective date, respectively. Achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the urban water quality management plans (UWQMPs). If the interim reductions are not met, the dischargers will submit a report to the Executive Officer detailing why the reductions were not met and the steps that will be taken to meet the required reductions.

Region 4 Calleguas Creek-OC Pesticides, PCBs, and Siltation (Resolution 2005-010)
Effective Date - March 24, 2006

Interim Requirements

Region 4 Calleguas Creek	**Pollutant Stressor**	**WLA Daily Max (µg/L)**	**WLA Monthly Ave (µg/L)**
Source: Minor NPDES point sources/WDRs			
TMDL Completion Date: 3 24 2006	Chlordane 1.2		0.59
TMDL Type:Creek	4,4-DDD 1.7		0.84
	4,4-DDE 1.2		0.59
	4,4-DDT 1.2		0.59
	Dieldrin 0.28		0.14
	PCB's 0.34		0.17
	Toxaphene 0.33		0.16

Region 4 Calleguas Creek-Calleguas Creek Toxicicity (Resolution 2005-009)
Effective Date - March 24, 2006

Minor sources include NPDES permittees other than POTWs and MS4s, discharging to the Calleguas Creek Watershed. A wasteload of 1.0 TUc is allocated to the minor point sources discharging to the Calleguas Creek Watershed. Additionally, the following wasteloads for chlorpyrifos and diazinon are established. Final WLAs apply as of March 24, 2006.

Chlorpyrifos WLAs, ug/L
Final WLA
(4 day)
0.014
Diazinon WLAs, ug/L
Final WLA
Acute and Chronic
0.10

Region 4 Calleguas Creek-Salts (Resolution 2007-016)
Effective Date – December 2, 2008

Final Dry Weather Pollutant WLA (mg/L)					
Region 4 Calleaguas Creek Source Permitted Stormwater Dischargers TMDL Completion Date: 12 2 2008 TMDL Type:Creek	**Critical Condition Flow Rate (mgd)**	**Chloride (lb/day)**	**TDS (lb/day)**	**Sulfate (lb/day)**	**Boron (lb/day)**
Simi	1.39	1738 9849 289	7 12		
Las Posas	0.13	157 887 261 N/A			
Conejo	1.26	1576 8931 262	7 N/A		
Camarillo	0.06	72	406 119 N/A		
Pleasant Valley (Calleguas)	0.12	150 850 250 N/A			
Pleasant Valley (Revolon)	0.25	314	1778	523	2
Dry Weather Interim Pollutant WLA (mg/L)					
	Chloride (mg/L)	**TDS (mg/L)**	**Sulfate (mg/L)**	**Boron (mg/L)**	

Simi 230.0		1720.0	1289.0	1.3
Las Posas	230	1720	1289	1.3
Conejo 230		1720	1289	1.3
Camarillo 230		1720	1289	1.3
Pleasant Valley (Calleguas)	230	1720	1289	1.3
Pleasant Valley (Revolon)	230	1720	1289	1.3

- Dry- weather waste load allocations apply in the receiving water at the base of each subwatershed. Dry weather allocations apply when instream flow rates are below the 86th percentile flow and there has been no measurable precipitation in the previous 24 hours.
- Because wet weather flows transport a large mass of salts at low concentrations, these dischargers meet water quality objectives during wet weather. No wet weather allocations are assigned.

Ballona Creek Toxic Pollutants (Resolution No. 2005-008)
Effective Date - January 11, 2006

Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.

Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)

Cadmium	Copper	Lead	Silver	Zinc
0.1	3 4 0.1			13

Organics per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)

Chlordane	DDTs	Total PCBs	Total PAHs
0.04	0.14	2	350

Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed specific general construction storm water permit developed by the Regional Board.

Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the

effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs.

All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations.

Region 4 Marina Del Rey Harbor Toxic Pollutants TMDL (Resolution No. 2005-012)
Effective Date March 22, 2006

Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.

Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)

Copper	Lead	Zinc
2.3	3.1	10

Organics per acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)

Chlordane	Total PCBs
0.03	1.5

Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed specific general construction storm water permit developed by the Regional Board.

Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs.

All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of

the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations.

Region 4 San Gabriel River and Tributaries-Metals and Selenium (EPA-established TMDL – Effective date: 3/26/07)

Wet-weather allocations

Waterbody	Copper	Lead	Zinc
San Gabriel River Reach 2*		0.8 kg/d	
Coyote Creek**	0.513 kg/d	2.07 kg/d	3.0 kg/d

*Mass-based allocations are based on a flow of 260 cfs (daily storm volume = 6.4×10^8 liters)

**Mass-based allocations are based on a flow of 156 cfs (daily storm volume = 3.8×10^8 liters)

Dry-weather allocations

The dry-weather copper waste load allocation for general construction storm water permittees that discharge to San Gabriel Reach 1, Coyote Creek, and the Estuary is zero.

The dry-weather selenium allocation for general construction storm water permittees that discharge to San Jose Creek Reach 1 and Reach 2 is 5 µg/L (total recoverable metals).

Region 4 Upper Santa Clara River Chloride TMDL Adopted by Resolution No 2006-016 Effective Date June 12, 2008

"Other NPDES dischargers" have a chloride WLA equal to 100 mg/L.

This TMDL was revised by Resolution No 2008-012, which, when it becomes effective, includes the following conditional WLAs for "Other minor NPDES discharges":

Reach	Concentration-based Conditional WLA for Chloride (mg/L)*
6	150 (12-month Average), 230 (Daily Maximum)
5	150 (12-month Average), 230 (Daily Maximum)
4B	117 (3-month Average), 230 (Daily Maximum)

*The conditional WLAs for chloride for all point sources shall apply only when chloride load reductions and/or chloride export projects are in operation by the Santa Clarita Valley Sanitation District according to the implementation plan for the TMDL. If these conditions are not met, WLAs shall be based on existing water quality objectives for chloride of 100 mg/L.

Region 4 The Harbor Beaches of Ventura County-Bacteria (Adopted by Resolution No. 2007-017)
Effective Date – December 18, 2008

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean limits.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Los Angeles Harbor Bacteria TMDL (Adopted by Resolution No. 2004-001)
Effective Date – March 10, 2005

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the watershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Ballona Creek Bacteria TMDL (Adopted by Resolution No. 2006-011)
Effective Date – April 27, 2007

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the watershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Region 4 Resolution No. 03-009 Los Angeles River and Tributaries-Nutrients

Minor Point Sources
Waste loads are allocated to minor point sources enrolled under NPDES or WDR permits including but not limited to Tapia WRP, Whittier Narrows WRP, Los Angeles Zoo WRP, industrial and construction stormwater, and municipal storm water and urban runoff from municipal separate storm sewer systems (MS4s)

Region 4 Minor Point Sources for NPDES/WDR Permits TMDL Effective Date: 3 23 2004 TMDL Type: River	Pollutant Stressor/WLA				
	Total Ammonia (NH_3)		**Nitrate-nitrogen (NO_3-N)**	**Nitrite-nitrogen (NO_2-N)**	**NO_3-N + NO_3-N**
	1 Hr Ave mg/l	30 Day Ave mg/l	30 Day Ave mg/l		30 Day Ave mg/l
LA River Above Los Angeles-Glendale WRP (LAG)	4.7 1.6 8.0			1.0	8.0
LA River Below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries 10.1		2.3	8.0	1.0	8.0

Malibu Creek Attachment A to Resolution No. 2004-019R-Bacteria

Effective date: 1 24 2006. The WLAs for permittees under the NPDES General Stormwater Construction Permit are zero (0) days of allowable exceedances for the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Region 4 Marina del Rey Harbor, Mothers' Beach and Back Basins
Attachment A to Resolution No. 2003-012-Bacteria

Effective date: 3 18 2004. Discharges from general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the MdR Watershed will also be subject to a WLA of zero days of allowable exceedances.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Santa Clara River Nutrients TMDL (Adopted by Resolution No. 2003-011
Effective Date - March 23, 2004

Concentration-based wasteloads are allocated to municipal, industrial and construction stormwater sources regulated under NPDES permits. For stormwater permittees discharging into Reach 7, the thirty-day WLA for ammonia as nitrogen is 1.75 mg/L and the one-hour WLA for ammonia as nitrogen is 5.2 mg/L; the thirty-day average WLA for nitrate plus nitrite as nitrogen is 6.8 mg/L. For stormwater permittees discharging into Reach 3, the thirty-day WLA for ammonia as nitrogen is 2.0 mg/L and the one-hour WLA for ammonia as nitrogen is 4.2 mg/L; the thirty-day average WLA for nitrate plus nitrite nitrogen is 8.1 mg/L.

Region 8 RESOLUTION NO. R8-2007- 0024

Total Maximum Daily Loads (TMDLs) for San Diego Creek,
Upper and Lower Newport Bay, Orange County, California

Region 8 NPDES Construction Permit TMDL Completion Date: 1 24 1995 TMDL Type: River. Cr, Bay	Organochlorine Compounds							
	Total DDT		**Chlordane**		**Total PCBs**		**Toxaphene**	
	g/day	g/yr	g/day	g/yr	g/day	g/yr	g/day	g/yr
San Diego Creek	.27	99.8	**.18***	**64.3***	**.09***	**31.5***	.004 1.5	
Upper Newport Bay	.11	40.3 .06		23.4 .06		23.2	**X**	**X**
Lower Newport Bay	.04	14.9	.02 8.6 .17	60.7			**X**	**X**

*Red= Informational WLA only, not for enforcement purposes

Organochlorine Compounds TMDLs Implementation Tasks and Schedule

Regional Board staff shall develop a SWPPP Improvement Program that identifies the Regional Board's expectations with respect to the content of SWPPPs, including documentation regarding the selection and implementation of BMPs, and a sampling and analysis plan. The Improvement Program shall include specific guidance regarding the development and implementation of monitoring plans, including the constituents to be monitored, sampling frequency and analytical protocols. The SWPPP Improvement Program shall be completed by (*the date of OAL approval of this BPA*). ***No later than two months*** from completion of the Improvement Program, Board staff shall assure that the requirements of the Program are communicated to interested parties, including dischargers with existing authorizations under the General Construction Permit. Existing, authorized dischargers shall revise their project SWPPPs as needed to address the Program requirements as soon as possible but ***no later than (three months of completion of the SWPPP Improvement Program)***. Applicable SWPPPs that do not adequately address the Program requirements shall be considered inadequate and enforcement by the Regional Board shall proceed accordingly. The Caltrans and Orange County MS4 permits shall be revised as needed to assure that the permittees communicate the Regional Board's SWPPP expectations, based on the SWPPP Improvement Program, with the Standard Conditions of Approval.

APPENDIX 5:
Glossary

Active Areas of Construction
All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas. All previously active areas are still considered active areas until final stabilization is complete. [The construction activity Phases used in this General Permit are the Preliminary Phase, Grading and Land Development Phase, Streets and Utilities Phase, and the Vertical Construction Phase.]

Active Treatment System (ATS)
A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Toxicity Test
A chemical stimulus severe enough to rapidly induce a negative effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute.

Air Deposition
Airborne particulates from construction activities.

Approved Signatory
A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or U.S. EPA. The Approved Signatory must be one of the following:

1. For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the

construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;

5. For a public university: an authorized university official;

6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or

7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.

Beneficial Uses
As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)
As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)
As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Best Management Practices (BMPs)
BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures,

and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody (COC)
Form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Coagulation
The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development
Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Daily Average Discharge
The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration) the daily discharge is calculated as the average measurement of the pollutant throughout the day (40 CFR 122.2). In the case of pH, the pH must first be converted from a log scale.

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge
A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharger
The Legally Responsible Person (see definition) or entity subject to this General Permit.

Dose Rate (for ATS)
In exposure assessment, dose (e.g. of a chemical) per time unit (e.g. mg/day), sometimes also called dosage.

Drainage Area
The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent
Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation
Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Erosion
The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs
Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Field Measurements
Testing procedures performed in the field with portable field-testing kits or meters.

Final Stabilization
All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

First Order Stream
Stream with no tributaries.

Flocculants
Substances that interact with suspended particles and bind them together to form flocs.

Good Housekeeping BMPs
BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Grading Phase (part of the Grading and Land Development Phase)
Includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Hydromodification
Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation.

Identified Organisms
Organisms within a sub-sample that is specifically identified and counted.

Inactive Areas of Construction
Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Index Period
The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary over the course of a year,and sampling during the index period ensures that samples are collected during a time frame when communities are stable so that year-to-year consistency is obtained. The index period approach provides a cost-effective alternative to year-round sampling. Furthermore, sampling within the appropriate index period will yield results that are comparable to the assessment thresholds or criteria for a given region, which are established for the same index period. Because index periods differ for different parts of the state, it is essential to know the index period for your area.

K Factor
The soil erodibility factor used in the Revised Universal Soil Loss Equation (RUSLE). It represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil.

Legally Responsible Person
The Legally Responsible Person (LRP) will typically be the project proponent. The categories of persons or entities that are eligible to serve as the LRP are set forth below. For any construction or land disturbance project where multiple persons or entities are eligible to serve as the LRP, those persons or entities

shall select a single LRP. In exceptional circumstances, a person or entity that qualifies as the LRP may provide written authorization to another person or entity to serve as the LRP. In such a circumstance, the person or entity that provides the authorization retains all responsibility for compliance with the General Permit. Except as provided in category 2(d), a contractor who does not satisfy the requirements of any of the categories below is not qualified to be an LRP.

The following persons or entities may serve as an LRP:

1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.

2. In addition to the above, the following persons or entities may also serve as an LRP:

    a. For linear underground/overhead projects, the utility company, municipality, or other public or private company or agency that owns or operates the LUP;

    b. For land controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);

    c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or

    d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.

Likely Precipitation Event
Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The discharger shall obtain likely precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

Maximum Allowable Threshold Concentration (MATC)
The allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity

testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Natural Channel Evolution
The physical trend in channel adjustments following a disturbance that causes the river to have more energy and degrade or aggrade more sediment. Channels have been observed to pass through 5 to 9 evolution types. Once they pass though the suite of evolution stages, they will rest in a new state of equilibrium.

Non-Storm Water Discharges
Discharges are discharges that do not originate from precipitation events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants
Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen though observation (ex: chlorine). Such pollutants being discharged are not authorized.

Numeric Action Level (NAL)
Level is used as a warning to evaluate if best management practices are effective and take necessary corrective actions. Not an effluent limit.

Original Sample Material
The material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

pH
Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Post-Construction BMPs
Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Preliminary Phase (Pre-Construction Phase - Part of the Grading and Land Development Phase)
Construction stage including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading.

Project

Qualified SWPPP Developer
Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner
Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Qualifying Rain Event
Any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events.

R Factor
Erosivity factor used in the Revised Universal Soil Loss Equation (RUSLE). The R factor represents the erosivity of the climate at a particular location. An average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity.

Rain Event Action Plan (REAP)
Written document, specific for each rain event, that when implemented is designed to protect all exposed portions of the site within 48 hours of any likely precipitation event.

Remaining Sub sampled Material
The material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but the sample needs to be checked and verified using a complete Quality Assurance (QA) plan)

Routine Maintenance
Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs
Measures used to divert runon from offsite and runoff within the site.

Run-on
Discharges that originate offsite and flow onto the property of a separate project site.

Revised Universal Soil Loss Equation (RUSLE)
Empirical model that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Sampling and Analysis Plan
Document that describes how the samples will be collected, under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment
Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation
Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs
Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Settleable Solids (SS)
Solid material that can be settled within a water column during a specified time frame. It is typically tested by placing a water sample into an Imhoff settling cone and then allowing the solids to settle by gravity for a given length of time. Results are reported either as a volume (mL/L) or a mass (mg/L) concentration.

Sheet Flow
Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Site

Soil Amendment
Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

Streets and Utilities Phase
Construction stage including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvements.

Structural Controls
Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution

Suspended Sediment Concentration (SSC)
The measure of the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)
The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity
The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Turbidity
The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Vertical Construction Phase
The Build out of structures from foundations to roofing, including rough landscaping.

Waters of the United States
Generally refers to surface waters, as defined by the federal Environmental Protection Agency in 40 C.F.R. § 122.2.[1]

Water Quality Objectives (WQO)
Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

[1] The application of the definition of "waters of the United States" may be difficult to determine; there are currently several judicial decisions that create some confusion. If a landowner is unsure whether the discharge must be covered by this General Permit, the landowner may wish to seek legal advice.

APPENDIX 6:
Acronym List

ASBS	Areas of Special Biological Significance
ASTM	American Society of Testing and Materials; Standard Test Method for Particle-Size Analysis of Soils
ATS	Active Treatment System
BASMAA	Bay Area Storm water Management Agencies Association
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
CAFO	Confined Animal Feeding Operation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CIWQS	California Integrated Water Quality System
CKD	Cement Kiln Dust
COC	Chain of Custody
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Storm Water Quality
CSMP	Construction Site Monitoring Program
CTB	Cement Treated Base
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
CWP	Center for Watershed Protection
DADMAC	Diallyldimethyl-ammonium chloride
DDNR	Delaware Department of Natural Resources
DFG	Department of Fish and Game
DHS	Department of Health Services
DWQ	Division of Water Quality
EC	Electrical Conductivity
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESC	Erosion and Sediment Control
HSPF	Hydrologic Simulation Program Fortran
JTU	Jackson Turbidity Units
LID	Low Impact Development
LOEC	Lowest Observed Effect Concentration
LRP	Legally Responsible Person
LUP	Linear Underground/Overhead Projects

MATC	Maximum Allowable Threshold Concentration
MDL	Method Detection Limits
MRR	Monitoring and Reporting Requirements
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NAL	Numeric Action Level
NEL	Numeric Effluent Limitation
NICET	National Institute for Certification in Engineering Technologies
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PAC	Polyaluminum chloride
PAM	Polyacrylamide
PASS	Polyaluminum chloride Silica/sulfate
POC	Pollutants of Concern
PoP	Probability of Precipitation
POTW	Publicly Owned Treatment Works
PRDs	Permit Registration Documents
PWS	Planning Watershed
QAMP	Quality Assurance Management Plan
QA/QC	Quality Assurance/Quality Control
REAP	Rain Event Action Plan
Regional Board	Regional Water Quality Control Board
ROWD	Report of Waste Discharge
RUSLE	Revised Universal Soil Loss Equation
RW	Receiving Water
SMARTS	Storm water Multi Application Reporting and Tracking System
SS	Settleable Solids
SSC	Suspended Sediment Concentration
SUSMP	Standard Urban Storm Water Mitigation Plan
SW	Storm Water
SWARM	Storm Water Annual Report Module
SWAMP	Surface Water Ambient Monitoring Program
SWMM	Storm Water Management Model
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TC	Treatment Control
TDS	Total Dissolved Solids

TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACOE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirements
WLA	Waste Load Allocation
WET	Whole Effluent Toxicity
WRCC	Western Regional Climate Center
WQBEL	Water Quality Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard

APPENDIX 7:
State and Regional Water Resources Control Board Contacts

NORTH COAST REGION (1)
5550 Skylane Blvd, Ste. A
Santa Rose, CA 95403
(707) 576-2220 FAX: (707)523-0135

SAN FRANCISCO BAY REGION (2)
1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2640

CENTRAL COAST REGION (3)
895 Aerovista Place, Ste 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397

LOS ANGELES REGION (4)
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640

CENTRAL VALLEY REGION (5S)
11020 Sun Center Dr., #200
Rancho Cordova, CA 95670-6114
(916) 464-3291 FAX: (916) 464-4645

FRESNO BRANCH OFFICE (5F)
1685 E St.
Fresno, CA 93706
(559) 445-5116 FAX: (559) 445-5910

REDDING BRANCH OFFICE (5R)
415 Knollcrest Drive, Ste. 100
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857

LAHONTAN REGION (6 SLT)
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271

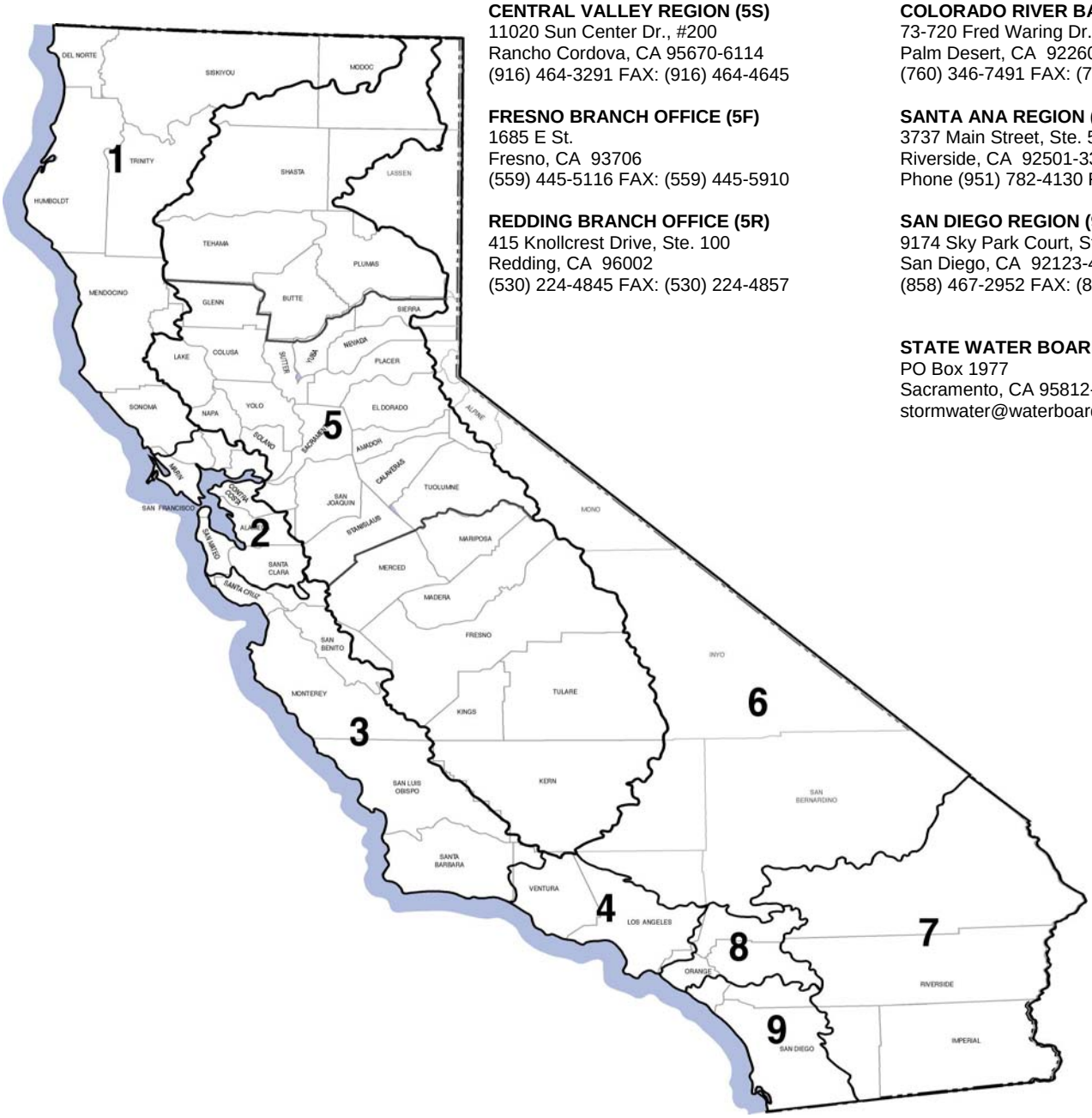
VICTORVILLE OFFICE (6V)
14440 Civic Drive, Ste. 200
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308

COLORADO RIVER BASIN REGION (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820

SANTA ANA REGION (8)
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
Phone (951) 782-4130 FAX: (951) 781-6288

SAN DIEGO REGION (9)
9174 Sky Park Court, Ste. 100
San Diego, CA 92123-4340
(858) 467-2952 FAX: (858) 571-6972

STATE WATER BOARD
PO Box 1977
Sacramento, CA 95812-1977
stormwater@waterboards.ca.gov



telgian®
Engineering & Consulting

January 13, 2020

RE: New Dublin High School
Water Supply Test and Site Flow Analysis
Dublin, CA

The requested water supply test and site flow analysis for the subject project are detailed in this report.

Flow Test Model Results:

Date/Time: January 2, 2020	
Performed By: Dublin San Ramon Services District (DSRSD)	
Static = 72 psi; Residual = 58 psi @ 4,000 gpm	
Fire Flow Test Model Effective Point:	Near the northwest corner of the site, at the connection of the DSRSD 12-inch main to the proposed DSRSD 10-inch main at the southwest corner of the intersection of Central Pkwy and Grafton Street.

Summary of Results (Conclusion C1):

All Buildings

Assumed Base of Riser (BOR) Finish Floor Elevation (FFE):	351-ft. AMSL
Safety Factor Utilized in Calculations: 10%:	10% = 7.2 psi

Fireline Backflow Prevention: double detector check valve assumed for hydraulic calculations
Fireline Device used for in calculations: 8-inch, Ames 3000SS, double detector check valve
Fireline BOR high static pressure at FFE: 72.00 psi

Domestic Backflow Prevention: reduced pressure zone assembly assumed for hydraulic calculations
Domestic Device used for in calculations: 6-inch, Ames 4000SS, reduced pressure zone assembly
Domestic BOR high static pressure at FFE: 69.00 psi
Assumptions: All domestic demands flowed simultaneously

Location: Devices assumed to be located at each fire line connection to DSRSD main aboveground at the property line

A pump is not anticipated to be required.

BUILDING A - ADMINISTRATIVE BUILDING		(22,390 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
Combined with Building D	Static Pressure:	55.5 psi	
Each building given 63 gpm	Residual Pressure:	53.2 psi	@ 126 gpm

BUILDING B - THEATRE		(34,305 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	49.7 psi	@ 65 gpm

BUILDING C - VAPA CLASSROOMS		(23,460 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	49.3 psi	@ 78 gpm

BUILDING D - STUDENT UNION		(13,200 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
(at Building "A")	Static Pressure:	55.5 psi	
	Residual Pressure:	53.2 psi	@ 126 gpm

BUILDING E - LIBRARY		(20,900 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	50.0 psi	@ 37 gpm

BUILDING F - ACADEMY		(70,500 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	57.1 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	51.0 psi	@ 134 gpm

BUILDING G - SECOND ACADEMY		(70,500 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	57.1 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	51.1 psi	@ 134 gpm

BUILDING H - CONCESSIONS		(4,500 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	55.1 psi	@ 300 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	48.7 psi	@ 68 gpm

BUILDING J - STORAGE		(4,800 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	56.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	48.6 psi	@ 134 gpm

BUILDING K - CONCESSIONS		(4,500 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.0 psi	@ 300 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	50.9 psi	@ 69 gpm

BUILDING L - LOCKER ROOM		(17,500 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	58.3 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	51.0 psi	@ 96 gpm

BUILDING M - Gymnasium		(31,000 sq. ft.)	
FIRELINE	**Base of Riser**		
	Static Pressure:	61.5 psi	
	Residual Pressure:	57.4 psi	@ 650 gpm
DOMESTIC	**Base of Riser**		
	Static Pressure:	55.5 psi	
	Residual Pressure:	51.3 psi	@ 81 gpm

Additional Information:

A fire pump is not anticipated to be required with the proposed piping arrangement.

An on-site water storage tank will not be required.

The fire line demand requirements for buildings “H” & “K” are estimated based on a light hazard occupancy (0.10 gpm/sq. ft. over 1500 sq. ft.), plus an estimated overage of 20%, with the required 100 gpm hose stream allowance yielding a total demand of 300 gallons per minute at a minimum pressure of 32 psi. The proposed piping arrangement for these two buildings exceeds this amount.

The fire line demand requirements for all other buildings not listed above are estimated based on an ordinary hazard occupancy (0.20 gpm/sq. ft. over 1500 sq. ft.), plus an estimated overage of 20%, with the required 250 gpm hose stream allowance yielding a total demand of 650 gallons per minute at a minimum pressure of 43 psi. The proposed piping arrangement for these buildings exceeds this amount.

The domestic water demands used for calculations came from the Site Gas Plan, PS.1, dated 12.13.19. The given domestic water demand did not include a required minimum pressure.

The domestic demands for all building were calculated simultaneously to determine the base of riser pressures at the site’s peak flow.

The proposed piping arrangement used came from the Utility Plan dated 7.1.19.

The smallest pipe size that did not cause a significant pressure drop in the system was utilized. See Attachment #1 for details.

The water model gave a range of pressures for the area. The effective point was taken at the proposed connection of the DSRSD 12-inch main to the DSRSD 10-inch main at the southwest corner of the intersection of Central Pkwy and Grafton Street.

All calculations include a 10% (-7.2 psi) safety factor.

6-inch Ames 4000SS reduced pressure zone assembly backflow preventers were assumed to be at each end of the onsite domestic line at the connections to the DSRSD mains for hydraulic calculations.

8-inch Ames 3000SS reduced pressure zone assembly backflow preventers were assumed to be at each end of the onsite fire line at the connections to the DSRSD mains for hydraulic calculations.

This needs to be approved by the Civil Engineer. This is for recommendation only and **NOT** to be used for construction or exact main locations.

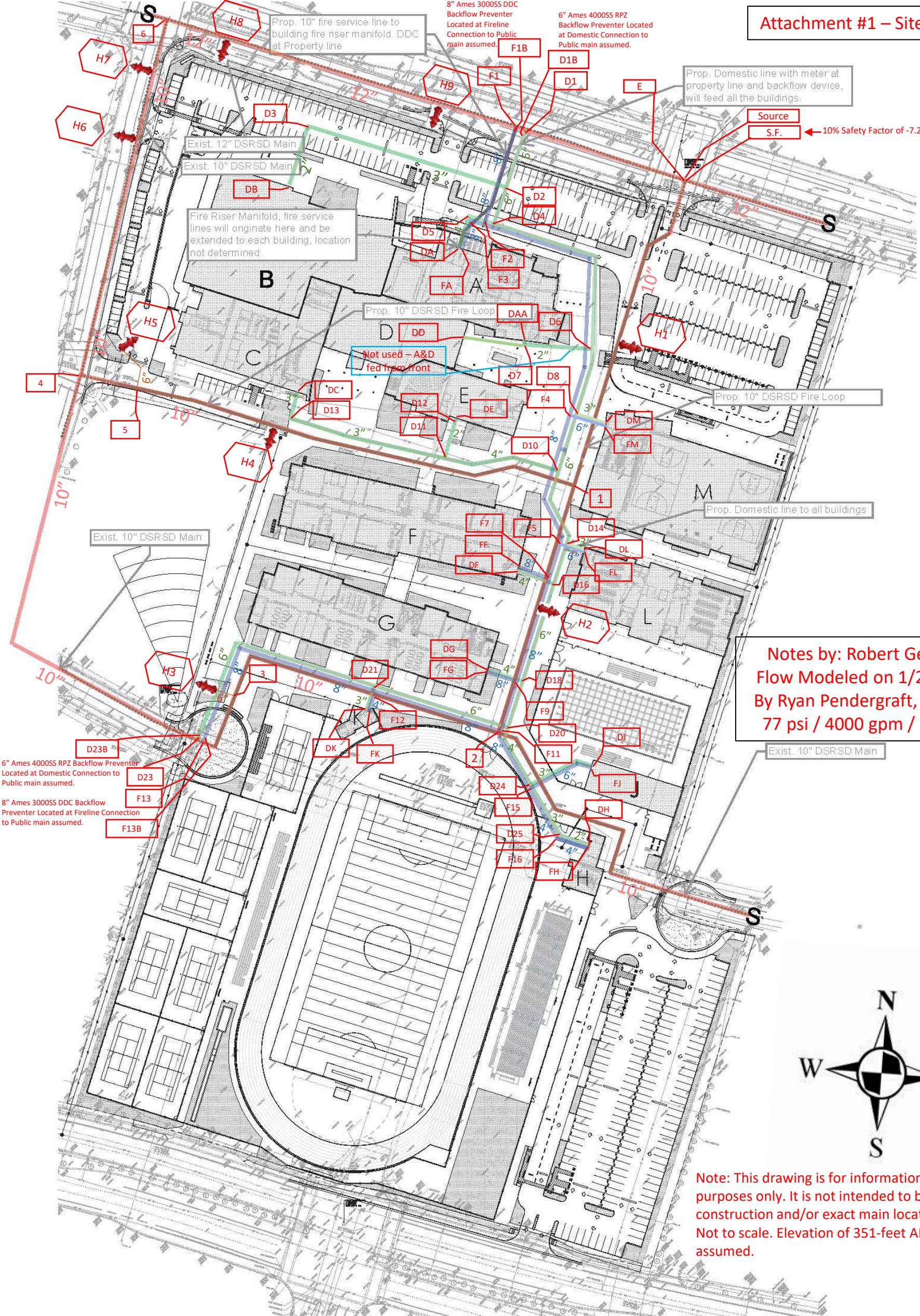
Should you have any questions regarding this matter, do not hesitate to contact me.

Sincerely,

Robert Gehrke
Fire Protection Consultant

ATTACHMENTS:
Attachment #1 – Site Sketch
Attachment #2 – Domestic Water Summary of Results & Calculations
Attachment #3 – Fire Water Summary of Results & Calculations
Attachment #4 – Flow Model Results

Attachment #1 – Site Sketch



Notes by: Robert Gehrke
Flow Modeled on 1/2/2020
By Ryan Pendergraft, DSRSD
77 psi / 4000 gpm / 61 psi

Note: This drawing is for informational purposes only. It is not intended to be used for construction and/or exact main locations. Not to scale. Elevation of 351-feet AMSL assumed.

Attachment #2 - Domestic Water Summary of Results & Calculations

Full Domestic Flow 1022 gpm **Building**	**A**	**B**	**C**	**D at "A"**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**
Domestic Flow (gpm)	63	65	78	63	37	134	134	68	134	69	96	81
Pressure Available @ Full Domestic Flow (psi)	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
Pressure Loss Due to Friction (psi)	-2.5	-6.0	-6.4	-2.5	-5.7	-4.7	-4.6	-7.0	-7.1	-4.8	-4.7	-4.4
Pressure Loss Due to Backflow Preventer (psi)	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0
Safety Factor (psi)	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2
Total Base of Riser Pressure (psi)	**53.2**	**49.7**	**49.3**	**53.2**	**50.0**	**51.0**	**51.1**	**48.7**	**48.6**	**50.9**	**51.0**	**51.3**

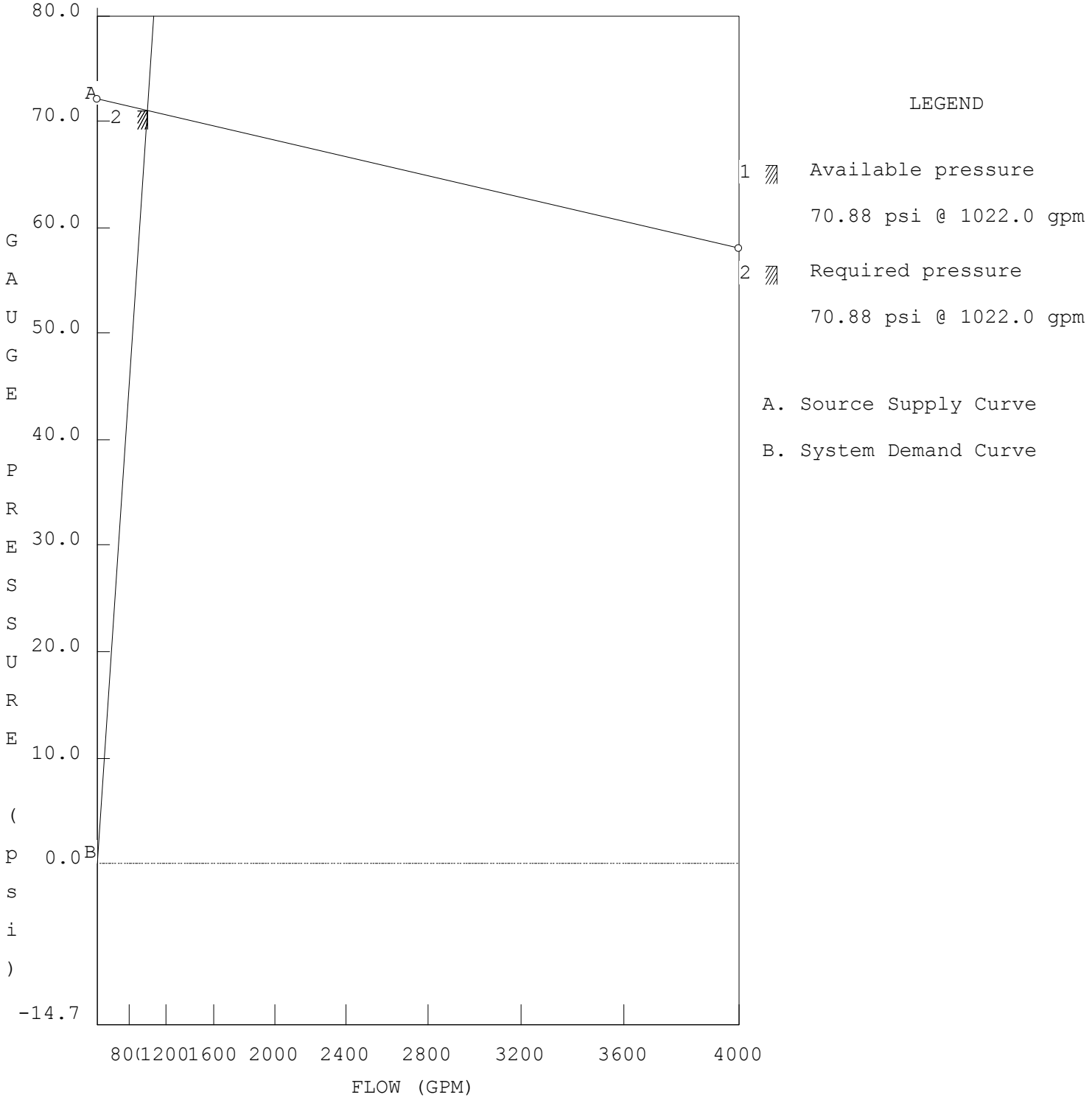
SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 1/8/2020P\TEC PROJECTS\DUBLIN HIGH SCHOOL\DUBLINHS_ALL DOMESTIC.SDF

JOB TITLE:

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020P\TEC PROJECTS\DUBLIN HIGH SCHOOL\DUBLINHS_ALL DOMESTIC.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	70.9	1022.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	1022.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	1022.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	70.9	- - -	
E	351.0	- - - -	63.7	- - -	
1	351.0	- - - -	63.5	- - -	
2	351.0	- - - -	63.5	- - -	
3	351.0	- - - -	63.4	- - -	
4	351.0	- - - -	63.5	- - -	
5	351.0	- - - -	63.5	- - -	
6	351.0	- - - -	63.6	- - -	
D1	351.0	- - - -	63.6	- - -	
D1B	351.0	- - - -	55.6	- - -	
D2	351.0	- - - -	54.2	- - -	
D3	351.0	- - - -	52.8	- - -	
DB	351.0	HOSE STREAM	49.7	65.0	
D4	351.0	- - - -	53.5	- - -	
D5	351.0	- - - -	53.5	- - -	
DA	351.0	HOSE STREAM	53.2	126.0	
D6	351.0	- - - -	52.5	- - -	
DD	351.0	- - - -	52.5	- - -	
D7	351.0	- - - -	52.5	- - -	
DAA	351.0	- - - -	52.5	- - -	
D8	351.0	- - - -	51.8	- - -	
DM	351.0	HOSE STREAM	51.3	81.0	
D10	351.0	- - - -	51.6	- - -	
D11	351.0	- - - -	50.9	- - -	
D12	351.0	- - - -	50.2	- - -	
DE	351.0	HOSE STREAM	50.0	37.0	
D13	351.0	- - - -	49.6	- - -	
DC	351.0	HOSE STREAM	49.3	78.0	
D14	351.0	- - - -	51.5	- - -	
DL	351.0	HOSE STREAM	51.0	96.0	
D16	351.0	- - - -	51.5	- - -	
DF	351.0	HOSE STREAM	51.0	134.0	
D18	351.0	- - - -	51.6	- - -	
DG	351.0	HOSE STREAM	51.1	134.0	
D20	351.0	- - - -	51.7	- - -	
D21	351.0	- - - -	52.9	- - -	

DATE: 1/8/2020P\TEC PROJECTS\DUBLIN HIGH SCHOOL\DUBLINHS_ALL DOMESTIC.SDF
JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	HOSE STREAM	50.9	69.0	
D23	351.0	- - - -	63.4	- - -	
D23B	351.0	- - - -	55.4	- - -	
D24	351.0	- - - -	50.8	- - -	
D25	351.0	- - - -	50.2	- - -	
DH	351.0	HOSE STREAM	48.7	68.0	
DJ	351.0	HOSE STREAM	48.6	134.0	
F1	351.0	- - - -	63.6	- - -	
F1B	351.0	- - - -	63.5	- - -	
F2	351.0	- - - -	63.5	- - -	
F3	351.0	- - - -	63.5	- - -	
FA	351.0	- - - -	63.5	- - -	
F4	351.0	- - - -	63.5	- - -	
FM	351.0	- - - -	63.5	- - -	
F5	351.0	- - - -	63.5	- - -	
FL	351.0	- - - -	63.5	- - -	
F7	351.0	- - - -	63.5	- - -	
FF	351.0	- - - -	63.5	- - -	
F9	351.0	- - - -	63.5	- - -	
FG	351.0	- - - -	63.5	- - -	
F11	351.0	- - - -	63.5	- - -	
F12	351.0	- - - -	63.5	- - -	
FK	351.0	- - - -	63.5	- - -	
F13	351.0	- - - -	63.4	- - -	
F13B	351.0	- - - -	63.5	- - -	
F15	351.0	- - - -	63.5	- - -	
FJ	351.0	- - - -	63.5	- - -	
F16	351.0	- - - -	63.5	- - -	
FH	351.0	- - - -	63.5	- - -	
H1	351.0	- - - -	63.6	- - -	
H2	351.0	- - - -	63.5	- - -	
H3	351.0	- - - -	63.4	- - -	
H4	351.0	- - - -	63.5	- - -	
H5	351.0	- - - -	63.5	- - -	
H6	351.0	- - - -	63.5	- - -	
H7	351.0	- - - -	63.5	- - -	
H8	351.0	- - - -	63.6	- - -	
H9	351.0	- - - -	63.6	- - -	
SOURCE	351.0	SOURCE	70.9	1022.0	

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JOB TITLE:

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	70.9	1022.0	E	12.000	----	0.00		0.0	
SF	351.0	70.9	1022.0		11.938		1.00	0.001	0.0	
Pipe: 1A			707.6	D1	Fixed Pressure Loss Device					
SF	351.0	70.9	314.4	H1	7.2 psi, 1022.0 gpm					
E	351.0	63.7	1022.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.1	
E	351.0	63.7	314.4	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	63.6	314.4		10.020	G: 6.6	335.71	0.000	0.1	
Pipe: 3		0.0	105.5	H4			195.00	140	0.1	
H1	351.0	63.6	208.9	H2	10.000	----	0.00		0.0	
1	351.0	63.5	314.4		10.020		195.00	0.000	0.1	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	63.5	208.9	2	10.000	----	0.00		0.0	
H2	351.0	63.5	208.9		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	63.5	208.9	3	10.000	T:66.5	73.15		0.0	
2	351.0	63.5	208.9		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	63.5	208.9	F13	10.000	----	0.00		0.0	
3	351.0	63.4	208.9		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	63.4	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	63.4	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	63.4	208.9	D23	10.000	E:29.3	29.26		0.0	
F13	351.0	63.4	208.9		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
F13	351.0	63.4	208.9	D23B	10.000	----	0.00		0.0	
D23	351.0	63.4	208.9		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.1	
4	351.0	63.5	273.4	D23B	10.000	----	0.00		0.0	
D23	351.0	63.4	273.4		10.020		450.00	0.000	0.1	
Pipe: 11		0.0	273.4	D23			60.00	140	0.0	
5	351.0	63.5	-167.9	D23	10.000	T:66.5	73.15		0.0	
4	351.0	63.5	105.5		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	63.5	105.5	4	10.000	T:66.5	102.41		0.0	
5	351.0	63.5	105.5		10.020	G: 6.6	312.41	0.000	0.0	

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JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	63.5	105.5	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	63.5	105.5		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	63.5	0.0		6.000	----	0.00		0.0	
5	351.0	63.5	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	273.4	D23			195.00	140	0.0	
H6	351.0	63.5	-105.5	D23	10.000	----	0.00		0.0	
4	351.0	63.5	167.9		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	63.5	167.9	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	63.5	167.9		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	63.6	167.9	H6	10.000	----	0.00		0.0	
H7	351.0	63.5	167.9		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	63.6	167.9	H7	12.000	T:79.8	123.69		0.0	
6	351.0	63.6	167.9		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	63.6	167.9	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	63.6	167.9		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	63.6	167.9	H8	12.000	----	0.00		0.0	
H9	351.0	63.6	167.9		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	167.9	F1			215.00	140	0.1	
E	351.0	63.7	539.7	D1B	12.000	----	0.00		0.0	
D1	351.0	63.6	707.6		11.938		215.00	0.001	0.1	
Pipe: 21		0.0	0.0	F1B			12.00	140	0.0	
D1	351.0	63.6	167.9	H9	20.000	----	0.00		0.0	
F1	351.0	63.6	167.9		23.000		12.00	0.000	0.0	
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	63.6	539.7	D2	8.0 psi, 539.7 gpm					
D1B	351.0	55.6	539.7							
Pipe: 22		0.0	474.7	D4		T:39.9	80.00	140	1.4	
D1B	351.0	55.6	65.0	D3	6.000	C:42.6	86.45		0.0	
D2	351.0	54.2	539.7		6.065	G: 4.0	166.45	0.008	1.4	
Pipe: 23		0.0	0.0				275.00	140	1.4	
D2	351.0	54.2	65.0	DB	3.000	T:19.9	21.28		0.0	
D3	351.0	52.8	65.0		3.068	G: 1.3	296.28	0.005	1.4	

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JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 24		H.S.	65.0	Disch			84.00	140	3.1	
D3	351.0	52.8	0.0		2.000	2E:13.3	13.30		0.0	
DB	351.0	49.7	65.0		2.067		97.30	0.032	3.1	
Pipe: 25		0.0	348.7	D6			54.00	140	0.7	
D2	351.0	54.2	126.0	D5	6.000	T:39.9	43.89		0.0	
D4	351.0	53.5	474.7		6.065	G: 4.0	97.89	0.007	0.7	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D4	351.0	53.5	126.0	DA	6.000	----	0.00		0.0	
D5	351.0	53.5	126.0		6.065		39.00	0.001	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	1.0	
D4	351.0	53.5	348.7	D8	6.000	L:12.0	34.58		0.0	
D6	351.0	52.5	348.7		6.065	G: 4.0	276.58	0.004	1.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	52.5	0.0		2.000		31.92		0.0	
D6	351.0	52.5	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	52.5	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	52.5	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	52.5	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	52.5	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		H.S.	126.0	Disch			32.00	140	0.3	
D5	351.0	53.5	0.0		4.000	2E:26.6	29.26		0.0	
DA	351.0	53.2	126.0		4.026	G: 2.7	61.26	0.004	0.3	
Pipe: 32		0.0	267.7	D10			160.00	140	0.7	
D6	351.0	52.5	81.0	DM	6.000	L:12.0	15.96		0.0	
D8	351.0	51.8	348.7		6.065	G: 4.0	175.96	0.004	0.7	
Pipe: 33		H.S.	81.0	Disch		E: 9.3	40.00	140	0.5	
D8	351.0	51.8	0.0		3.000	T:19.9	30.59		0.0	
DM	351.0	51.3	81.0		3.068	G: 1.3	70.59	0.007	0.5	
Pipe: 35		0.0	152.7	D14			70.00	140	0.2	
D8	351.0	51.8	115.0	D11	6.000	----	0.00		0.0	
D10	351.0	51.6	267.7		6.065		70.00	0.002	0.2	
Pipe: 36		0.0	78.0	D13		T:26.6	160.00	140	0.7	
D10	351.0	51.6	37.0	D12	4.000	2L:16.0	45.22		0.0	
D11	351.0	50.9	115.0		4.026	G: 2.7	205.22	0.004	0.7	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.7	
D11	351.0	50.9	37.0	DE	2.000	T:13.3	21.28		0.0	
D12	351.0	50.2	37.0		2.067	G: 1.3	61.28	0.011	0.7	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 38		H.S.	37.0	Disch			10.00	140	0.2	
D12	351.0	50.2	0.0		2.000	E: 6.6	6.65		0.0	
DE	351.0	50.0	37.0		2.067		16.65	0.011	0.2	
Pipe: 39		0.0	0.0				195.00	140	1.3	
D11	351.0	50.9	78.0	DC	3.000	----	0.00		0.0	
D13	351.0	49.6	78.0		3.068		195.00	0.007	1.3	
Pipe: 40		H.S.	78.0	Disch		E: 9.3	15.00	140	0.3	
D13	351.0	49.6	0.0		3.000	T:19.9	30.59		0.0	
DC	351.0	49.3	78.0		3.068	G: 1.3	45.59	0.007	0.3	
Pipe: 41		0.0	56.7	D16			110.00	140	0.1	
D10	351.0	51.6	96.0	DL	6.000	L:12.0	15.96		0.0	
D14	351.0	51.5	152.7		6.065	G: 4.0	125.96	0.001	0.1	
Pipe: 42		H.S.	96.0	Disch		E: 9.3	30.00	140	0.6	
D14	351.0	51.5	0.0		3.000	T:19.9	30.59		0.0	
DL	351.0	51.0	96.0		3.068	G: 1.3	60.59	0.010	0.6	
Pipe: 43		0.0	134.0DF				30.00	140	0.0	
D14	351.0	51.5	-77.3		6.000	----	0.00		0.0	
D16	351.0	51.5	56.7		6.065		30.00	0.000	0.0	
Pipe: 44		H.S.	134.0	Disch		E:13.3	65.00	140	0.5	
D16	351.0	51.5	0.0		4.000	T:26.6	42.56		0.0	
DF	351.0	51.0	134.0		4.026	G: 2.7	107.56	0.005	0.5	
Pipe: 45		0.0	134.0DF				155.00	140	0.0	
D18	351.0	51.6	-56.7		6.000	----	0.00		0.0	
D16	351.0	51.5	77.3		6.065		155.00	0.000	0.0	
Pipe: 46		H.S.	134.0	Disch		E:13.3	60.00	140	0.5	
D18	351.0	51.6	0.0		4.000	T:26.6	42.56		0.0	
DG	351.0	51.1	134.0		4.026	G: 2.7	102.56	0.005	0.5	
Pipe: 47		0.0	134.0	DG			65.00	140	0.1	
D20	351.0	51.7	77.3	D16	6.000	----	0.00		0.0	
D18	351.0	51.6	211.3		6.065		65.00	0.001	0.1	
Pipe: 48		0.0	202.0	D24			190.00	140	1.2	
D21	351.0	52.9	211.3	D18	6.000	T:39.9	43.89		0.0	
D20	351.0	51.7	413.3		6.065	G: 4.0	233.89	0.005	1.2	
Pipe: 49		H.S.	69.0	Disch		E: 6.6	35.00	140	2.0	
D21	351.0	52.9	0.0		2.000	T:13.3	21.28		0.0	
DK	351.0	50.9	69.0		2.067	G: 1.3	56.28	0.036	2.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23	351.0	63.4	482.3	D21		8.0 psi, 482.3 gpm				
D23B	351.0	55.4	482.3							

DATE: 1/8/2020P\TEC PROJECTS\DUBLIN HIGH SCHOOL\DUBLINHS_ALL DOMESTIC.SDF
JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	69.0	DK		ETCG	265.00	140	2.5	
D23B	351.0	55.4	413.3	D20	6.000		105.07		0.0	
D21	351.0	52.9	482.3		6.065		370.07	0.007	2.5	
Pipe: 51		0.0	68.0	D25			80.00	140	0.9	
D20	351.0	51.7	134.0	DJ	4.000	L: 8.0	10.64		0.0	
D24	351.0	50.8	202.0		4.026	G: 2.7	90.64	0.010	0.9	
Pipe: 52		H.S.	134.0	Disch		ETLG	85.00	140	2.2	
D24	351.0	50.8	0.0		3.000		37.24		0.0	
DJ	351.0	48.6	134.0		3.068		122.24	0.018	2.2	
Pipe: 53		0.0	0.0				110.00	140	0.6	
D24	351.0	50.8	68.0	DH	3.000	G: 1.3	1.33		0.0	
D25	351.0	50.2	68.0		3.068		111.33	0.005	0.6	
Pipe: 54		H.S.	68.0	Disch		E: 6.6	30.00	140	1.5	
D25	351.0	50.2	0.0		2.000	L: 4.0	11.97		0.0	
DH	351.0	48.7	68.0		2.067	G: 1.3	41.97	0.035	1.5	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	63.6	0.0	5.0 psi, 0.0 gpm						
F1B	351.0	63.5	0.0							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.0	
F1B	351.0	63.5	0.0		8.000	C:59.8	163.59		0.0	
F2	351.0	63.5	0.0		7.981	2G:10.6	298.59	0.000	0.0	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	63.5	0.0		8.000	----	0.00		0.0	
F2	351.0	63.5	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	63.5	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	63.5	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.0	
F2	351.0	63.5	0.0		8.000	L:17.3	46.55		0.0	
F4	351.0	63.5	0.0		7.981	G: 5.3	256.55	0.000	0.0	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	63.5	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	63.5	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.0	
F4	351.0	63.5	0.0		8.000	2L:42.6	49.21		0.0	
F5	351.0	63.5	0.0		7.981	G: 6.6	229.21	0.000	0.0	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	63.5	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	63.5	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)	
Pipe: 67		0.0	0.0				30.00	140	0.0	
F5	351.0	63.5	0.0		8.000	----	0.00		0.0	
F7	351.0	63.5	0.0		7.981		30.00	0.000	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	63.5	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	63.5	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	63.5	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	63.5	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.0	
F7	351.0	63.5	0.0		8.000	2L:34.6	39.90		0.0	
F9	351.0	63.5	0.0		7.981	G: 5.3	194.90	0.000	0.0	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	63.5	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	63.5	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.0	
F9	351.0	63.5	0.0		8.000	2G:10.6	10.64		0.0	
F11	351.0	63.5	0.0		7.981		75.64	0.000	0.0	
Pipe: 73		0.0	0.0				190.00	140	0.0	
F11	351.0	63.5	0.0		8.000	T:46.5	51.87		0.0	
F12	351.0	63.5	0.0		7.981	G: 5.3	241.87	0.000	0.0	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	63.5	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	63.5	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13B	351.0	63.5	0.0		5.0 psi,	0.0 gpm				
F13	351.0	63.4	0.0							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.0	
F12	351.0	63.5	0.0		8.000		135.66		0.0	
F13B	351.0	63.5	0.0		7.981		400.66	0.000	0.0	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	63.5	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	63.5	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	63.5	0.0		6.000		74.48		0.0	
F15	351.0	63.5	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	63.5	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	63.5	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	63.5	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	63.5	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.001 gpm and a maximum
imbalance at any node of 0.001 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 6.6 ft/sec at pipe 49.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
70.88 psi with a flow of 1022.00 gpm.

(6) PIPE FITTINGS TABLE

HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

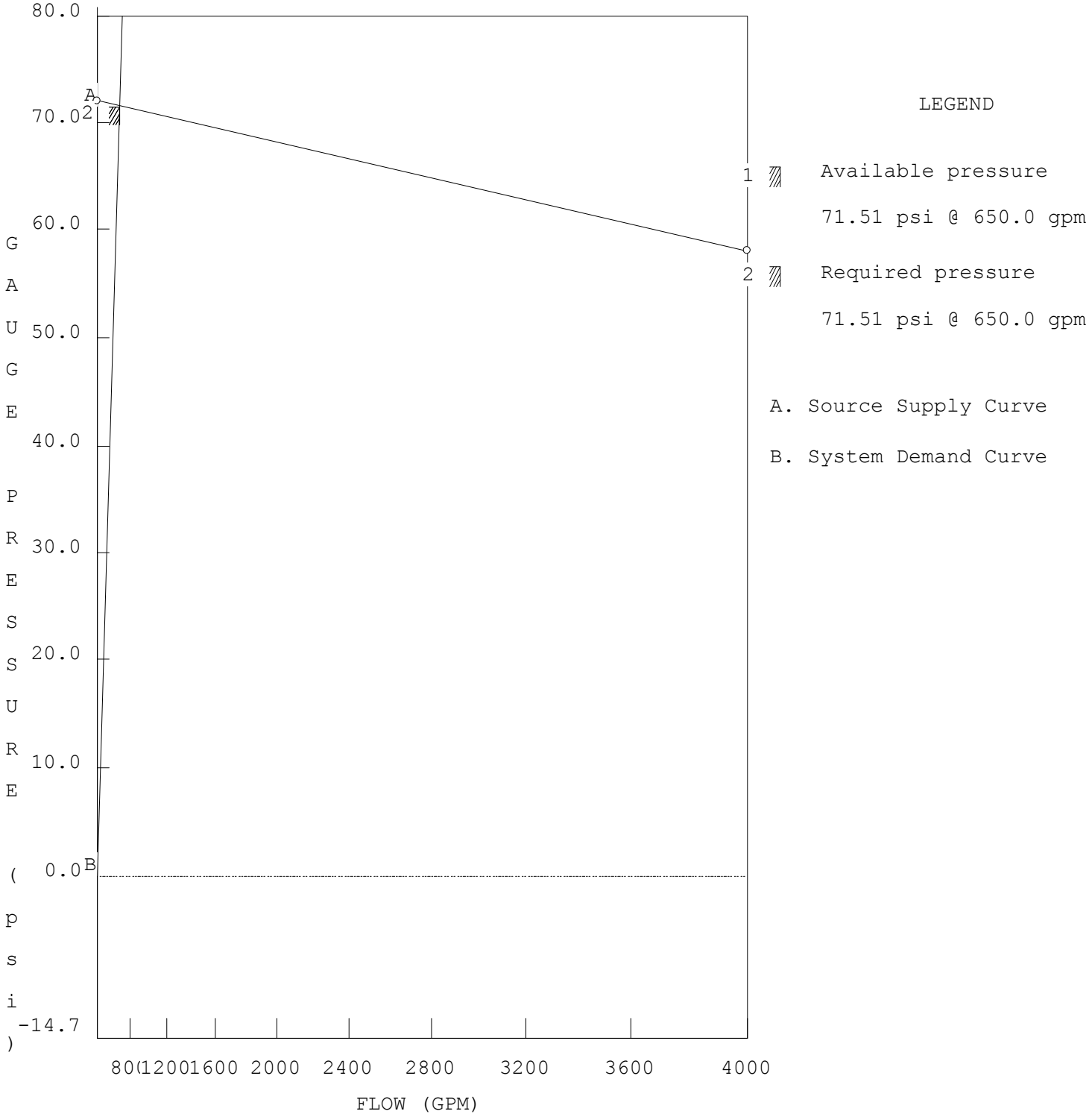
Attachment #3 - Fire Water Summary of Results & Calculations

	Base of Riser Shared in Building A											
Building	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**
Assumed Sprinkler Demand (gpm)	**650**	**650**	**650**	**650**	**650**	**650**	**650**	**300**	**650**	**300**	**650**	**650**
Pressure Available @ Full Fire Demand (psi)	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.9	71.5	71.9	71.5	71.5
Pressure Loss Due to Friction (psi)	-0.9	-0.9	-0.9	-0.9	-0.9	-2.2	-2.2	-4.6	-2.9	-1.7	-1.0	-1.9
Pressure Loss Due to Backflow Preventer (psi)	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
Safety Factor (psi)	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2
Total Base of Riser Pressure (psi)	**58.4**	**58.4**	**58.4**	**58.4**	**58.4**	**57.1**	**57.1**	**55.1**	**56.4**	**58.0**	**58.3**	**57.4**

DATE: 1/8/2020ROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDINGS A, B, C, D, E.SDF
JOB TITLE:

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020ROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDINGS A, B, C, D, E.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.3	- - -	
2	351.0	- - - -	64.3	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.3	- - -	
5	351.0	- - - -	64.3	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.3	- - -	
D2	351.0	- - - -	64.3	- - -	
D3	351.0	- - - -	64.3	- - -	
DB	351.0	- - - -	64.3	- - -	
D4	351.0	- - - -	64.3	- - -	
D5	351.0	- - - -	64.3	- - -	
DA	351.0	- - - -	64.3	- - -	
D6	351.0	- - - -	64.3	- - -	
DD	351.0	- - - -	64.3	- - -	
D7	351.0	- - - -	64.3	- - -	
DAA	351.0	- - - -	64.3	- - -	
D8	351.0	- - - -	64.3	- - -	
DM	351.0	- - - -	64.3	- - -	
D10	351.0	- - - -	64.3	- - -	
D11	351.0	- - - -	64.3	- - -	
D12	351.0	- - - -	64.3	- - -	
DE	351.0	- - - -	64.3	- - -	
D13	351.0	- - - -	64.3	- - -	
DC	351.0	- - - -	64.3	- - -	
D14	351.0	- - - -	64.3	- - -	
DL	351.0	- - - -	64.3	- - -	
D16	351.0	- - - -	64.3	- - -	
DF	351.0	- - - -	64.3	- - -	
D18	351.0	- - - -	64.3	- - -	
DG	351.0	- - - -	64.3	- - -	
D20	351.0	- - - -	64.3	- - -	
D21	351.0	- - - -	64.3	- - -	

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JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.3	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.3	- - -	
D24	351.0	- - - -	64.3	- - -	
D25	351.0	- - - -	64.3	- - -	
DH	351.0	- - - -	64.3	- - -	
DJ	351.0	- - - -	64.3	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	58.8	- - -	
F3	351.0	- - - -	58.7	- - -	
FA	351.0	HOSE STREAM	58.4	650.0	
F4	351.0	- - - -	58.9	- - -	
FM	351.0	- - - -	58.9	- - -	
F5	351.0	- - - -	58.9	- - -	
FL	351.0	- - - -	58.9	- - -	
F7	351.0	- - - -	58.9	- - -	
FF	351.0	- - - -	58.9	- - -	
F9	351.0	- - - -	59.0	- - -	
FG	351.0	- - - -	59.0	- - -	
F11	351.0	- - - -	59.0	- - -	
F12	351.0	- - - -	59.1	- - -	
FK	351.0	- - - -	59.1	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	59.0	- - -	
FJ	351.0	- - - -	59.0	- - -	
F16	351.0	- - - -	59.0	- - -	
FH	351.0	- - - -	59.0	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.3	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.3	- - -	
H5	351.0	- - - -	64.3	- - -	
H6	351.0	- - - -	64.3	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

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JOB TITLE:

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			481.9	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	168.1	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	168.1	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	168.1		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	71.8	H4			195.00	140	0.0	
H1	351.0	64.3	96.4	H2	10.000	----	0.00		0.0	
1	351.0	64.3	168.1		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.3	96.4	2	10.000	----	0.00		0.0	
H2	351.0	64.3	96.4		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.3	96.4	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.3	96.4		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.3	96.4	F13	10.000	----	0.00		0.0	
3	351.0	64.2	96.4		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	96.4	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	96.4		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	104.2	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	104.2		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.3	104.2	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	104.2		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	104.2	D23			60.00	140	0.0	
5	351.0	64.3	-32.4	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.3	71.8		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.3	71.8	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.3	71.8		10.020	G: 6.6	312.41	0.000	0.0	

DATE: 1/8/2020ROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDINGS A, B, C, D, E.SDF
JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.3	71.8	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.3	71.8		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.3	0.0		6.000	----	0.00		0.0	
5	351.0	64.3	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	104.2	D23			195.00	140	0.0	
H6	351.0	64.3	-71.8	D23	10.000	----	0.00		0.0	
4	351.0	64.3	32.4		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	32.4	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.3	32.4		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	32.4	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	32.4		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	32.4	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	32.4		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	32.4	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	32.4		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	32.4	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	32.4		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.1	
E	351.0	64.3	481.9	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	481.9		11.938		215.00	0.000	0.1	
Pipe: 21		0.0	32.4	H9			12.00	140	0.0	
D1	351.0	64.3	449.4	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	481.9		23.000		12.00	0.000	0.0	
case1										
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.1	D2	8.0 psi,	0.0 gpm				
D1B	351.0	64.3	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.3	0.1	D4	6.000	C:42.6	86.45		0.0	
D2	351.0	64.3	0.1		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.3	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.3	0.0		3.068	G: 1.3	296.28	0.000	0.0	

DATE: 1/8/2020ROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDINGS A, B, C, D, E.SDF
JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.3	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.3	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.3	0.1	D6	6.000	T:39.9	43.89		0.0	
D4	351.0	64.3	0.1		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.3	0.0		6.000	----	0.00		0.0	
D4	351.0	64.3	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.3	0.1	D8	6.000	L:12.0	34.58		0.0	
D6	351.0	64.3	0.1		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.3	0.0		2.000		31.92		0.0	
D6	351.0	64.3	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.3	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.3	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.3	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.3	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.3	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.3	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.3	0.1	D10	6.000	L:12.0	15.96		0.0	
D8	351.0	64.3	0.1		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.3	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.3	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.3	0.1	D14	6.000	----	0.00		0.0	
D10	351.0	64.3	0.1		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.3	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.3	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.3	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.3	0.0		2.067	G: 1.3	61.28	0.000	0.0	

DATE: 1/8/2020ROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDINGS A, B, C, D, E.SDF
JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 38		0.0	0.0				10.00	140	0.0	
DE	351.0	64.3	0.0		2.000	E: 6.6	6.65		0.0	
D12	351.0	64.3	0.0		2.067		16.65	0.000	0.0	
Pipe: 39		0.0	0.0				195.00	140	0.0	
D13	351.0	64.3	0.0		3.000	----	0.00		0.0	
D11	351.0	64.3	0.0		3.068		195.00	0.000	0.0	
Pipe: 40		0.0	0.0			E: 9.3	15.00	140	0.0	
DC	351.0	64.3	0.0		3.000	T:19.9	30.59		0.0	
D13	351.0	64.3	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41		0.0	0.0				110.00	140	0.0	
D10	351.0	64.3	0.1	D16	6.000	L:12.0	15.96		0.0	
D14	351.0	64.3	0.1		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42		0.0	0.0			E: 9.3	30.00	140	0.0	
DL	351.0	64.3	0.0		3.000	T:19.9	30.59		0.0	
D14	351.0	64.3	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43		0.0	0.0				30.00	140	0.0	
D14	351.0	64.3	0.1	D18	6.000	----	0.00		0.0	
D16	351.0	64.3	0.1		6.065		30.00	0.000	0.0	
Pipe: 44		0.0	0.0			E:13.3	65.00	140	0.0	
DF	351.0	64.3	0.0		4.000	T:26.6	42.56		0.0	
D16	351.0	64.3	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45		0.0	0.0				155.00	140	0.0	
D16	351.0	64.3	0.1	D20	6.000	----	0.00		0.0	
D18	351.0	64.3	0.1		6.065		155.00	0.000	0.0	
Pipe: 46		0.0	0.0			E:13.3	60.00	140	0.0	
DG	351.0	64.3	0.0		4.000	T:26.6	42.56		0.0	
D18	351.0	64.3	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47		0.0	0.0				65.00	140	0.0	
D18	351.0	64.3	0.1	D21	6.000	----	0.00		0.0	
D20	351.0	64.3	0.1		6.065		65.00	0.000	0.0	
Pipe: 48		0.0	0.0				190.00	140	0.0	
D20	351.0	64.3	0.1	D23B	6.000	T:39.9	43.89		0.0	
D21	351.0	64.3	0.1		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49		0.0	0.0			E: 6.6	35.00	140	0.0	
DK	351.0	64.3	0.0		2.000	T:13.3	21.28		0.0	
D21	351.0	64.3	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23B	351.0	64.3	0.0		8.0 psi,	0.0 gpm				
D23	351.0	64.2	0.0							

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JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.3	0.1	D23	6.000		105.07		0.0	
D23B	351.0	64.3	0.1		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.3	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.3	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.3	0.0		3.000		37.24		0.0	
D24	351.0	64.3	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.3	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.3	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.3	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.3	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	449.4	F2	5.0 psi, 449.4 gpm					
F1B	351.0	59.3	449.4							
Pipe: 60		0.0	650.0	F3		2T:93.1	135.00	140	0.5	
F1B	351.0	59.3	-200.6	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	58.8	449.4		7.981	2G:10.6	298.59	0.002	0.5	
Pipe: 61		0.0	0.0				32.00	140	0.1	
F2	351.0	58.8	650.0	FA	8.000	----	0.00		0.0	
F3	351.0	58.7	650.0		7.981		32.00	0.003	0.1	
Pipe: 62		H.S.	650.0	Disch			32.00	140	0.3	
F3	351.0	58.7	0.0		8.000	2E:47.9	53.20		0.0	
FA	351.0	58.4	650.0		7.981	G: 5.3	85.20	0.003	0.3	
Pipe: 63		0.0	650.0	F3		E:23.9	210.00	140	0.1	
F4	351.0	58.9	-449.4	F1B	8.000	L:17.3	46.55		0.0	
F2	351.0	58.8	200.6		7.981	G: 5.3	256.55	0.000	0.1	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	58.9	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	58.9	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.0	
F5	351.0	58.9	200.6	F2	8.000	2L:42.6	49.21		0.0	
F4	351.0	58.9	200.6		7.981	G: 6.6	229.21	0.000	0.0	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	58.9	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.9	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	0.0				30.00	140	0.0	
F7	351.0	58.9	200.6	F4	8.000	----	0.00		0.0	
F5	351.0	58.9	200.6		7.981		30.00	0.000	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	58.9	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.9	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	58.9	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	58.9	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.1	
F9	351.0	59.0	200.6	F5	8.000	2L:34.6	39.90		0.0	
F7	351.0	58.9	200.6		7.981	G: 5.3	194.90	0.000	0.1	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	59.0	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	59.0	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.0	
F11	351.0	59.0	200.6	F7	8.000	2G:10.6	10.64		0.0	
F9	351.0	59.0	200.6		7.981		75.64	0.000	0.0	
Pipe: 73		0.0	0.0				190.00	140	0.1	
F12	351.0	59.1	200.6	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	59.0	200.6		7.981	G: 5.3	241.87	0.000	0.1	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	59.1	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	59.1	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	200.6	F12		5.0 psi, 200.6 gpm				
F13B	351.0	59.2	200.6							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.1	
F13B	351.0	59.2	200.6	F11	8.000		135.66		0.0	
F12	351.0	59.1	200.6		7.981		400.66	0.000	0.1	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	59.0	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	59.0	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	59.0	0.0		6.000		74.48		0.0	
F15	351.0	59.0	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	59.0	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	59.0	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	59.0	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	59.0	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.005 gpm and a maximum
imbalance at any node of 0.173 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 4.2 ft/sec at pipe 61.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 650.00 gpm.

(6) PIPE FITTINGS TABLE

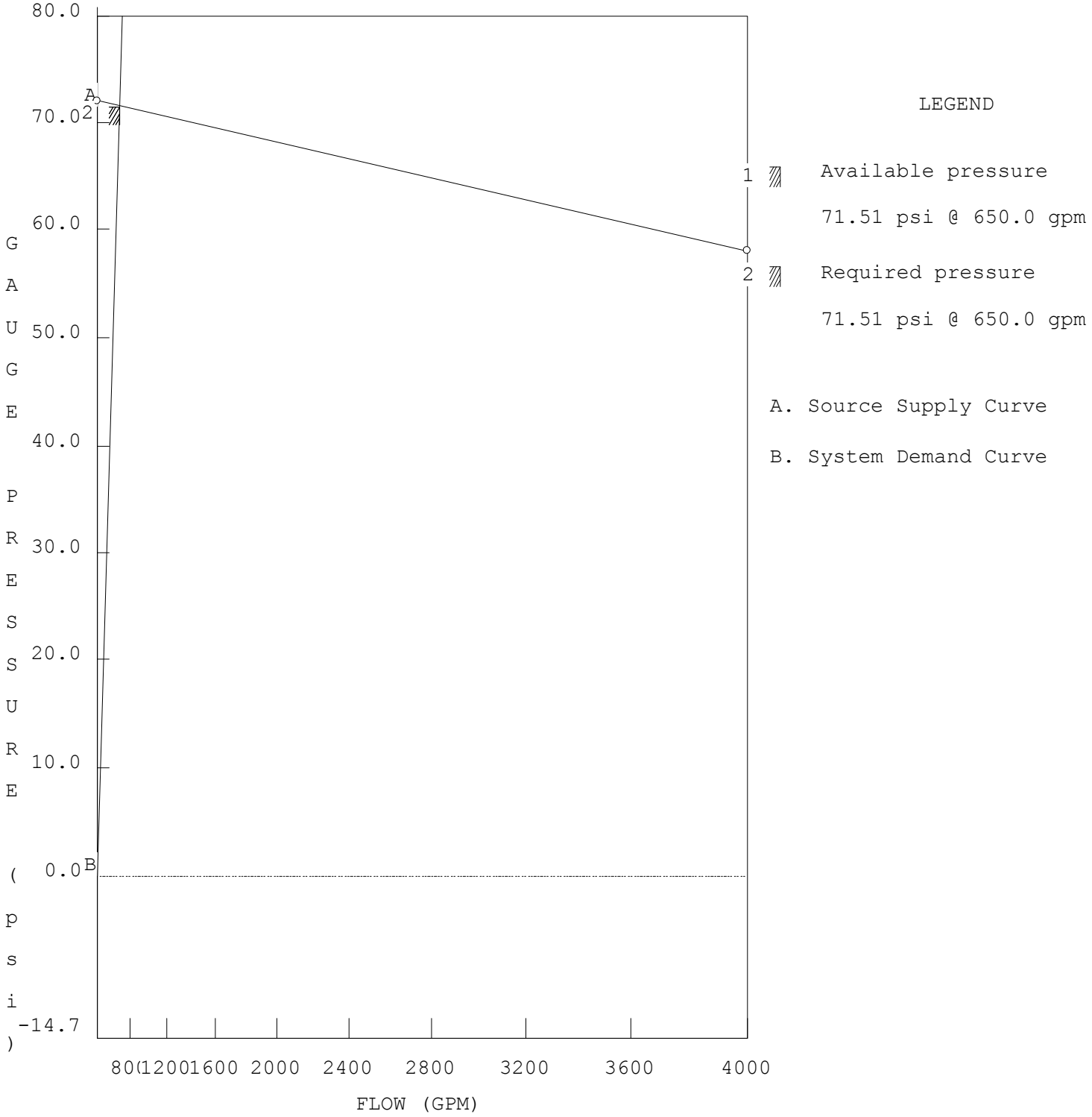
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING F.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.3	- - -	
2	351.0	- - - -	64.2	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.2	- - -	
5	351.0	- - - -	64.2	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.2	- - -	
D2	351.0	- - - -	64.2	- - -	
D3	351.0	- - - -	64.2	- - -	
DB	351.0	- - - -	64.2	- - -	
D4	351.0	- - - -	64.2	- - -	
D5	351.0	- - - -	64.2	- - -	
DA	351.0	- - - -	64.2	- - -	
D6	351.0	- - - -	64.2	- - -	
DD	351.0	- - - -	64.2	- - -	
D7	351.0	- - - -	64.2	- - -	
DAA	351.0	- - - -	64.2	- - -	
D8	351.0	- - - -	64.2	- - -	
DM	351.0	- - - -	64.2	- - -	
D10	351.0	- - - -	64.2	- - -	
D11	351.0	- - - -	64.2	- - -	
D12	351.0	- - - -	64.2	- - -	
DE	351.0	- - - -	64.2	- - -	
D13	351.0	- - - -	64.2	- - -	
DC	351.0	- - - -	64.2	- - -	
D14	351.0	- - - -	64.2	- - -	
DL	351.0	- - - -	64.2	- - -	
D16	351.0	- - - -	64.2	- - -	
DF	351.0	- - - -	64.2	- - -	
D18	351.0	- - - -	64.2	- - -	
DG	351.0	- - - -	64.2	- - -	
D20	351.0	- - - -	64.2	- - -	
D21	351.0	- - - -	64.2	- - -	

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JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.2	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.2	- - -	
D24	351.0	- - - -	64.2	- - -	
D25	351.0	- - - -	64.2	- - -	
DH	351.0	- - - -	64.2	- - -	
DJ	351.0	- - - -	64.2	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	59.0	- - -	
F3	351.0	- - - -	59.0	- - -	
FA	351.0	- - - -	59.0	- - -	
F4	351.0	- - - -	58.7	- - -	
FM	351.0	- - - -	58.7	- - -	
F5	351.0	- - - -	58.6	- - -	
FL	351.0	- - - -	58.6	- - -	
F7	351.0	- - - -	58.6	- - -	
FF	351.0	HOSE STREAM	57.1	650.0	
F9	351.0	- - - -	58.7	- - -	
FG	351.0	- - - -	58.7	- - -	
F11	351.0	- - - -	58.8	- - -	
F12	351.0	- - - -	58.9	- - -	
FK	351.0	- - - -	58.9	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	58.8	- - -	
FJ	351.0	- - - -	58.8	- - -	
F16	351.0	- - - -	58.8	- - -	
FH	351.0	- - - -	58.8	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.2	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.3	- - -	
H5	351.0	- - - -	64.2	- - -	
H6	351.0	- - - -	64.3	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING F.SDF
JOB TITLE:

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			456.0	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	194.0	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	194.0	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	194.0		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	67.1	H4			195.00	140	0.0	
H1	351.0	64.3	126.9	H2	10.000	----	0.00		0.0	
1	351.0	64.3	194.0		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.3	126.9	2	10.000	----	0.00		0.0	
H2	351.0	64.2	126.9		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.2	126.9	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.2	126.9		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.2	126.9	F13	10.000	----	0.00		0.0	
3	351.0	64.2	126.9		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	126.9	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	126.9		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	162.4	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	162.4		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.2	162.4	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	162.4		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	162.4	D23			60.00	140	0.0	
5	351.0	64.2	-95.4	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.2	67.1		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.3	67.1	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.2	67.1		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.3	67.1	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.3	67.1		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.2	0.0		6.000	----	0.00		0.0	
5	351.0	64.2	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	162.4	D23			195.00	140	0.0	
H6	351.0	64.3	-67.1	D23	10.000	----	0.00		0.0	
4	351.0	64.2	95.4		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	95.4	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.3	95.4		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	95.4	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	95.4		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	95.4	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	95.4		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	95.4	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	95.4		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	95.4	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	95.4		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.0	
E	351.0	64.3	456.0	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	456.0		11.938		215.00	0.000	0.0	
Pipe: 21		0.0	95.4	H9			12.00	140	0.0	
D1	351.0	64.3	360.7	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	456.0		23.000		12.00	0.000	0.0	
case1										
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.1	D2	8.0 psi,	0.0 gpm				
D1B	351.0	64.2	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.2	0.1	D4	6.000	C:42.6	86.45		0.0	
D2	351.0	64.2	0.1		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.2	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.2	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.2	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.2	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.2	0.2	D6	6.000	T:39.9	43.89		0.0	
D4	351.0	64.2	0.2		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.2	0.0		6.000	----	0.00		0.0	
D4	351.0	64.2	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.2	0.0		6.000	L:12.0	34.58		0.0	
D6	351.0	64.2	0.0		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.2	0.0		2.000		31.92		0.0	
D6	351.0	64.2	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.2	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.2	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.2	0.1	D10	6.000	L:12.0	15.96		0.0	
D8	351.0	64.2	0.1		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.2	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.2	0.2	D14	6.000	----	0.00		0.0	
D10	351.0	64.2	0.2		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.2	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.2	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.2	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node El (ft) To Node El (ft)	K-fac PT PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 38	0.0	0.0				10.00	140	0.0	
DE 351.0	64.2	0.0		2.000	E: 6.6	6.65		0.0	
D12 351.0	64.2	0.0		2.067		16.65	0.000	0.0	
Pipe: 39	0.0	0.0				195.00	140	0.0	
D13 351.0	64.2	0.0		3.000	----	0.00		0.0	
D11 351.0	64.2	0.0		3.068		195.00	0.000	0.0	
Pipe: 40	0.0	0.0			E: 9.3	15.00	140	0.0	
DC 351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D13 351.0	64.2	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41	0.0	0.0				110.00	140	0.0	
D10 351.0	64.2	0.2	D16	6.000	L:12.0	15.96		0.0	
D14 351.0	64.2	0.2		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42	0.0	0.0			E: 9.3	30.00	140	0.0	
DL 351.0	64.2	0.0	D16	3.000	T:19.9	30.59		0.0	
D14 351.0	64.2	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43	0.0	0.0				30.00	140	0.0	
D14 351.0	64.2	0.4	D18	6.000	----	0.00		0.0	
D16 351.0	64.2	0.4		6.065		30.00	0.000	0.0	
Pipe: 44	0.0	0.0			E:13.3	65.00	140	0.0	
DF 351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D16 351.0	64.2	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45	0.0	0.0				155.00	140	0.0	
D16 351.0	64.2	0.1	D20	6.000	----	0.00		0.0	
D18 351.0	64.2	0.1		6.065		155.00	0.000	0.0	
Pipe: 46	0.0	0.0			E:13.3	60.00	140	0.0	
DG 351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D18 351.0	64.2	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47	0.0	0.0				65.00	140	0.0	
D18 351.0	64.2	0.2	D21	6.000	----	0.00		0.0	
D20 351.0	64.2	0.2		6.065		65.00	0.000	0.0	
Pipe: 48	0.0	0.0				190.00	140	0.0	
D20 351.0	64.2	0.1	D23B	6.000	T:39.9	43.89		0.0	
D21 351.0	64.2	0.1		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49	0.0	0.0			E: 6.6	35.00	140	0.0	
DK 351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D21 351.0	64.2	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A		0.0	Fixed Pressure Loss Device						
D23B 351.0	64.2	0.0	8.0 psi, 0.0 gpm						
D23 351.0	64.2	0.0							

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.2	0.0		6.000		105.07		0.0	
D23B	351.0	64.2	0.0		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.2	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.2	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.2	0.0		3.000		37.24		0.0	
D24	351.0	64.2	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.2	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.2	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.2	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	360.7	F2	5.0 psi, 360.7 gpm					
F1B	351.0	59.3	360.7							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.3	
F1B	351.0	59.3	360.7	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	59.0	360.7		7.981	2G:10.6	298.59	0.001	0.3	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	59.0	0.0		8.000	----	0.00		0.0	
F2	351.0	59.0	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	59.0	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	59.0	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.3	
F2	351.0	59.0	360.7	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	58.7	360.7		7.981	G: 5.3	256.55	0.001	0.3	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	58.7	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.1	
F4	351.0	58.7	360.7	F7	8.000	2L:42.6	49.21		0.0	
F5	351.0	58.6	360.7		7.981	G: 6.6	229.21	0.000	0.1	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.6	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	650.0	FF			30.00	140	0.0	
F5	351.0	58.6	-289.3	F9	8.000	----	0.00		0.0	
F7	351.0	58.6	360.7		7.981		30.00	0.001	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.6	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		H.S.	650.0	Disch		E:18.6	65.00	140	1.5	
F7	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
FF	351.0	57.1	650.0		6.065	G: 4.0	127.51	0.012	1.5	
Pipe: 70		0.0	650.0	FF			155.00	140	0.1	
F9	351.0	58.7	-360.7	F5	8.000	2L:34.6	39.90		0.0	
F7	351.0	58.6	289.3		7.981	G: 5.3	194.90	0.001	0.1	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	58.7	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.1	
F11	351.0	58.8	289.3	F7	8.000	2G:10.6	10.64		0.0	
F9	351.0	58.7	289.3		7.981		75.64	0.001	0.1	
Pipe: 73		0.0	0.0				190.00	140	0.2	
F12	351.0	58.9	289.3	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	58.8	289.3		7.981	G: 5.3	241.87	0.001	0.2	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	58.9	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	58.9	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	289.3	F12		5.0 psi, 289.3 gpm				
F13B	351.0	59.2	289.3							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.3	
F13B	351.0	59.2	289.3	F11	8.000		135.66		0.0	
F12	351.0	58.9	289.3		7.981		400.66	0.001	0.3	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	58.8	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	58.8	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	58.8	0.0		6.000		74.48		0.0	
F15	351.0	58.8	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	58.8	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	58.8	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To / Node/ Disch	Nom ID / Act ID	Fit: / Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	58.8	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	58.8	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.006 gpm and a maximum
imbalance at any node of 0.142 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.2 ft/sec at pipe 69.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 649.98 gpm.

(6) PIPE FITTINGS TABLE

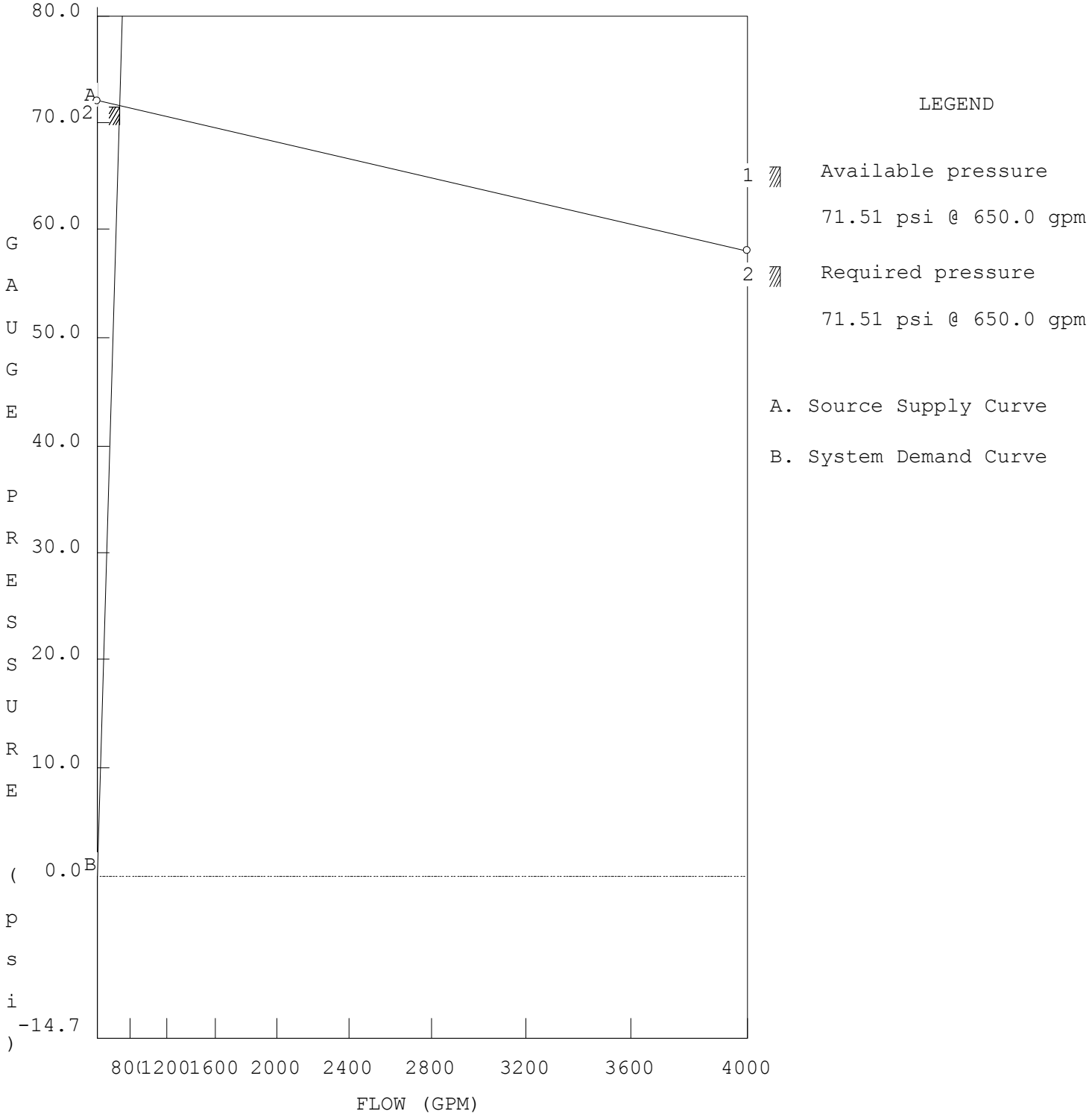
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07
	55.86								

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

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JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.2	- - -	
2	351.0	- - - -	64.2	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.2	- - -	
5	351.0	- - - -	64.2	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.2	- - -	
D2	351.0	- - - -	64.2	- - -	
D3	351.0	- - - -	64.2	- - -	
DB	351.0	- - - -	64.2	- - -	
D4	351.0	- - - -	64.2	- - -	
D5	351.0	- - - -	64.2	- - -	
DA	351.0	- - - -	64.2	- - -	
D6	351.0	- - - -	64.2	- - -	
DD	351.0	- - - -	64.2	- - -	
D7	351.0	- - - -	64.2	- - -	
DAA	351.0	- - - -	64.2	- - -	
D8	351.0	- - - -	64.2	- - -	
DM	351.0	- - - -	64.2	- - -	
D10	351.0	- - - -	64.2	- - -	
D11	351.0	- - - -	64.2	- - -	
D12	351.0	- - - -	64.2	- - -	
DE	351.0	- - - -	64.2	- - -	
D13	351.0	- - - -	64.2	- - -	
DC	351.0	- - - -	64.2	- - -	
D14	351.0	- - - -	64.2	- - -	
DL	351.0	- - - -	64.2	- - -	
D16	351.0	- - - -	64.2	- - -	
DF	351.0	- - - -	64.2	- - -	
D18	351.0	- - - -	64.2	- - -	
DG	351.0	- - - -	64.2	- - -	
D20	351.0	- - - -	64.2	- - -	
D21	351.0	- - - -	64.2	- - -	

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JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.2	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.2	- - -	
D24	351.0	- - - -	64.2	- - -	
D25	351.0	- - - -	64.2	- - -	
DH	351.0	- - - -	64.2	- - -	
DJ	351.0	- - - -	64.2	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	59.0	- - -	
F3	351.0	- - - -	59.0	- - -	
FA	351.0	- - - -	59.0	- - -	
F4	351.0	- - - -	58.8	- - -	
FM	351.0	- - - -	58.8	- - -	
F5	351.0	- - - -	58.7	- - -	
FL	351.0	- - - -	58.7	- - -	
F7	351.0	- - - -	58.7	- - -	
FF	351.0	- - - -	58.7	- - -	
F9	351.0	- - - -	58.5	- - -	
FG	351.0	HOSE STREAM	57.1	650.0	
F11	351.0	- - - -	58.6	- - -	
F12	351.0	- - - -	58.8	- - -	
FK	351.0	- - - -	58.8	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	58.6	- - -	
FJ	351.0	- - - -	58.6	- - -	
F16	351.0	- - - -	58.6	- - -	
FH	351.0	- - - -	58.6	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.2	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.2	- - -	
H5	351.0	- - - -	64.2	- - -	
H6	351.0	- - - -	64.2	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			441.1	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	208.9	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	208.9	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	208.9		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	66.6	H4			195.00	140	0.0	
H1	351.0	64.3	142.3	H2	10.000	----	0.00		0.0	
1	351.0	64.2	208.9		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.2	142.3	2	10.000	----	0.00		0.0	
H2	351.0	64.2	142.3		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.2	142.3	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.2	142.3		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.2	142.3	F13	10.000	----	0.00		0.0	
3	351.0	64.2	142.3		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	142.3	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	142.3		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	187.9	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	187.9		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.2	187.9	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	187.9		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	187.9	D23			60.00	140	0.0	
5	351.0	64.2	-121.4	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.2	66.6		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.2	66.6	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.2	66.6		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.2	66.6	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.2	66.6		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.2	0.0		6.000	----	0.00		0.0	
5	351.0	64.2	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	187.9	D23			195.00	140	0.0	
H6	351.0	64.2	-66.6	D23	10.000	----	0.00		0.0	
4	351.0	64.2	121.4		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	121.4	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.2	121.4		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	121.4	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	121.4		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	121.4	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	121.4		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	121.4	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	121.4		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	121.4	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	121.4		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.0	
E	351.0	64.3	441.1	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	441.1		11.938		215.00	0.000	0.0	
Pipe: 21		0.0	121.4	H9			12.00	140	0.0	
D1	351.0	64.3	319.8	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	441.2		23.000		12.00	0.000	0.0	
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.0		8.0 psi,	0.0 gpm				
D1B	351.0	64.2	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.2	0.0		6.000	C:42.6	86.45		0.0	
D2	351.0	64.2	0.0		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.2	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.2	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag Frm Node To Node	El (ft) El (ft)	K-fac PT PT	Add Fl (q) Tot.	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.2	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.2	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.2	0.0		6.000	T:39.9	43.89		0.0	
D4	351.0	64.2	0.0		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.2	0.0		6.000	----	0.00		0.0	
D4	351.0	64.2	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.2	0.1	D8	6.000	L:12.0	34.58		0.0	
D6	351.0	64.2	0.1		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.2	0.0		2.000		31.92		0.0	
D6	351.0	64.2	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.2	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.2	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.2	0.0		6.000	L:12.0	15.96		0.0	
D8	351.0	64.2	0.0		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.2	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.2	0.1	D14	6.000	----	0.00		0.0	
D10	351.0	64.2	0.1		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.2	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.2	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.2	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)	
Pipe: 38		0.0	0.0				10.00	140	0.0	
DE	351.0	64.2	0.0		2.000	E: 6.6	6.65		0.0	
D12	351.0	64.2	0.0		2.067		16.65	0.000	0.0	
Pipe: 39		0.0	0.0				195.00	140	0.0	
D13	351.0	64.2	0.0		3.000	----	0.00		0.0	
D11	351.0	64.2	0.0		3.068		195.00	0.000	0.0	
Pipe: 40		0.0	0.0			E: 9.3	15.00	140	0.0	
DC	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D13	351.0	64.2	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41		0.0	0.0				110.00	140	0.0	
D10	351.0	64.2	0.0		6.000	L:12.0	15.96		0.0	
D14	351.0	64.2	0.0		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42		0.0	0.0			E: 9.3	30.00	140	0.0	
DL	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D14	351.0	64.2	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43		0.0	0.0				30.00	140	0.0	
D14	351.0	64.2	0.2	D18	6.000	----	0.00		0.0	
D16	351.0	64.2	0.2		6.065		30.00	0.000	0.0	
Pipe: 44		0.0	0.0			E:13.3	65.00	140	0.0	
DF	351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D16	351.0	64.2	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45		0.0	0.0				155.00	140	0.0	
D16	351.0	64.2	0.0		6.000	----	0.00		0.0	
D18	351.0	64.2	0.0		6.065		155.00	0.000	0.0	
Pipe: 46		0.0	0.0			E:13.3	60.00	140	0.0	
DG	351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D18	351.0	64.2	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47		0.0	0.0				65.00	140	0.0	
D18	351.0	64.2	0.1	D21	6.000	----	0.00		0.0	
D20	351.0	64.2	0.1		6.065		65.00	0.000	0.0	
Pipe: 48		0.0	0.0				190.00	140	0.0	
D20	351.0	64.2	0.0		6.000	T:39.9	43.89		0.0	
D21	351.0	64.2	0.0		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49		0.0	0.0			E: 6.6	35.00	140	0.0	
DK	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D21	351.0	64.2	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23B	351.0	64.2	0.0		8.0 psi,	0.0 gpm				
D23	351.0	64.2	0.0							

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.2	0.0		6.000		105.07		0.0	
D23B	351.0	64.2	0.0		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.2	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.2	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.2	0.0		3.000		37.24		0.0	
D24	351.0	64.2	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.2	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.2	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.2	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	319.8	F2	5.0 psi, 319.8 gpm					
F1B	351.0	59.3	319.8							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.3	
F1B	351.0	59.3	319.8	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	59.0	319.8		7.981	2G:10.6	298.59	0.001	0.3	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	59.0	0.0		8.000	----	0.00		0.0	
F2	351.0	59.0	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	59.0	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	59.0	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.2	
F2	351.0	59.0	319.8	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	58.8	319.8		7.981	G: 5.3	256.55	0.001	0.2	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	58.8	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.1	
F4	351.0	58.8	319.8	F7	8.000	2L:42.6	49.21		0.0	
F5	351.0	58.7	319.8		7.981	G: 6.6	229.21	0.000	0.1	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.7	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	0.0				30.00	140	0.0	
F5	351.0	58.7	319.8	F9	8.000	----	0.00		0.0	
F7	351.0	58.7	319.8		7.981		30.00	0.001	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.7	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	58.7	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	650.0	FG			155.00	140	0.2	
F7	351.0	58.7	-330.2	F11	8.000	2L:34.6	39.90		0.0	
F9	351.0	58.5	319.8		7.981	G: 5.3	194.90	0.001	0.2	
Pipe: 71		H.S.	650.0	Disch		E:18.6	55.00	140	1.4	
F9	351.0	58.5	0.0		6.000	T:39.9	62.51		0.0	
FG	351.0	57.1	650.0		6.065	G: 4.0	117.51	0.012	1.4	
Pipe: 72		0.0	650.0	FG			65.00	140	0.1	
F11	351.0	58.6	-319.8	F7	8.000	2G:10.6	10.64		0.0	
F9	351.0	58.5	330.2		7.981		75.64	0.001	0.1	
Pipe: 73		0.0	0.0				190.00	140	0.2	
F12	351.0	58.8	330.2	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	58.6	330.2		7.981	G: 5.3	241.87	0.001	0.2	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	58.8	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	58.8	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	330.2	F12		5.0 psi, 330.2 gpm				
F13B	351.0	59.2	330.2							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.4	
F13B	351.0	59.2	330.2	F11	8.000		135.66		0.0	
F12	351.0	58.8	330.2		7.981		400.66	0.001	0.4	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	58.6	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	58.6	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	58.6	0.0		6.000		74.48		0.0	
F15	351.0	58.6	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	58.6	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	58.6	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	58.6	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	58.6	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.017 gpm and a maximum
imbalance at any node of 0.186 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.2 ft/sec at pipe 71.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 650.00 gpm.

(6) PIPE FITTINGS TABLE

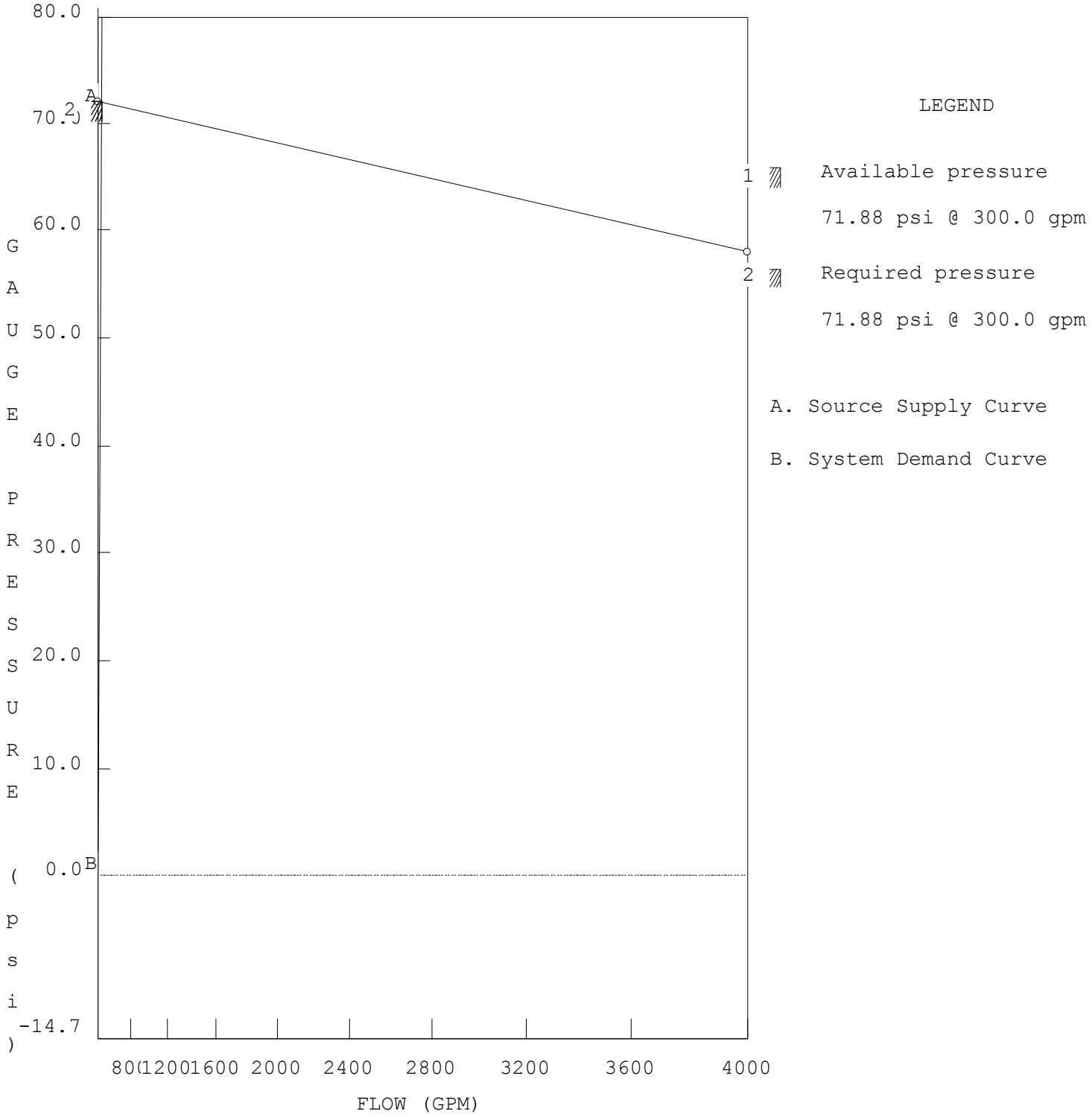
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

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NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.9	300.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	300.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	300.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.9	- - -	
E	351.0	- - - -	64.7	- - -	
1	351.0	- - - -	64.7	- - -	
2	351.0	- - - -	64.7	- - -	
3	351.0	- - - -	64.7	- - -	
4	351.0	- - - -	64.7	- - -	
5	351.0	- - - -	64.7	- - -	
6	351.0	- - - -	64.7	- - -	
D1	351.0	- - - -	64.7	- - -	
D1B	351.0	- - - -	64.7	- - -	
D2	351.0	- - - -	64.7	- - -	
D3	351.0	- - - -	64.7	- - -	
DB	351.0	- - - -	64.7	- - -	
D4	351.0	- - - -	64.7	- - -	
D5	351.0	- - - -	64.7	- - -	
DA	351.0	- - - -	64.7	- - -	
D6	351.0	- - - -	64.7	- - -	
DD	351.0	- - - -	64.7	- - -	
D7	351.0	- - - -	64.7	- - -	
DAA	351.0	- - - -	64.7	- - -	
D8	351.0	- - - -	64.7	- - -	
DM	351.0	- - - -	64.7	- - -	
D10	351.0	- - - -	64.7	- - -	
D11	351.0	- - - -	64.7	- - -	
D12	351.0	- - - -	64.7	- - -	
DE	351.0	- - - -	64.7	- - -	
D13	351.0	- - - -	64.7	- - -	
DC	351.0	- - - -	64.7	- - -	
D14	351.0	- - - -	64.7	- - -	
DL	351.0	- - - -	64.7	- - -	
D16	351.0	- - - -	64.7	- - -	
DF	351.0	- - - -	64.7	- - -	
D18	351.0	- - - -	64.7	- - -	
DG	351.0	- - - -	64.7	- - -	
D20	351.0	- - - -	64.7	- - -	
D21	351.0	- - - -	64.7	- - -	

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JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.7	- - -	
D23	351.0	- - - -	64.7	- - -	
D23B	351.0	- - - -	64.7	- - -	
D24	351.0	- - - -	64.7	- - -	
D25	351.0	- - - -	64.7	- - -	
DH	351.0	- - - -	64.7	- - -	
DJ	351.0	- - - -	64.7	- - -	
F1	351.0	- - - -	64.7	- - -	
F1B	351.0	- - - -	59.7	- - -	
F2	351.0	- - - -	59.6	- - -	
F3	351.0	- - - -	59.6	- - -	
FA	351.0	- - - -	59.6	- - -	
F4	351.0	- - - -	59.6	- - -	
FM	351.0	- - - -	59.6	- - -	
F5	351.0	- - - -	59.6	- - -	
FL	351.0	- - - -	59.6	- - -	
F7	351.0	- - - -	59.6	- - -	
FF	351.0	- - - -	59.6	- - -	
F9	351.0	- - - -	59.5	- - -	
FG	351.0	- - - -	59.5	- - -	
F11	351.0	- - - -	59.5	- - -	
F12	351.0	- - - -	59.6	- - -	
FK	351.0	- - - -	59.6	- - -	
F13	351.0	- - - -	64.7	- - -	
F13B	351.0	- - - -	59.7	- - -	
F15	351.0	- - - -	59.4	- - -	
FJ	351.0	- - - -	59.4	- - -	
F16	351.0	- - - -	56.5	- - -	
FH	351.0	HOSE STREAM	55.1	300.0	
H1	351.0	- - - -	64.7	- - -	
H2	351.0	- - - -	64.7	- - -	
H3	351.0	- - - -	64.7	- - -	
H4	351.0	- - - -	64.7	- - -	
H5	351.0	- - - -	64.7	- - -	
H6	351.0	- - - -	64.7	- - -	
H7	351.0	- - - -	64.7	- - -	
H8	351.0	- - - -	64.7	- - -	
H9	351.0	- - - -	64.7	- - -	
SOURCE	351.0	SOURCE	71.9	300.0	

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JOB TITLE:

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.9	300.0	E	12.000	----	0.00		0.0	
SF	351.0	71.9	300.0		11.938		1.00	0.000	0.0	
Pipe: 1A			200.8	D1	Fixed Pressure Loss Device					
SF	351.0	71.9	99.2	H1	7.2 psi, 300.0 gpm					
E	351.0	64.7	300.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.7	99.2	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.7	99.2		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	30.7	H4			195.00	140	0.0	
H1	351.0	64.7	68.5	H2	10.000	----	0.00		0.0	
1	351.0	64.7	99.2		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.7	68.5	2	10.000	----	0.00		0.0	
H2	351.0	64.7	68.5		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.7	68.5	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.7	68.5		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.7	68.5	F13	10.000	----	0.00		0.0	
3	351.0	64.7	68.5		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.7	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.7	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.7	68.5	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.7	68.5		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.7	91.2	F13B	10.000	----	0.00		0.0	
F13	351.0	64.7	91.2		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.7	91.2	F13	10.000	----	0.00		0.0	
D23	351.0	64.7	91.2		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	91.2	D23			60.00	140	0.0	
5	351.0	64.7	-60.5	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.7	30.7		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.7	30.7	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.7	30.7		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag Frm Node El (ft) To Node El (ft)	K-fac PT PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A	0.0	0.0				210.00	140	0.0	
1 351.0	64.7	30.7	5	10.000	2L:42.6	49.21		0.0	
H4 351.0	64.7	30.7		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13	0.0	0.0				60.00	140	0.0	
H5 351.0	64.7	0.0		6.000	----	0.00		0.0	
5 351.0	64.7	0.0		6.065		60.00	0.000	0.0	
Pipe: 14	0.0	91.2	D23			195.00	140	0.0	
H6 351.0	64.7	-30.7	D23	10.000	----	0.00		0.0	
4 351.0	64.7	60.5		10.020		195.00	0.000	0.0	
Pipe: 15	0.0	0.0				210.00	140	0.0	
H7 351.0	64.7	60.5	4	10.000	G: 6.6	6.65		0.0	
H6 351.0	64.7	60.5		10.020		216.65	0.000	0.0	
Pipe: 16	0.0	0.0				64.00	140	0.0	
6 351.0	64.7	60.5	H6	10.000	----	0.00		0.0	
H7 351.0	64.7	60.5		10.020		64.00	0.000	0.0	
Pipe: 17	0.0	0.0			E:35.9	80.00	140	0.0	
H8 351.0	64.7	60.5	H7	12.000	T:79.8	123.69		0.0	
6 351.0	64.7	60.5		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18	0.0	0.0				165.00	140	0.0	
H9 351.0	64.7	60.5	6	12.000	G: 8.0	7.98		0.0	
H8 351.0	64.7	60.5		11.938		172.98	0.000	0.0	
Pipe: 19	0.0	0.0				105.00	140	0.0	
F1 351.0	64.7	60.5	H8	12.000	----	0.00		0.0	
H9 351.0	64.7	60.5		11.938		105.00	0.000	0.0	
Pipe: 20	0.0	0.0	D1B			215.00	140	0.0	
E 351.0	64.7	200.8	F1	12.000	----	0.00		0.0	
D1 351.0	64.7	200.8		11.938		215.00	0.000	0.0	
Pipe: 21	0.0	60.5	H9			12.00	140	0.0	
D1 351.0	64.7	140.3	F1B	20.000	----	0.00		0.0	
F1 351.0	64.7	200.8		23.000		12.00	0.000	0.0	
Pipe: 21A	0.0	Fixed Pressure Loss Device							
D1 351.0	64.7	0.0		8.0 psi,	0.0 gpm				
D1B 351.0	64.7	0.0							
Pipe: 22	0.0	0.0			T:39.9	80.00	140	0.0	
D1B 351.0	64.7	0.0		6.000	C:42.6	86.45		0.0	
D2 351.0	64.7	0.0		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23	0.0	0.0				275.00	140	0.0	
D3 351.0	64.7	0.0		3.000	T:19.9	21.28		0.0	
D2 351.0	64.7	0.0		3.068	G: 1.3	296.28	0.000	0.0	

DATE: 1/8/2020Desktop\TEC Projects\Dublin High School\Fire Building H.sdf
JOB TITLE:

Pipe Tag Frm Node El (ft) To Node El (ft)	K-fac PT PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 24	0.0	0.0				84.00	140	0.0	
DB 351.0	64.7	0.0		2.000	2E:13.3	13.30		0.0	
D3 351.0	64.7	0.0		2.067		97.30	0.000	0.0	
Pipe: 25	0.0	0.0				54.00	140	0.0	
D2 351.0	64.7	0.0		6.000	T:39.9	43.89		0.0	
D4 351.0	64.7	0.0		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26	0.0	0.0				39.00	140	0.0	
D5 351.0	64.7	0.0		6.000	----	0.00		0.0	
D4 351.0	64.7	0.0		6.065		39.00	0.000	0.0	
Pipe: 27	0.0	0.0			E:18.6	242.00	140	0.0	
D4 351.0	64.7	0.0		6.000	L:12.0	34.58		0.0	
D6 351.0	64.7	0.0		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28	0.0	0.0			2ETLG	80.00	140	0.0	
D7 351.0	64.7	0.0		2.000		31.92		0.0	
D6 351.0	64.7	0.0		2.067		111.92	0.000	0.0	
Pipe: 29	0.0	0.0			E: 6.6	10.00	140	0.0	
DAA 351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D7 351.0	64.7	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30	0.0	0.0			E: 6.6	84.00	140	0.0	
DD 351.0	64.7	0.0		2.000	L: 4.0	11.97		0.0	
D7 351.0	64.7	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31	0.0	0.0				32.00	140	0.0	
DA 351.0	64.7	0.0		4.000	2E:26.6	29.26		0.0	
D5 351.0	64.7	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32	0.0	0.0				160.00	140	0.0	
D6 351.0	64.7	0.0		6.000	L:12.0	15.96		0.0	
D8 351.0	64.7	0.0		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33	0.0	0.0			E: 9.3	40.00	140	0.0	
DM 351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D8 351.0	64.7	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35	0.0	0.0				70.00	140	0.0	
D8 351.0	64.7	0.0		6.000	----	0.00		0.0	
D10 351.0	64.7	0.0		6.065		70.00	0.000	0.0	
Pipe: 36	0.0	0.0			T:26.6	160.00	140	0.0	
D11 351.0	64.7	0.0		4.000	2L:16.0	45.22		0.0	
D10 351.0	64.7	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37	0.0	0.0			E: 6.6	40.00	140	0.0	
D12 351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D11 351.0	64.7	0.0		2.067	G: 1.3	61.28	0.000	0.0	

DATE: 1/8/2020Desktop\TEC Projects\Dublin High School\Fire Building H.sdf
JOB TITLE:

Pipe Tag Frm Node El (ft) To Node El (ft)	K-fac PT PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 38	0.0	0.0				10.00	140	0.0	
DE 351.0	64.7	0.0		2.000	E: 6.6	6.65		0.0	
D12 351.0	64.7	0.0		2.067		16.65	0.000	0.0	
Pipe: 39	0.0	0.0				195.00	140	0.0	
D13 351.0	64.7	0.0		3.000	----	0.00		0.0	
D11 351.0	64.7	0.0		3.068		195.00	0.000	0.0	
Pipe: 40	0.0	0.0			E: 9.3	15.00	140	0.0	
DC 351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D13 351.0	64.7	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41	0.0	0.0				110.00	140	0.0	
D10 351.0	64.7	0.0		6.000	L:12.0	15.96		0.0	
D14 351.0	64.7	0.0		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42	0.0	0.0			E: 9.3	30.00	140	0.0	
DL 351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D14 351.0	64.7	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43	0.0	0.0				30.00	140	0.0	
D14 351.0	64.7	0.0		6.000	----	0.00		0.0	
D16 351.0	64.7	0.0		6.065		30.00	0.000	0.0	
Pipe: 44	0.0	0.0			E:13.3	65.00	140	0.0	
DF 351.0	64.7	0.0		4.000	T:26.6	42.56		0.0	
D16 351.0	64.7	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45	0.0	0.0				155.00	140	0.0	
D16 351.0	64.7	0.0		6.000	----	0.00		0.0	
D18 351.0	64.7	0.0		6.065		155.00	0.000	0.0	
Pipe: 46	0.0	0.0			E:13.3	60.00	140	0.0	
DG 351.0	64.7	0.0		4.000	T:26.6	42.56		0.0	
D18 351.0	64.7	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47	0.0	0.0				65.00	140	0.0	
D18 351.0	64.7	0.0		6.000	----	0.00		0.0	
D20 351.0	64.7	0.0		6.065		65.00	0.000	0.0	
Pipe: 48	0.0	0.0				190.00	140	0.0	
D20 351.0	64.7	0.0		6.000	T:39.9	43.89		0.0	
D21 351.0	64.7	0.0		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49	0.0	0.0			E: 6.6	35.00	140	0.0	
DK 351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D21 351.0	64.7	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A		0.0	Fixed Pressure Loss Device						
D23B 351.0	64.7	0.0		8.0 psi,	0.0 gpm				
D23 351.0	64.7	0.0							

DATE: 1/8/2020Desktop\TEC Projects\Dublin High School\Fire Building H.sdf
JOB TITLE:

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.7	0.0		6.000		105.07		0.0	
D23B	351.0	64.7	0.0		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.7	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.7	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.7	0.0		3.000		37.24		0.0	
D24	351.0	64.7	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.7	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.7	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.7	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.7	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.7	140.3	F2	5.0 psi, 140.3 gpm					
F1B	351.0	59.7	140.3							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.1	
F1B	351.0	59.7	140.3	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	59.6	140.3		7.981	2G:10.6	298.59	0.000	0.1	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	59.6	0.0		8.000	----	0.00		0.0	
F2	351.0	59.6	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	59.6	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	59.6	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.0	
F2	351.0	59.6	140.3	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	59.6	140.3		7.981	G: 5.3	256.55	0.000	0.0	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	59.6	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.0	
F4	351.0	59.6	140.3	F7	8.000	2L:42.6	49.21		0.0	
F5	351.0	59.6	140.3		7.981	G: 6.6	229.21	0.000	0.0	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	59.6	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch		(ft.)	T		(Pf)	
Pipe: 67		0.0	0.0				30.00	140	0.0	
F5	351.0	59.6	140.3	F9	8.000	----	0.00		0.0	
F7	351.0	59.6	140.3		7.981		30.00	0.000	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	59.6	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	59.6	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.0	
F7	351.0	59.6	140.3	F11	8.000	2L:34.6	39.90		0.0	
F9	351.0	59.5	140.3		7.981	G: 5.3	194.90	0.000	0.0	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	59.5	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	59.5	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	300.0	F15			65.00	140	0.0	
F9	351.0	59.5	-159.7	F12	8.000	2G:10.6	10.64		0.0	
F11	351.0	59.5	140.3		7.981		75.64	0.000	0.0	
Pipe: 73		0.0	300.0	F15			190.00	140	0.1	
F12	351.0	59.6	-140.3	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	59.5	159.7		7.981	G: 5.3	241.87	0.000	0.1	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	59.6	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	59.6	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.7	159.7	F12		5.0 psi, 159.7 gpm				
F13B	351.0	59.7	159.7							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.1	
F13B	351.0	59.7	159.7	F11	8.000		135.66		0.0	
F12	351.0	59.6	159.7		7.981		400.66	0.000	0.1	
Pipe: 76		0.0	0.0				80.00	140	0.1	
F11	351.0	59.5	300.0	F16	8.000	L:17.3	17.29		0.0	
F15	351.0	59.4	300.0		7.981		97.29	0.001	0.1	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	59.4	0.0		6.000		74.48		0.0	
F15	351.0	59.4	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	2.9	
F15	351.0	59.4	300.0	FH	4.000	L: 8.0	10.64		0.0	
F16	351.0	56.5	300.0		4.026	G: 2.7	140.64	0.021	2.9	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		H.S.	300.0	Disch			35.00	140	1.3	
F16	351.0	56.5	0.0		4.000	2E:26.6	29.26		0.0	
FH	351.0	55.1	300.0		4.026	G: 2.7	64.26	0.021	1.3	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.003 gpm and a maximum
imbalance at any node of 0.119 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.6 ft/sec at pipe 79.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.88 psi with a flow of 300.00 gpm.

(6) PIPE FITTINGS TABLE

HASS Pipe Table Name: standard.pip

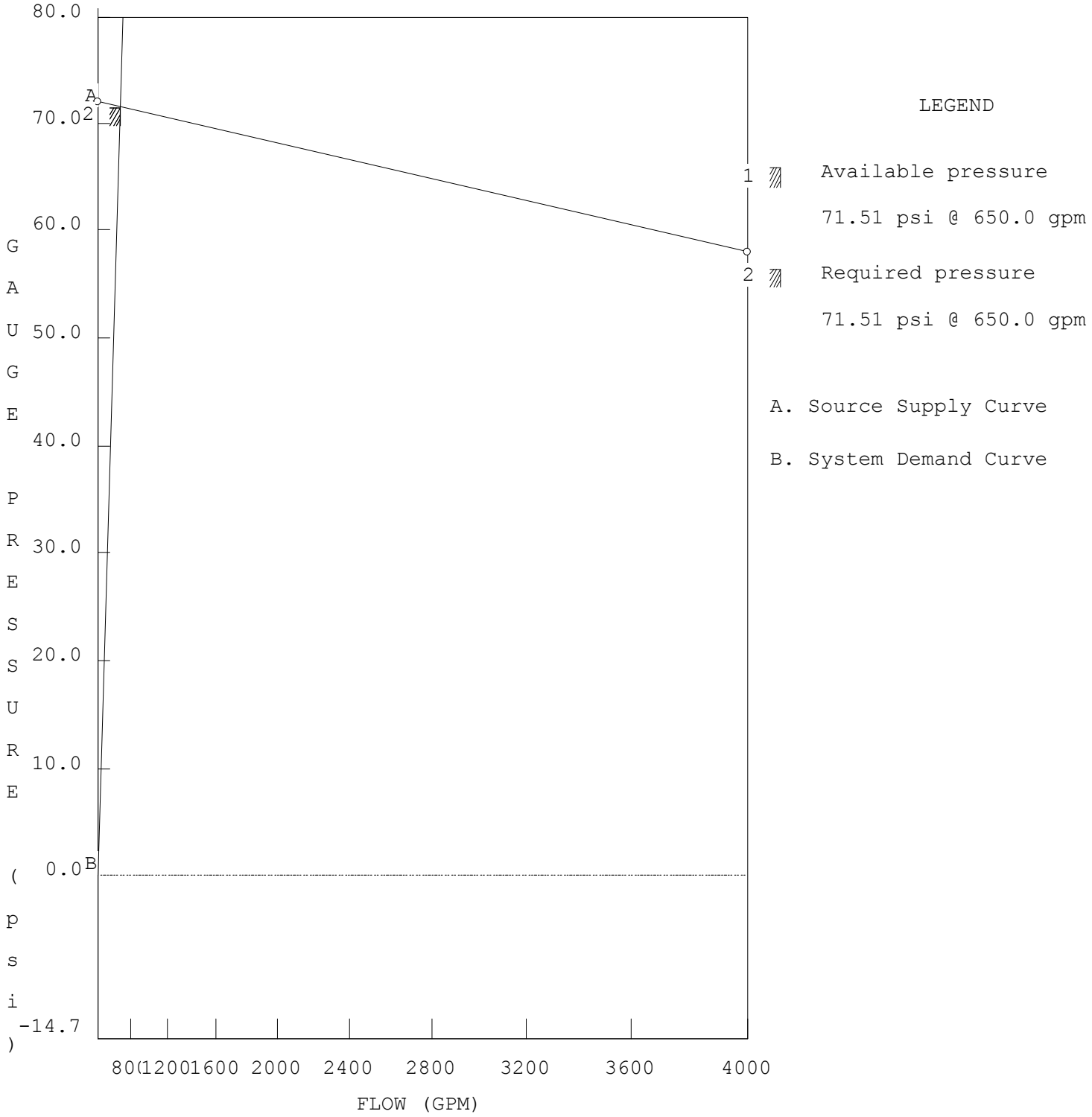
PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING J.SDF
JOB TITLE:

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING J.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.2	- - -	
2	351.0	- - - -	64.2	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.2	- - -	
5	351.0	- - - -	64.2	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.2	- - -	
D2	351.0	- - - -	64.2	- - -	
D3	351.0	- - - -	64.2	- - -	
DB	351.0	- - - -	64.2	- - -	
D4	351.0	- - - -	64.2	- - -	
D5	351.0	- - - -	64.2	- - -	
DA	351.0	- - - -	64.2	- - -	
D6	351.0	- - - -	64.2	- - -	
DD	351.0	- - - -	64.2	- - -	
D7	351.0	- - - -	64.2	- - -	
DAA	351.0	- - - -	64.2	- - -	
D8	351.0	- - - -	64.2	- - -	
DM	351.0	- - - -	64.2	- - -	
D10	351.0	- - - -	64.2	- - -	
D11	351.0	- - - -	64.2	- - -	
D12	351.0	- - - -	64.2	- - -	
DE	351.0	- - - -	64.2	- - -	
D13	351.0	- - - -	64.2	- - -	
DC	351.0	- - - -	64.2	- - -	
D14	351.0	- - - -	64.2	- - -	
DL	351.0	- - - -	64.2	- - -	
D16	351.0	- - - -	64.2	- - -	
DF	351.0	- - - -	64.2	- - -	
D18	351.0	- - - -	64.2	- - -	
DG	351.0	- - - -	64.2	- - -	
D20	351.0	- - - -	64.2	- - -	
D21	351.0	- - - -	64.2	- - -	

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.2	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.2	- - -	
D24	351.0	- - - -	64.2	- - -	
D25	351.0	- - - -	64.2	- - -	
DH	351.0	- - - -	64.2	- - -	
DJ	351.0	- - - -	64.2	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	59.0	- - -	
F3	351.0	- - - -	59.0	- - -	
FA	351.0	- - - -	59.0	- - -	
F4	351.0	- - - -	58.8	- - -	
FM	351.0	- - - -	58.8	- - -	
F5	351.0	- - - -	58.8	- - -	
FL	351.0	- - - -	58.8	- - -	
F7	351.0	- - - -	58.8	- - -	
FF	351.0	- - - -	58.8	- - -	
F9	351.0	- - - -	58.6	- - -	
FG	351.0	- - - -	58.6	- - -	
F11	351.0	- - - -	58.6	- - -	
F12	351.0	- - - -	58.8	- - -	
FK	351.0	- - - -	58.8	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	58.3	- - -	
FJ	351.0	HOSE STREAM	56.4	650.0	
F16	351.0	- - - -	58.3	- - -	
FH	351.0	- - - -	58.3	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.2	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.2	- - -	
H5	351.0	- - - -	64.2	- - -	
H6	351.0	- - - -	64.2	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING J.SDF
JOB TITLE:

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			435.1	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	214.9	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	214.9	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	214.9		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	66.6	H4			195.00	140	0.0	
H1	351.0	64.3	148.3	H2	10.000	----	0.00		0.0	
1	351.0	64.2	214.9		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.2	148.3	2	10.000	----	0.00		0.0	
H2	351.0	64.2	148.3		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.2	148.3	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.2	148.3		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.2	148.3	F13	10.000	----	0.00		0.0	
3	351.0	64.2	148.3		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	148.3	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	148.3		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	197.7	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	197.7		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.1	
4	351.0	64.2	197.7	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	197.7		10.020		450.00	0.000	0.1	
Pipe: 11		0.0	197.7	D23			60.00	140	0.0	
5	351.0	64.2	-131.1	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.2	66.6		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.2	66.6	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.2	66.6		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.2	66.6	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.2	66.6		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.2	0.0		6.000	----	0.00		0.0	
5	351.0	64.2	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	197.7	D23			195.00	140	0.0	
H6	351.0	64.2	-66.6	D23	10.000	----	0.00		0.0	
4	351.0	64.2	131.1		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	131.1	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.2	131.1		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	131.1	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	131.1		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	131.1	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	131.1		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	131.1	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	131.1		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	131.1	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	131.1		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.0	
E	351.0	64.3	435.1	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	435.1		11.938		215.00	0.000	0.0	
Pipe: 21		0.0	131.1	H9			12.00	140	0.0	
D1	351.0	64.3	304.0	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	435.1		23.000		12.00	0.000	0.0	
case1										
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.2	D2	8.0 psi,	0.0 gpm				
D1B	351.0	64.2	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.2	0.2	D4	6.000	C:42.6	86.45		0.0	
D2	351.0	64.2	0.2		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.2	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.2	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.2	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.2	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.2	0.3	D6	6.000	T:39.9	43.89		0.0	
D4	351.0	64.2	0.3		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.2	0.0		6.000	----	0.00		0.0	
D4	351.0	64.2	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.2	0.2	D8	6.000	L:12.0	34.58		0.0	
D6	351.0	64.2	0.2		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.2	0.0		2.000		31.92		0.0	
D6	351.0	64.2	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.2	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.2	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.2	0.2	D10	6.000	L:12.0	15.96		0.0	
D8	351.0	64.2	0.2		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.2	0.0	D10	3.000	T:19.9	30.59		0.0	
D8	351.0	64.2	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.2	0.3	D14	6.000	----	0.00		0.0	
D10	351.0	64.2	0.3		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.2	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.2	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.2	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)	
Pipe: 38		0.0	0.0				10.00	140	0.0	
DE	351.0	64.2	0.0		2.000	E: 6.6	6.65		0.0	
D12	351.0	64.2	0.0		2.067		16.65	0.000	0.0	
Pipe: 39		0.0	0.0				195.00	140	0.0	
D13	351.0	64.2	0.0		3.000	----	0.00		0.0	
D11	351.0	64.2	0.0		3.068		195.00	0.000	0.0	
Pipe: 40		0.0	0.0			E: 9.3	15.00	140	0.0	
DC	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D13	351.0	64.2	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41		0.0	0.0				110.00	140	0.0	
D10	351.0	64.2	0.2	D16	6.000	L:12.0	15.96		0.0	
D14	351.0	64.2	0.2		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42		0.0	0.0			E: 9.3	30.00	140	0.0	
DL	351.0	64.2	0.0	D16	3.000	T:19.9	30.59		0.0	
D14	351.0	64.2	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43		0.0	0.0				30.00	140	0.0	
D14	351.0	64.2	0.5	D18	6.000	----	0.00		0.0	
D16	351.0	64.2	0.5		6.065		30.00	0.000	0.0	
Pipe: 44		0.0	0.0			E:13.3	65.00	140	0.0	
DF	351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D16	351.0	64.2	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45		0.0	0.0				155.00	140	0.0	
D16	351.0	64.2	0.2	D20	6.000	----	0.00		0.0	
D18	351.0	64.2	0.2		6.065		155.00	0.000	0.0	
Pipe: 46		0.0	0.0			E:13.3	60.00	140	0.0	
DG	351.0	64.2	0.0	D20	4.000	T:26.6	42.56		0.0	
D18	351.0	64.2	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47		0.0	0.0				65.00	140	0.0	
D18	351.0	64.2	0.3	D21	6.000	----	0.00		0.0	
D20	351.0	64.2	0.3		6.065		65.00	0.000	0.0	
Pipe: 48		0.0	0.0				190.00	140	0.0	
D20	351.0	64.2	0.2	D23B	6.000	T:39.9	43.89		0.0	
D21	351.0	64.2	0.2		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49		0.0	0.0			E: 6.6	35.00	140	0.0	
DK	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D21	351.0	64.2	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23B	351.0	64.2	0.0		8.0 psi,	0.0 gpm				
D23	351.0	64.2	0.0							

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.2	0.2	D23	6.000		105.07		0.0	
D23B	351.0	64.2	0.2		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.2	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.2	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.2	0.0		3.000		37.24		0.0	
D24	351.0	64.2	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.2	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.2	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.2	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	304.0	F2	5.0 psi, 304.0 gpm					
F1B	351.0	59.3	304.0							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.2	
F1B	351.0	59.3	304.0	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	59.0	304.0		7.981	2G:10.6	298.59	0.001	0.2	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	59.0	0.0		8.000	----	0.00		0.0	
F2	351.0	59.0	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	59.0	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	59.0	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.2	
F2	351.0	59.0	304.0	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	58.8	304.0		7.981	G: 5.3	256.55	0.001	0.2	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	58.8	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.1	
F4	351.0	58.8	304.0	F7	8.000	2L:42.6	49.21		0.0	
F5	351.0	58.8	304.0		7.981	G: 6.6	229.21	0.000	0.1	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.8	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch		(ft.)	T	Pf/ft.	(Pf)	
Pipe: 67		0.0	0.0				30.00	140	0.0	
F5	351.0	58.8	304.0	F9	8.000	----	0.00		0.0	
F7	351.0	58.8	304.0		7.981		30.00	0.001	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.8	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	58.8	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.1	
F7	351.0	58.8	304.0	F11	8.000	2L:34.6	39.90		0.0	
F9	351.0	58.6	304.0		7.981	G: 5.3	194.90	0.001	0.1	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	58.6	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	650.0	F15			65.00	140	0.1	
F9	351.0	58.6	-346.0	F12	8.000	2G:10.6	10.64		0.0	
F11	351.0	58.6	304.0		7.981		75.64	0.001	0.1	
Pipe: 73		0.0	650.0	F15			190.00	140	0.2	
F12	351.0	58.8	-304.0	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	58.6	346.0		7.981	G: 5.3	241.87	0.001	0.2	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	58.8	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	58.8	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	346.0	F12		5.0 psi, 346.0 gpm				
F13B	351.0	59.2	346.0							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.4	
F13B	351.0	59.2	346.0	F11	8.000		135.66		0.0	
F12	351.0	58.8	346.0		7.981		400.66	0.001	0.4	
Pipe: 76		0.0	0.0				80.00	140	0.3	
F11	351.0	58.6	650.0	FJ	8.000	L:17.3	17.29		0.0	
F15	351.0	58.3	650.0		7.981		97.29	0.003	0.3	
Pipe: 77		H.S.	650.0	Disch		ETLG	85.00	140	1.9	
F15	351.0	58.3	0.0		6.000		74.48		0.0	
FJ	351.0	56.4	650.0		6.065		159.48	0.012	1.9	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	58.3	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	58.3	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	58.3	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	58.3	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.007 gpm and a maximum
imbalance at any node of 0.159 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.2 ft/sec at pipe 77.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 649.98 gpm.

(6) PIPE FITTINGS TABLE

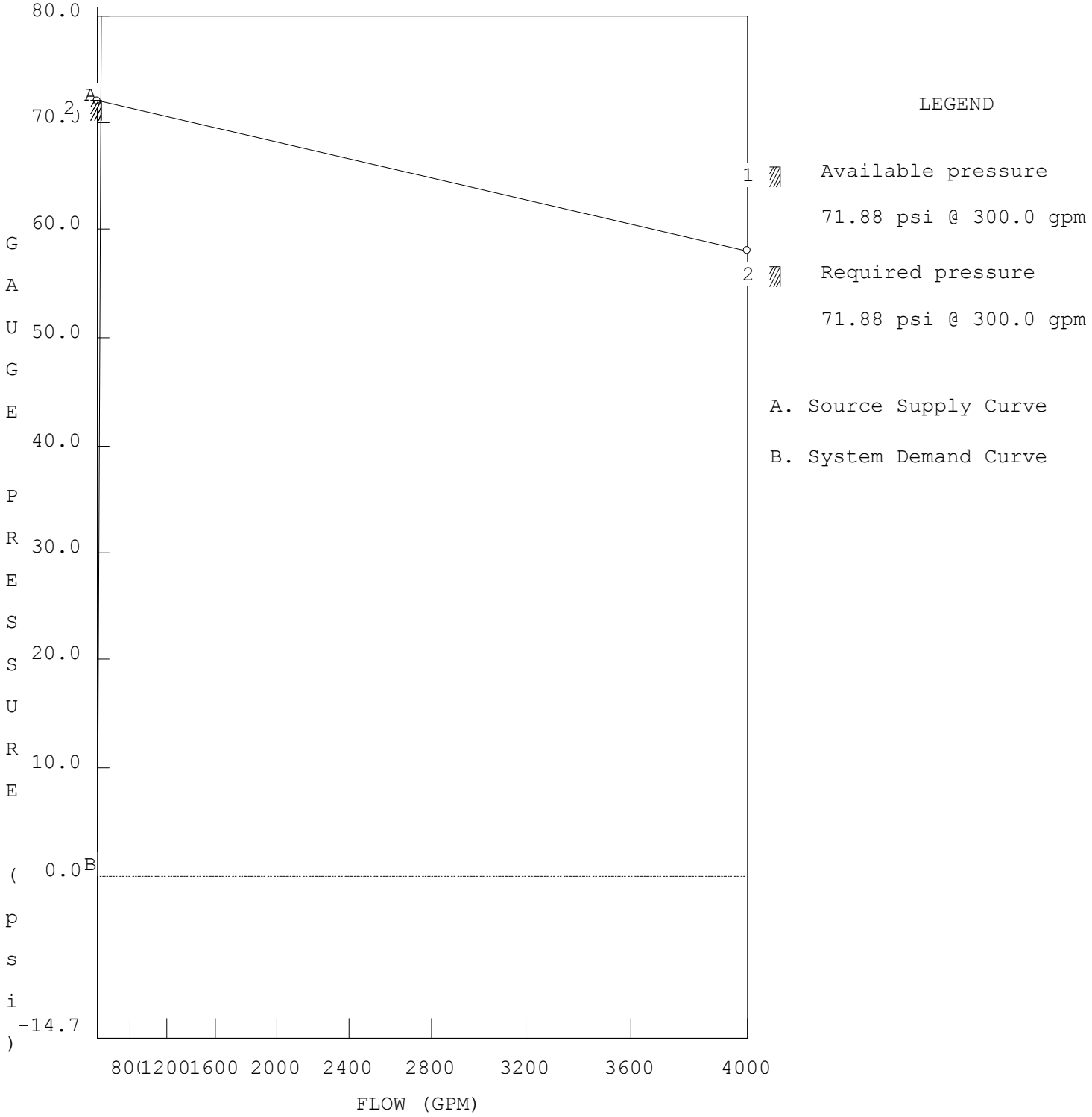
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING K.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.9	300.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	300.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	300.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.9	- - -	
E	351.0	- - - -	64.7	- - -	
1	351.0	- - - -	64.7	- - -	
2	351.0	- - - -	64.7	- - -	
3	351.0	- - - -	64.6	- - -	
4	351.0	- - - -	64.7	- - -	
5	351.0	- - - -	64.7	- - -	
6	351.0	- - - -	64.7	- - -	
D1	351.0	- - - -	64.7	- - -	
D1B	351.0	- - - -	64.7	- - -	
D2	351.0	- - - -	64.7	- - -	
D3	351.0	- - - -	64.7	- - -	
DB	351.0	- - - -	64.7	- - -	
D4	351.0	- - - -	64.7	- - -	
D5	351.0	- - - -	64.7	- - -	
DA	351.0	- - - -	64.7	- - -	
D6	351.0	- - - -	64.7	- - -	
DD	351.0	- - - -	64.7	- - -	
D7	351.0	- - - -	64.7	- - -	
DAA	351.0	- - - -	64.7	- - -	
D8	351.0	- - - -	64.7	- - -	
DM	351.0	- - - -	64.7	- - -	
D10	351.0	- - - -	64.7	- - -	
D11	351.0	- - - -	64.7	- - -	
D12	351.0	- - - -	64.7	- - -	
DE	351.0	- - - -	64.7	- - -	
D13	351.0	- - - -	64.7	- - -	
DC	351.0	- - - -	64.7	- - -	
D14	351.0	- - - -	64.7	- - -	
DL	351.0	- - - -	64.7	- - -	
D16	351.0	- - - -	64.7	- - -	
DF	351.0	- - - -	64.7	- - -	
D18	351.0	- - - -	64.7	- - -	
DG	351.0	- - - -	64.7	- - -	
D20	351.0	- - - -	64.7	- - -	
D21	351.0	- - - -	64.7	- - -	

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.7	- - -	
D23	351.0	- - - -	64.6	- - -	
D23B	351.0	- - - -	64.7	- - -	
D24	351.0	- - - -	64.7	- - -	
D25	351.0	- - - -	64.7	- - -	
DH	351.0	- - - -	64.7	- - -	
DJ	351.0	- - - -	64.7	- - -	
F1	351.0	- - - -	64.7	- - -	
F1B	351.0	- - - -	59.7	- - -	
F2	351.0	- - - -	59.6	- - -	
F3	351.0	- - - -	59.6	- - -	
FA	351.0	- - - -	59.6	- - -	
F4	351.0	- - - -	59.6	- - -	
FM	351.0	- - - -	59.6	- - -	
F5	351.0	- - - -	59.6	- - -	
FL	351.0	- - - -	59.6	- - -	
F7	351.0	- - - -	59.6	- - -	
FF	351.0	- - - -	59.6	- - -	
F9	351.0	- - - -	59.6	- - -	
FG	351.0	- - - -	59.6	- - -	
F11	351.0	- - - -	59.6	- - -	
F12	351.0	- - - -	59.5	- - -	
FK	351.0	HOSE STREAM	58.0	300.0	
F13	351.0	- - - -	64.6	- - -	
F13B	351.0	- - - -	59.6	- - -	
F15	351.0	- - - -	59.6	- - -	
FJ	351.0	- - - -	59.6	- - -	
F16	351.0	- - - -	59.6	- - -	
FH	351.0	- - - -	59.6	- - -	
H1	351.0	- - - -	64.7	- - -	
H2	351.0	- - - -	64.7	- - -	
H3	351.0	- - - -	64.6	- - -	
H4	351.0	- - - -	64.7	- - -	
H5	351.0	- - - -	64.7	- - -	
H6	351.0	- - - -	64.7	- - -	
H7	351.0	- - - -	64.7	- - -	
H8	351.0	- - - -	64.7	- - -	
H9	351.0	- - - -	64.7	- - -	
SOURCE	351.0	SOURCE	71.9	300.0	

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.9	300.0	E	12.000	----	0.00		0.0	
SF	351.0	71.9	300.0		11.938		1.00	0.000	0.0	
Pipe: 1A			190.9	D1	Fixed Pressure Loss Device					
SF	351.0	71.9	109.1	H1	7.2 psi, 300.0 gpm					
E	351.0	64.7	300.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.7	109.1	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.7	109.1		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	31.1	H4			195.00	140	0.0	
H1	351.0	64.7	78.0	H2	10.000	----	0.00		0.0	
1	351.0	64.7	109.1		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.7	78.0	2	10.000	----	0.00		0.0	
H2	351.0	64.7	78.0		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.7	78.0	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.7	78.0		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.7	78.0	F13	10.000	----	0.00		0.0	
3	351.0	64.6	78.0		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.6	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.6	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.6	78.0	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.6	78.0		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.6	106.2	F13B	10.000	----	0.00		0.0	
F13	351.0	64.6	106.2		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.7	106.2	F13	10.000	----	0.00		0.0	
D23	351.0	64.6	106.2		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	106.2	D23			60.00	140	0.0	
5	351.0	64.7	-75.1	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.7	31.1		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.7	31.1	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.7	31.1		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.7	31.1	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.7	31.1		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.7	0.0		6.000	----	0.00		0.0	
5	351.0	64.7	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	106.2	D23			195.00	140	0.0	
H6	351.0	64.7	-31.1	D23	10.000	----	0.00		0.0	
4	351.0	64.7	75.1		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.7	75.1	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.7	75.1		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.7	75.1	H6	10.000	----	0.00		0.0	
H7	351.0	64.7	75.1		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.7	75.1	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.7	75.1		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.7	75.1	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.7	75.1		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.7	75.1	H8	12.000	----	0.00		0.0	
H9	351.0	64.7	75.1		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.0	
E	351.0	64.7	190.9	F1	12.000	----	0.00		0.0	
D1	351.0	64.7	190.9		11.938		215.00	0.000	0.0	
Pipe: 21		0.0	75.1	H9			12.00	140	0.0	
D1	351.0	64.7	115.8	F1B	20.000	----	0.00		0.0	
F1	351.0	64.7	190.9		23.000		12.00	0.000	0.0	
case1										
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.7	0.1	D2	8.0 psi,	0.0 gpm				
D1B	351.0	64.7	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.7	0.1	D4	6.000	C:42.6	86.45		0.0	
D2	351.0	64.7	0.1		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.7	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.7	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node / Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) / (Pe) / (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.7	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.7	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.7	0.1	D6	6.000	T:39.9	43.89		0.0	
D4	351.0	64.7	0.1		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.7	0.0		6.000	----	0.00		0.0	
D4	351.0	64.7	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.7	0.1	D8	6.000	L:12.0	34.58		0.0	
D6	351.0	64.7	0.1		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.7	0.0		2.000		31.92		0.0	
D6	351.0	64.7	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.7	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.7	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.7	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.7	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.7	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.7	0.1	D10	6.000	L:12.0	15.96		0.0	
D8	351.0	64.7	0.1		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.7	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.7	0.1	D14	6.000	----	0.00		0.0	
D10	351.0	64.7	0.1		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.7	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.7	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.7	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch		(ft.)	T		(Pf)	
Pipe: 38		0.0	0.0				10.00	140	0.0	
DE	351.0	64.7	0.0		2.000	E: 6.6	6.65		0.0	
D12	351.0	64.7	0.0		2.067		16.65	0.000	0.0	
Pipe: 39		0.0	0.0				195.00	140	0.0	
D13	351.0	64.7	0.0		3.000	----	0.00		0.0	
D11	351.0	64.7	0.0		3.068		195.00	0.000	0.0	
Pipe: 40		0.0	0.0			E: 9.3	15.00	140	0.0	
DC	351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D13	351.0	64.7	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41		0.0	0.0				110.00	140	0.0	
D10	351.0	64.7	0.1	D16	6.000	L:12.0	15.96		0.0	
D14	351.0	64.7	0.1		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42		0.0	0.0			E: 9.3	30.00	140	0.0	
DL	351.0	64.7	0.0		3.000	T:19.9	30.59		0.0	
D14	351.0	64.7	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43		0.0	0.0				30.00	140	0.0	
D14	351.0	64.7	0.1	D18	6.000	----	0.00		0.0	
D16	351.0	64.7	0.1		6.065		30.00	0.000	0.0	
Pipe: 44		0.0	0.0			E:13.3	65.00	140	0.0	
DF	351.0	64.7	0.0		4.000	T:26.6	42.56		0.0	
D16	351.0	64.7	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45		0.0	0.0				155.00	140	0.0	
D16	351.0	64.7	0.1	D20	6.000	----	0.00		0.0	
D18	351.0	64.7	0.1		6.065		155.00	0.000	0.0	
Pipe: 46		0.0	0.0			E:13.3	60.00	140	0.0	
DG	351.0	64.7	0.0		4.000	T:26.6	42.56		0.0	
D18	351.0	64.7	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47		0.0	0.0				65.00	140	0.0	
D18	351.0	64.7	0.1	D21	6.000	----	0.00		0.0	
D20	351.0	64.7	0.1		6.065		65.00	0.000	0.0	
Pipe: 48		0.0	0.0				190.00	140	0.0	
D20	351.0	64.7	0.1	D23B	6.000	T:39.9	43.89		0.0	
D21	351.0	64.7	0.1		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49		0.0	0.0			E: 6.6	35.00	140	0.0	
DK	351.0	64.7	0.0		2.000	T:13.3	21.28		0.0	
D21	351.0	64.7	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23B	351.0	64.7	0.0		8.0 psi,	0.0 gpm				
D23	351.0	64.6	0.0							

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Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.7	0.1	D23	6.000		105.07		0.0	
D23B	351.0	64.7	0.1		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.7	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.7	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.7	0.0		3.000		37.24		0.0	
D24	351.0	64.7	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.7	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.7	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.7	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.7	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.7	115.8	F2	5.0 psi, 115.8 gpm					
F1B	351.0	59.7	115.8							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.0	
F1B	351.0	59.7	115.8	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	59.6	115.8		7.981	2G:10.6	298.59	0.000	0.0	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	59.6	0.0		8.000	----	0.00		0.0	
F2	351.0	59.6	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	59.6	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	59.6	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.0	
F2	351.0	59.6	115.8	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	59.6	115.8		7.981	G: 5.3	256.55	0.000	0.0	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	59.6	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	0.0				180.00	140	0.0	
F4	351.0	59.6	115.8	F7	8.000	2L:42.6	49.21		0.0	
F5	351.0	59.6	115.8		7.981	G: 6.6	229.21	0.000	0.0	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	59.6	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	0.0				30.00	140	0.0	
F5	351.0	59.6	115.8	F9	8.000	----	0.00		0.0	
F7	351.0	59.6	115.8		7.981		30.00	0.000	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	59.6	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	59.6	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.0	
F7	351.0	59.6	115.8	F11	8.000	2L:34.6	39.90		0.0	
F9	351.0	59.6	115.8		7.981	G: 5.3	194.90	0.000	0.0	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	59.6	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	59.6	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.0	
F9	351.0	59.6	115.8	F12	8.000	2G:10.6	10.64		0.0	
F11	351.0	59.6	115.8		7.981		75.64	0.000	0.0	
Pipe: 73		0.0	300.0	FK			190.00	140	0.0	
F11	351.0	59.6	-184.2	F13B	8.000	T:46.5	51.87		0.0	
F12	351.0	59.5	115.8		7.981	G: 5.3	241.87	0.000	0.0	
Pipe: 74		H.S.	300.0	Disch		E:13.3	30.00	140	1.5	
F12	351.0	59.5	0.0		4.000	T:26.6	42.56		0.0	
FK	351.0	58.0	300.0		4.026	G: 2.7	72.56	0.021	1.5	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.6	184.2	F12		5.0 psi, 184.2 gpm				
F13B	351.0	59.6	184.2							
Pipe: 75		0.0	300.0	FK		ETCG	265.00	140	0.1	
F13B	351.0	59.6	-115.8	F11	8.000		135.66		0.0	
F12	351.0	59.5	184.2		7.981		400.66	0.000	0.1	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	59.6	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	59.6	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	59.6	0.0		6.000		74.48		0.0	
F15	351.0	59.6	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	59.6	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	59.6	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	59.6	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	59.6	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.005 gpm and a maximum
imbalance at any node of 0.190 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.6 ft/sec at pipe 74.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.88 psi with a flow of 300.00 gpm.

(6) PIPE FITTINGS TABLE

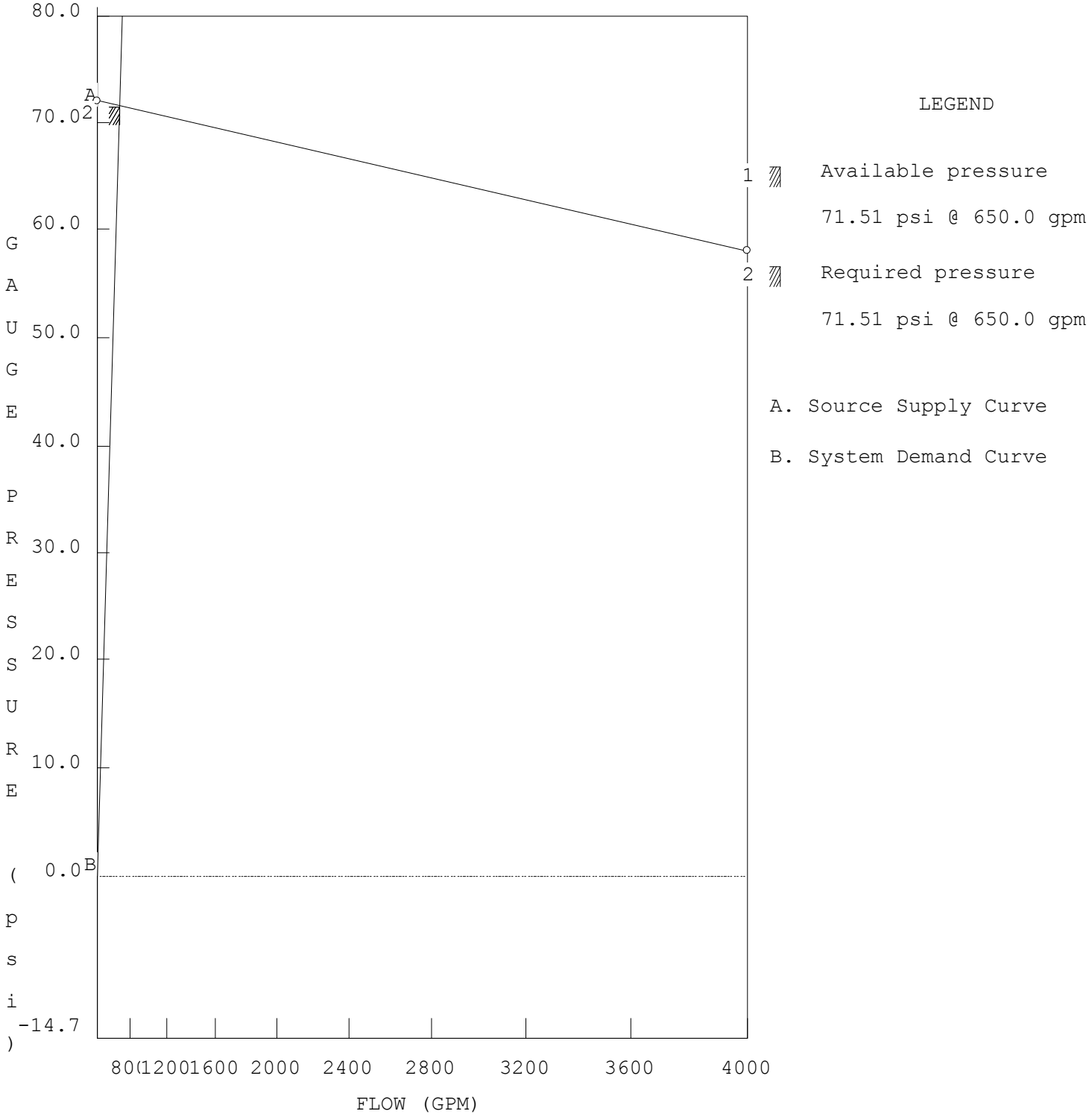
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F								
	F45Ell								
23.000	111.72	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07
	55.86								

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

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JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.3	- - -	
2	351.0	- - - -	64.2	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.2	- - -	
5	351.0	- - - -	64.2	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.2	- - -	
D2	351.0	- - - -	64.2	- - -	
D3	351.0	- - - -	64.2	- - -	
DB	351.0	- - - -	64.2	- - -	
D4	351.0	- - - -	64.2	- - -	
D5	351.0	- - - -	64.2	- - -	
DA	351.0	- - - -	64.2	- - -	
D6	351.0	- - - -	64.2	- - -	
DD	351.0	- - - -	64.2	- - -	
D7	351.0	- - - -	64.2	- - -	
DAA	351.0	- - - -	64.2	- - -	
D8	351.0	- - - -	64.2	- - -	
DM	351.0	- - - -	64.2	- - -	
D10	351.0	- - - -	64.2	- - -	
D11	351.0	- - - -	64.2	- - -	
D12	351.0	- - - -	64.2	- - -	
DE	351.0	- - - -	64.2	- - -	
D13	351.0	- - - -	64.2	- - -	
DC	351.0	- - - -	64.2	- - -	
D14	351.0	- - - -	64.2	- - -	
DL	351.0	- - - -	64.2	- - -	
D16	351.0	- - - -	64.2	- - -	
DF	351.0	- - - -	64.2	- - -	
D18	351.0	- - - -	64.2	- - -	
DG	351.0	- - - -	64.2	- - -	
D20	351.0	- - - -	64.2	- - -	
D21	351.0	- - - -	64.2	- - -	

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JOB TITLE:

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.2	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.2	- - -	
D24	351.0	- - - -	64.2	- - -	
D25	351.0	- - - -	64.2	- - -	
DH	351.0	- - - -	64.2	- - -	
DJ	351.0	- - - -	64.2	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	58.9	- - -	
F3	351.0	- - - -	58.9	- - -	
FA	351.0	- - - -	58.9	- - -	
F4	351.0	- - - -	58.7	- - -	
FM	351.0	- - - -	58.7	- - -	
F5	351.0	- - - -	58.6	- - -	
FL	351.0	HOSE STREAM	58.3	650.0	
F7	351.0	- - - -	58.6	- - -	
FF	351.0	- - - -	58.6	- - -	
F9	351.0	- - - -	58.7	- - -	
FG	351.0	- - - -	58.7	- - -	
F11	351.0	- - - -	58.8	- - -	
F12	351.0	- - - -	58.9	- - -	
FK	351.0	- - - -	58.9	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	58.8	- - -	
FJ	351.0	- - - -	58.8	- - -	
F16	351.0	- - - -	58.8	- - -	
FH	351.0	- - - -	58.8	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.2	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.3	- - -	
H5	351.0	- - - -	64.2	- - -	
H6	351.0	- - - -	64.3	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			458.2	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	191.8	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	191.8	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	191.8		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	67.2	H4			195.00	140	0.0	
H1	351.0	64.3	124.5	H2	10.000	----	0.00		0.0	
1	351.0	64.3	191.8		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.3	124.5	2	10.000	----	0.00		0.0	
H2	351.0	64.2	124.5		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.2	124.5	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.2	124.5		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.2	124.5	F13	10.000	----	0.00		0.0	
3	351.0	64.2	124.5		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	124.5	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	124.5		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	158.3	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	158.3		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.2	158.3	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	158.3		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	158.3	D23			60.00	140	0.0	
5	351.0	64.2	-91.1	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.2	67.2		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.3	67.2	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.2	67.2		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.3	67.2	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.3	67.2		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.2	0.0		6.000	----	0.00		0.0	
5	351.0	64.2	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	158.3	D23			195.00	140	0.0	
H6	351.0	64.3	-67.2	D23	10.000	----	0.00		0.0	
4	351.0	64.2	91.1		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	91.1	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.3	91.1		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	91.1	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	91.1		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	91.1	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	91.1		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	91.1	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	91.1		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	91.1	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	91.1		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.0	
E	351.0	64.3	458.2	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	458.2		11.938		215.00	0.000	0.0	
Pipe: 21		0.0	91.1	H9			12.00	140	0.0	
D1	351.0	64.3	367.2	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	458.3		23.000		12.00	0.000	0.0	
case1										
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.1	D2	8.0 psi,	0.0 gpm				
D1B	351.0	64.2	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.2	0.1	D4	6.000	C:42.6	86.45		0.0	
D2	351.0	64.2	0.1		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.2	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.2	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.2	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.2	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.2	0.2	D6	6.000	T:39.9	43.89		0.0	
D4	351.0	64.2	0.2		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.2	0.0		6.000	----	0.00		0.0	
D4	351.0	64.2	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.2	0.0		6.000	L:12.0	34.58		0.0	
D6	351.0	64.2	0.0		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.2	0.0		2.000		31.92		0.0	
D6	351.0	64.2	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.2	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.2	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.2	0.1	D10	6.000	L:12.0	15.96		0.0	
D8	351.0	64.2	0.1		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.2	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.2	0.2	D14	6.000	----	0.00		0.0	
D10	351.0	64.2	0.2		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.2	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.2	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.2	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node El (ft) To Node El (ft)	K-fac PT PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 38	0.0	0.0				10.00	140	0.0	
DE 351.0	64.2	0.0		2.000	E: 6.6	6.65		0.0	
D12 351.0	64.2	0.0		2.067		16.65	0.000	0.0	
Pipe: 39	0.0	0.0				195.00	140	0.0	
D13 351.0	64.2	0.0		3.000	----	0.00		0.0	
D11 351.0	64.2	0.0		3.068		195.00	0.000	0.0	
Pipe: 40	0.0	0.0			E: 9.3	15.00	140	0.0	
DC 351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D13 351.0	64.2	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41	0.0	0.0				110.00	140	0.0	
D10 351.0	64.2	0.2	D16	6.000	L:12.0	15.96		0.0	
D14 351.0	64.2	0.2		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42	0.0	0.0			E: 9.3	30.00	140	0.0	
DL 351.0	64.2	0.0	D16	3.000	T:19.9	30.59		0.0	
D14 351.0	64.2	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43	0.0	0.0				30.00	140	0.0	
D14 351.0	64.2	0.4	D18	6.000	----	0.00		0.0	
D16 351.0	64.2	0.4		6.065		30.00	0.000	0.0	
Pipe: 44	0.0	0.0			E:13.3	65.00	140	0.0	
DF 351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D16 351.0	64.2	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45	0.0	0.0				155.00	140	0.0	
D16 351.0	64.2	0.1	D20	6.000	----	0.00		0.0	
D18 351.0	64.2	0.1		6.065		155.00	0.000	0.0	
Pipe: 46	0.0	0.0			E:13.3	60.00	140	0.0	
DG 351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D18 351.0	64.2	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47	0.0	0.0				65.00	140	0.0	
D18 351.0	64.2	0.2	D21	6.000	----	0.00		0.0	
D20 351.0	64.2	0.2		6.065		65.00	0.000	0.0	
Pipe: 48	0.0	0.0				190.00	140	0.0	
D20 351.0	64.2	0.1	D23B	6.000	T:39.9	43.89		0.0	
D21 351.0	64.2	0.1		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49	0.0	0.0			E: 6.6	35.00	140	0.0	
DK 351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D21 351.0	64.2	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A		0.0	Fixed Pressure Loss Device						
D23B 351.0	64.2	0.0	8.0 psi, 0.0 gpm						
D23 351.0	64.2	0.0							

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.2	0.0		6.000		105.07		0.0	
D23B	351.0	64.2	0.0		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.2	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.2	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.2	0.0		3.000		37.24		0.0	
D24	351.0	64.2	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.2	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.2	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.2	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	367.2	F2	5.0 psi, 367.2 gpm					
F1B	351.0	59.3	367.2							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.3	
F1B	351.0	59.3	367.2	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	58.9	367.2		7.981	2G:10.6	298.59	0.001	0.3	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	58.9	0.0		8.000	----	0.00		0.0	
F2	351.0	58.9	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	58.9	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	58.9	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	0.0			E:23.9	210.00	140	0.3	
F2	351.0	58.9	367.2	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	58.7	367.2		7.981	G: 5.3	256.55	0.001	0.3	
Pipe: 64		0.0	0.0			E:18.6	40.00	140	0.0	
FM	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F4	351.0	58.7	0.0		6.065	G: 4.0	102.51	0.000	0.0	
Pipe: 65		0.0	329.9	FL			180.00	140	0.1	
F4	351.0	58.7	320.1	FL	8.000	2L:42.6	49.21		0.0	
F5	351.0	58.6	367.2		7.981	G: 6.6	229.21	0.000	0.1	
Pipe: 66		H.S.	650.0	Disch		E:18.6	30.00	140	0.3	
F5	351.0	58.6	-329.9		6.000	T:39.9	62.51		0.0	
FL	351.0	58.3	320.1		6.065	G: 4.0	92.51	0.003	0.3	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	329.9	FL			30.00	140	0.0	
F7	351.0	58.6	320.1	FL	8.000	----	0.00		0.0	
F5	351.0	58.6	282.8		7.981		30.00	0.001	0.0	
Pipe: 68		H.S.	650.0	Disch		E:18.6	25.00	140	0.3	
F5	351.0	58.6	-320.1		6.000	T:39.9	62.51		0.0	
FL	351.0	58.3	329.9		6.065	G: 4.0	87.51	0.003	0.3	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	58.6	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.1	
F9	351.0	58.7	282.8	F5	8.000	2L:34.6	39.90		0.0	
F7	351.0	58.6	282.8		7.981	G: 5.3	194.90	0.001	0.1	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	58.7	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.1	
F11	351.0	58.8	282.8	F7	8.000	2G:10.6	10.64		0.0	
F9	351.0	58.7	282.8		7.981		75.64	0.001	0.1	
Pipe: 73		0.0	0.0				190.00	140	0.2	
F12	351.0	58.9	282.8	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	58.8	282.8		7.981	G: 5.3	241.87	0.001	0.2	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	58.9	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	58.9	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	282.8	F12		5.0 psi, 282.8 gpm				
F13B	351.0	59.2	282.8							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.3	
F13B	351.0	59.2	282.8	F11	8.000		135.66		0.0	
F12	351.0	58.9	282.8		7.981		400.66	0.001	0.3	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	58.8	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	58.8	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	58.8	0.0		6.000		74.48		0.0	
F15	351.0	58.8	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	58.8	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	58.8	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	58.8	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	58.8	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.006 gpm and a maximum
imbalance at any node of 0.139 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 3.7 ft/sec at pipe 68.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 649.98 gpm.

(6) PIPE FITTINGS TABLE

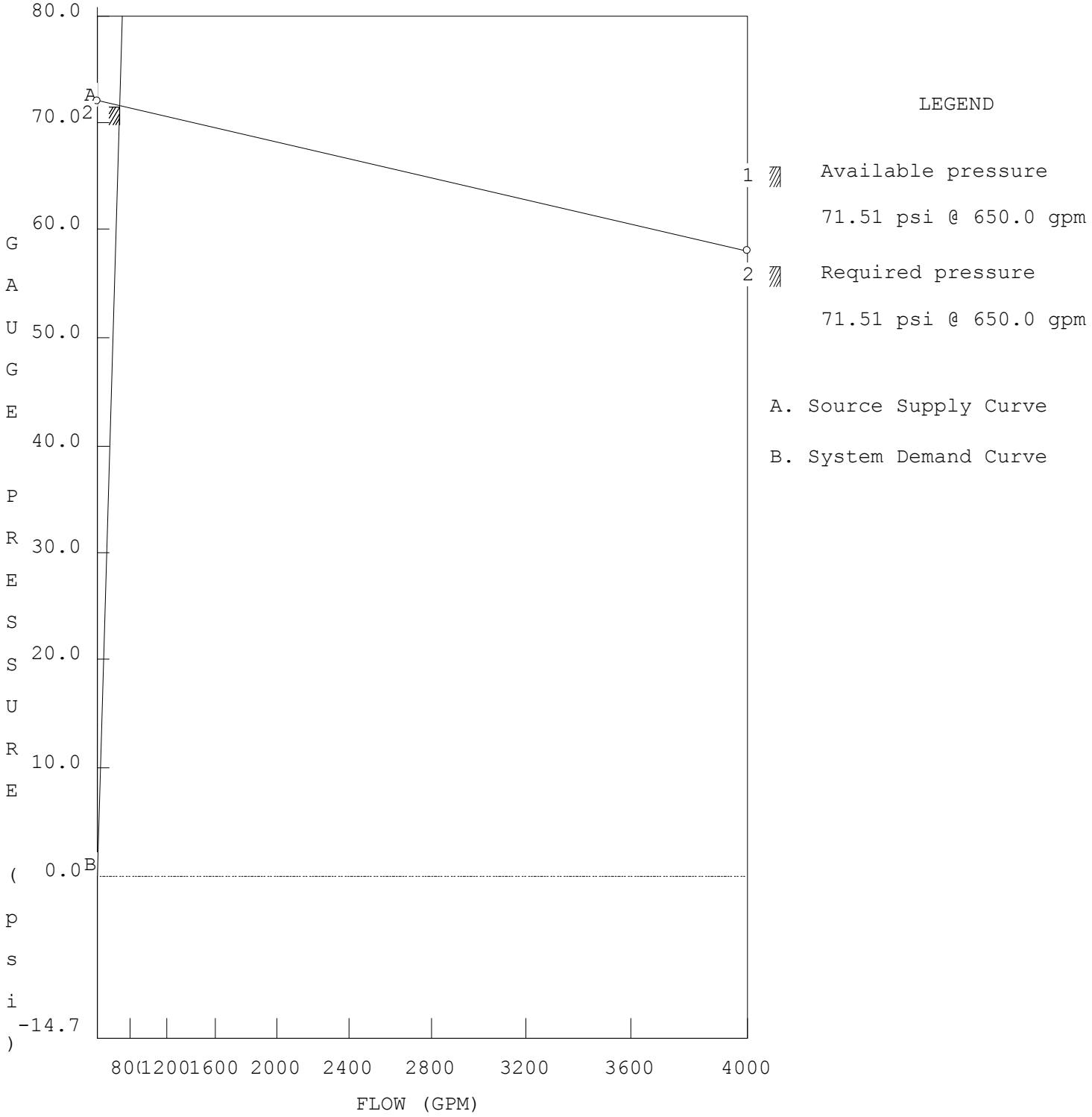
HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

WATER SUPPLY ANALYSIS

Static: 72.00 psi Resid: 58.00 psi Flow: 4000.0 gpm



Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 1/8/2020DESKTOP\TEC PROJECTS\DUBLIN HIGH SCHOOL\FIRE BUILDING M.SDF
JOB TITLE:

NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	@ FLOW (GPM)	AVAIL. PRESS. (PSI)	@ TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	72.0	58.0	4000.0	71.5	650.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	650.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	650.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
SF	351.0	- - - -	71.5	- - -	
E	351.0	- - - -	64.3	- - -	
1	351.0	- - - -	64.3	- - -	
2	351.0	- - - -	64.2	- - -	
3	351.0	- - - -	64.2	- - -	
4	351.0	- - - -	64.2	- - -	
5	351.0	- - - -	64.3	- - -	
6	351.0	- - - -	64.3	- - -	
D1	351.0	- - - -	64.3	- - -	
D1B	351.0	- - - -	64.2	- - -	
D2	351.0	- - - -	64.2	- - -	
D3	351.0	- - - -	64.2	- - -	
DB	351.0	- - - -	64.2	- - -	
D4	351.0	- - - -	64.2	- - -	
D5	351.0	- - - -	64.2	- - -	
DA	351.0	- - - -	64.2	- - -	
D6	351.0	- - - -	64.2	- - -	
DD	351.0	- - - -	64.2	- - -	
D7	351.0	- - - -	64.2	- - -	
DAA	351.0	- - - -	64.2	- - -	
D8	351.0	- - - -	64.2	- - -	
DM	351.0	- - - -	64.2	- - -	
D10	351.0	- - - -	64.2	- - -	
D11	351.0	- - - -	64.2	- - -	
D12	351.0	- - - -	64.2	- - -	
DE	351.0	- - - -	64.2	- - -	
D13	351.0	- - - -	64.2	- - -	
DC	351.0	- - - -	64.2	- - -	
D14	351.0	- - - -	64.2	- - -	
DL	351.0	- - - -	64.2	- - -	
D16	351.0	- - - -	64.2	- - -	
DF	351.0	- - - -	64.2	- - -	
D18	351.0	- - - -	64.2	- - -	
DG	351.0	- - - -	64.2	- - -	
D20	351.0	- - - -	64.2	- - -	
D21	351.0	- - - -	64.2	- - -	

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
DK	351.0	- - - -	64.2	- - -	
D23	351.0	- - - -	64.2	- - -	
D23B	351.0	- - - -	64.2	- - -	
D24	351.0	- - - -	64.2	- - -	
D25	351.0	- - - -	64.2	- - -	
DH	351.0	- - - -	64.2	- - -	
DJ	351.0	- - - -	64.2	- - -	
F1	351.0	- - - -	64.3	- - -	
F1B	351.0	- - - -	59.3	- - -	
F2	351.0	- - - -	58.9	- - -	
F3	351.0	- - - -	58.9	- - -	
FA	351.0	- - - -	58.9	- - -	
F4	351.0	- - - -	58.6	- - -	
FM	351.0	HOSE STREAM	57.4	650.0	
F5	351.0	- - - -	58.7	- - -	
FL	351.0	- - - -	58.7	- - -	
F7	351.0	- - - -	58.7	- - -	
FF	351.0	- - - -	58.7	- - -	
F9	351.0	- - - -	58.8	- - -	
FG	351.0	- - - -	58.8	- - -	
F11	351.0	- - - -	58.8	- - -	
F12	351.0	- - - -	59.0	- - -	
FK	351.0	- - - -	59.0	- - -	
F13	351.0	- - - -	64.2	- - -	
F13B	351.0	- - - -	59.2	- - -	
F15	351.0	- - - -	58.8	- - -	
FJ	351.0	- - - -	58.8	- - -	
F16	351.0	- - - -	58.8	- - -	
FH	351.0	- - - -	58.8	- - -	
H1	351.0	- - - -	64.3	- - -	
H2	351.0	- - - -	64.3	- - -	
H3	351.0	- - - -	64.2	- - -	
H4	351.0	- - - -	64.3	- - -	
H5	351.0	- - - -	64.3	- - -	
H6	351.0	- - - -	64.3	- - -	
H7	351.0	- - - -	64.3	- - -	
H8	351.0	- - - -	64.3	- - -	
H9	351.0	- - - -	64.3	- - -	
SOURCE	351.0	SOURCE	71.5	650.0	

NFPA PIPE DATA

Pipe Tag / Frm Node / To Node	El (ft)	K-fac PT	Add Fl (q) Tot.(Q)	Add Fl To Node/ Disch	Nom ID Act ID	Fit: Eq.Ln. (ft.)	L F T	C Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 1		Source	0.0				1.00	140	0.0	
SOURCE	351.0	71.5	650.0	E	12.000	----	0.00		0.0	
SF	351.0	71.5	650.0		11.938		1.00	0.000	0.0	
Pipe: 1A			463.8	D1	Fixed Pressure Loss Device					
SF	351.0	71.5	186.2	H1	7.2 psi, 650.0 gpm					
E	351.0	64.3	650.0							
Pipe: 2		0.0	0.0			T:66.5	220.00	140	0.0	
E	351.0	64.3	186.2	1	10.000	2L:42.6	115.71		0.0	
H1	351.0	64.3	186.2		10.020	G: 6.6	335.71	0.000	0.0	
Pipe: 3		0.0	67.7	H4			195.00	140	0.0	
H1	351.0	64.3	118.5	H2	10.000	----	0.00		0.0	
1	351.0	64.3	186.2		10.020		195.00	0.000	0.0	
Pipe: 4		0.0	0.0				160.00	140	0.0	
1	351.0	64.3	118.5	2	10.000	----	0.00		0.0	
H2	351.0	64.3	118.5		10.020		160.00	0.000	0.0	
Pipe: 5		0.0	0.0				170.00	140	0.0	
H2	351.0	64.3	118.5	3	10.000	T:66.5	73.15		0.0	
2	351.0	64.2	118.5		10.020	G: 6.6	243.15	0.000	0.0	
Pipe: 6		0.0	0.0				392.00	140	0.0	
2	351.0	64.2	118.5	F13	10.000	----	0.00		0.0	
3	351.0	64.2	118.5		10.020		392.00	0.000	0.0	
Pipe: 7		0.0	0.0			E:18.6	15.00	140	0.0	
H3	351.0	64.2	0.0		6.000	T:39.9	62.51		0.0	
3	351.0	64.2	0.0		6.065	G: 4.0	77.51	0.000	0.0	
Pipe: 8		0.0	0.0				110.00	140	0.0	
3	351.0	64.2	118.5	F13B	10.000	E:29.3	29.26		0.0	
F13	351.0	64.2	118.5		10.020		139.26	0.000	0.0	
Pipe: 9		0.0	0.0				5.00	140	0.0	
D23	351.0	64.2	147.6	F13B	10.000	----	0.00		0.0	
F13	351.0	64.2	147.6		10.020		5.00	0.000	0.0	
Pipe: 10		0.0	0.0				450.00	140	0.0	
4	351.0	64.2	147.6	F13	10.000	----	0.00		0.0	
D23	351.0	64.2	147.6		10.020		450.00	0.000	0.0	
Pipe: 11		0.0	147.6	D23			60.00	140	0.0	
5	351.0	64.3	-79.9	D23	10.000	T:66.5	73.15		0.0	
4	351.0	64.2	67.7		10.020	G: 6.6	133.15	0.000	0.0	
Pipe: 12		0.0	0.0			E:29.3	210.00	140	0.0	
H4	351.0	64.3	67.7	4	10.000	T:66.5	102.41		0.0	
5	351.0	64.3	67.7		10.020	G: 6.6	312.41	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 12A		0.0	0.0				210.00	140	0.0	
1	351.0	64.3	67.7	5	10.000	2L:42.6	49.21		0.0	
H4	351.0	64.3	67.7		10.020	G: 6.6	259.21	0.000	0.0	
Pipe: 13		0.0	0.0				60.00	140	0.0	
H5	351.0	64.3	0.0		6.000	----	0.00		0.0	
5	351.0	64.3	0.0		6.065		60.00	0.000	0.0	
Pipe: 14		0.0	147.6	D23			195.00	140	0.0	
H6	351.0	64.3	-67.7	D23	10.000	----	0.00		0.0	
4	351.0	64.2	79.9		10.020		195.00	0.000	0.0	
Pipe: 15		0.0	0.0				210.00	140	0.0	
H7	351.0	64.3	79.9	4	10.000	G: 6.6	6.65		0.0	
H6	351.0	64.3	79.9		10.020		216.65	0.000	0.0	
Pipe: 16		0.0	0.0				64.00	140	0.0	
6	351.0	64.3	79.9	H6	10.000	----	0.00		0.0	
H7	351.0	64.3	79.9		10.020		64.00	0.000	0.0	
Pipe: 17		0.0	0.0			E:35.9	80.00	140	0.0	
H8	351.0	64.3	79.9	H7	12.000	T:79.8	123.69		0.0	
6	351.0	64.3	79.9		11.938	G: 8.0	203.69	0.000	0.0	
Pipe: 18		0.0	0.0				165.00	140	0.0	
H9	351.0	64.3	79.9	6	12.000	G: 8.0	7.98		0.0	
H8	351.0	64.3	79.9		11.938		172.98	0.000	0.0	
Pipe: 19		0.0	0.0				105.00	140	0.0	
F1	351.0	64.3	79.9	H8	12.000	----	0.00		0.0	
H9	351.0	64.3	79.9		11.938		105.00	0.000	0.0	
Pipe: 20		0.0	0.0	D1B			215.00	140	0.1	
E	351.0	64.3	463.8	F1	12.000	----	0.00		0.0	
D1	351.0	64.3	463.8		11.938		215.00	0.000	0.1	
Pipe: 21		0.0	79.9	H9			12.00	140	0.0	
D1	351.0	64.3	383.9	F1B	20.000	----	0.00		0.0	
F1	351.0	64.3	463.8		23.000		12.00	0.000	0.0	
Pipe: 21A		0.0	Fixed Pressure Loss Device							
D1	351.0	64.3	0.0		8.0 psi, 0.0 gpm					
D1B	351.0	64.2	0.0							
Pipe: 22		0.0	0.0			T:39.9	80.00	140	0.0	
D1B	351.0	64.2	0.0		6.000	C:42.6	86.45		0.0	
D2	351.0	64.2	0.0		6.065	G: 4.0	166.45	0.000	0.0	
Pipe: 23		0.0	0.0				275.00	140	0.0	
D3	351.0	64.2	0.0		3.000	T:19.9	21.28		0.0	
D2	351.0	64.2	0.0		3.068	G: 1.3	296.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch		(ft.)	T		(Pf)	
Pipe: 24		0.0	0.0				84.00	140	0.0	
DB	351.0	64.2	0.0		2.000	2E:13.3	13.30		0.0	
D3	351.0	64.2	0.0		2.067		97.30	0.000	0.0	
Pipe: 25		0.0	0.0				54.00	140	0.0	
D2	351.0	64.2	0.0		6.000	T:39.9	43.89		0.0	
D4	351.0	64.2	0.0		6.065	G: 4.0	97.89	0.000	0.0	
Pipe: 26		0.0	0.0				39.00	140	0.0	
D5	351.0	64.2	0.0		6.000	----	0.00		0.0	
D4	351.0	64.2	0.0		6.065		39.00	0.000	0.0	
Pipe: 27		0.0	0.0			E:18.6	242.00	140	0.0	
D4	351.0	64.2	0.0		6.000	L:12.0	34.58		0.0	
D6	351.0	64.2	0.0		6.065	G: 4.0	276.58	0.000	0.0	
Pipe: 28		0.0	0.0			2ETLG	80.00	140	0.0	
D7	351.0	64.2	0.0		2.000		31.92		0.0	
D6	351.0	64.2	0.0		2.067		111.92	0.000	0.0	
Pipe: 29		0.0	0.0			E: 6.6	10.00	140	0.0	
DAA	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	31.28	0.000	0.0	
Pipe: 30		0.0	0.0			E: 6.6	84.00	140	0.0	
DD	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D7	351.0	64.2	0.0		2.067	G: 1.3	95.97	0.000	0.0	
Pipe: 31		0.0	0.0				32.00	140	0.0	
DA	351.0	64.2	0.0		4.000	2E:26.6	29.26		0.0	
D5	351.0	64.2	0.0		4.026	G: 2.7	61.26	0.000	0.0	
Pipe: 32		0.0	0.0				160.00	140	0.0	
D6	351.0	64.2	0.0		6.000	L:12.0	15.96		0.0	
D8	351.0	64.2	0.0		6.065	G: 4.0	175.96	0.000	0.0	
Pipe: 33		0.0	0.0			E: 9.3	40.00	140	0.0	
DM	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D8	351.0	64.2	0.0		3.068	G: 1.3	70.59	0.000	0.0	
Pipe: 35		0.0	0.0				70.00	140	0.0	
D8	351.0	64.2	0.0		6.000	----	0.00		0.0	
D10	351.0	64.2	0.0		6.065		70.00	0.000	0.0	
Pipe: 36		0.0	0.0			T:26.6	160.00	140	0.0	
D11	351.0	64.2	0.0		4.000	2L:16.0	45.22		0.0	
D10	351.0	64.2	0.0		4.026	G: 2.7	205.22	0.000	0.0	
Pipe: 37		0.0	0.0			E: 6.6	40.00	140	0.0	
D12	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D11	351.0	64.2	0.0		2.067	G: 1.3	61.28	0.000	0.0	

Pipe Tag Frm Node	El (ft)	K-fac PT	Add Fl (q)	Add Fl To Node/	Nom ID Act ID	Fit: Eq.Ln.	L F	C Pf/ft.	(Pt) (Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)	
Pipe: 38		0.0	0.0				10.00	140	0.0	
DE	351.0	64.2	0.0		2.000	E: 6.6	6.65		0.0	
D12	351.0	64.2	0.0		2.067		16.65	0.000	0.0	
Pipe: 39		0.0	0.0				195.00	140	0.0	
D13	351.0	64.2	0.0		3.000	----	0.00		0.0	
D11	351.0	64.2	0.0		3.068		195.00	0.000	0.0	
Pipe: 40		0.0	0.0			E: 9.3	15.00	140	0.0	
DC	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D13	351.0	64.2	0.0		3.068	G: 1.3	45.59	0.000	0.0	
Pipe: 41		0.0	0.0				110.00	140	0.0	
D10	351.0	64.2	0.0		6.000	L:12.0	15.96		0.0	
D14	351.0	64.2	0.0		6.065	G: 4.0	125.96	0.000	0.0	
Pipe: 42		0.0	0.0			E: 9.3	30.00	140	0.0	
DL	351.0	64.2	0.0		3.000	T:19.9	30.59		0.0	
D14	351.0	64.2	0.0		3.068	G: 1.3	60.59	0.000	0.0	
Pipe: 43		0.0	0.0				30.00	140	0.0	
D14	351.0	64.2	0.0		6.000	----	0.00		0.0	
D16	351.0	64.2	0.0		6.065		30.00	0.000	0.0	
Pipe: 44		0.0	0.0			E:13.3	65.00	140	0.0	
DF	351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D16	351.0	64.2	0.0		4.026	G: 2.7	107.56	0.000	0.0	
Pipe: 45		0.0	0.0				155.00	140	0.0	
D16	351.0	64.2	0.0		6.000	----	0.00		0.0	
D18	351.0	64.2	0.0		6.065		155.00	0.000	0.0	
Pipe: 46		0.0	0.0			E:13.3	60.00	140	0.0	
DG	351.0	64.2	0.0		4.000	T:26.6	42.56		0.0	
D18	351.0	64.2	0.0		4.026	G: 2.7	102.56	0.000	0.0	
Pipe: 47		0.0	0.0				65.00	140	0.0	
D18	351.0	64.2	0.0		6.000	----	0.00		0.0	
D20	351.0	64.2	0.0		6.065		65.00	0.000	0.0	
Pipe: 48		0.0	0.0				190.00	140	0.0	
D20	351.0	64.2	0.0		6.000	T:39.9	43.89		0.0	
D21	351.0	64.2	0.0		6.065	G: 4.0	233.89	0.000	0.0	
Pipe: 49		0.0	0.0			E: 6.6	35.00	140	0.0	
DK	351.0	64.2	0.0		2.000	T:13.3	21.28		0.0	
D21	351.0	64.2	0.0		2.067	G: 1.3	56.28	0.000	0.0	
Pipe: 49A			0.0	Fixed Pressure Loss Device						
D23B	351.0	64.2	0.0		8.0 psi,	0.0 gpm				
D23	351.0	64.2	0.0							

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 50		0.0	0.0			ETCG	265.00	140	0.0	
D21	351.0	64.2	0.0		6.000		105.07		0.0	
D23B	351.0	64.2	0.0		6.065		370.07	0.000	0.0	
Pipe: 51		0.0	0.0				80.00	140	0.0	
D24	351.0	64.2	0.0		4.000	L: 8.0	10.64		0.0	
D20	351.0	64.2	0.0		4.026	G: 2.7	90.64	0.000	0.0	
Pipe: 52		0.0	0.0			ETLG	85.00	140	0.0	
DJ	351.0	64.2	0.0		3.000		37.24		0.0	
D24	351.0	64.2	0.0		3.068		122.24	0.000	0.0	
Pipe: 53		0.0	0.0				110.00	140	0.0	
D25	351.0	64.2	0.0		3.000	G: 1.3	1.33		0.0	
D24	351.0	64.2	0.0		3.068		111.33	0.000	0.0	
Pipe: 54		0.0	0.0			E: 6.6	30.00	140	0.0	
DH	351.0	64.2	0.0		2.000	L: 4.0	11.97		0.0	
D25	351.0	64.2	0.0		2.067	G: 1.3	41.97	0.000	0.0	
Pipe: 55			0.0	Fixed Pressure Loss Device						
F1	351.0	64.3	383.9	F2	5.0 psi, 383.9 gpm					
F1B	351.0	59.3	383.9							
Pipe: 60		0.0	0.0			2T:93.1	135.00	140	0.4	
F1B	351.0	59.3	383.9	F4	8.000	C:59.8	163.59		0.0	
F2	351.0	58.9	383.9		7.981	2G:10.6	298.59	0.001	0.4	
Pipe: 61		0.0	0.0				32.00	140	0.0	
F3	351.0	58.9	0.0		8.000	----	0.00		0.0	
F2	351.0	58.9	0.0		7.981		32.00	0.000	0.0	
Pipe: 62		0.0	0.0				32.00	140	0.0	
FA	351.0	58.9	0.0		8.000	2E:47.9	53.20		0.0	
F3	351.0	58.9	0.0		7.981	G: 5.3	85.20	0.000	0.0	
Pipe: 63		0.0	650.0	FM		E:23.9	210.00	140	0.3	
F2	351.0	58.9	-266.1	F5	8.000	L:17.3	46.55		0.0	
F4	351.0	58.6	383.9		7.981	G: 5.3	256.55	0.001	0.3	
Pipe: 64		H.S.	650.0	Disch		E:18.6	40.00	140	1.2	
F4	351.0	58.6	0.0		6.000	T:39.9	62.51		0.0	
FM	351.0	57.4	650.0		6.065	G: 4.0	102.51	0.012	1.2	
Pipe: 65		0.0	650.0	FM			180.00	140	0.0	
F5	351.0	58.7	-383.9	F2	8.000	2L:42.6	49.21		0.0	
F4	351.0	58.6	266.1		7.981	G: 6.6	229.21	0.000	0.0	
Pipe: 66		0.0	0.0			E:18.6	30.00	140	0.0	
FL	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.7	0.0		6.065	G: 4.0	92.51	0.000	0.0	

Pipe Tag / Frm Node / To Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 67		0.0	0.0				30.00	140	0.0	
F7	351.0	58.7	266.1	F4	8.000	----	0.00		0.0	
F5	351.0	58.7	266.1		7.981		30.00	0.001	0.0	
Pipe: 68		0.0	0.0			E:18.6	25.00	140	0.0	
FL	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F5	351.0	58.7	0.0		6.065	G: 4.0	87.51	0.000	0.0	
Pipe: 69		0.0	0.0			E:18.6	65.00	140	0.0	
FF	351.0	58.7	0.0		6.000	T:39.9	62.51		0.0	
F7	351.0	58.7	0.0		6.065	G: 4.0	127.51	0.000	0.0	
Pipe: 70		0.0	0.0				155.00	140	0.1	
F9	351.0	58.8	266.1	F5	8.000	2L:34.6	39.90		0.0	
F7	351.0	58.7	266.1		7.981	G: 5.3	194.90	0.001	0.1	
Pipe: 71		0.0	0.0			E:18.6	55.00	140	0.0	
FG	351.0	58.8	0.0		6.000	T:39.9	62.51		0.0	
F9	351.0	58.8	0.0		6.065	G: 4.0	117.51	0.000	0.0	
Pipe: 72		0.0	0.0				65.00	140	0.0	
F11	351.0	58.8	266.1	F7	8.000	2G:10.6	10.64		0.0	
F9	351.0	58.8	266.1		7.981		75.64	0.001	0.0	
Pipe: 73		0.0	0.0				190.00	140	0.1	
F12	351.0	59.0	266.1	F9	8.000	T:46.5	51.87		0.0	
F11	351.0	58.8	266.1		7.981	G: 5.3	241.87	0.001	0.1	
Pipe: 74		0.0	0.0			E:13.3	30.00	140	0.0	
FK	351.0	59.0	0.0		4.000	T:26.6	42.56		0.0	
F12	351.0	59.0	0.0		4.026	G: 2.7	72.56	0.000	0.0	
Pipe: 74A			0.0	Fixed Pressure Loss Device						
F13	351.0	64.2	266.1	F12		5.0 psi, 266.1 gpm				
F13B	351.0	59.2	266.1							
Pipe: 75		0.0	0.0			ETCG	265.00	140	0.2	
F13B	351.0	59.2	266.1	F11	8.000		135.66		0.0	
F12	351.0	59.0	266.1		7.981		400.66	0.001	0.2	
Pipe: 76		0.0	0.0				80.00	140	0.0	
F15	351.0	58.8	0.0		8.000	L:17.3	17.29		0.0	
F11	351.0	58.8	0.0		7.981		97.29	0.000	0.0	
Pipe: 77		0.0	0.0			ETLG	85.00	140	0.0	
FJ	351.0	58.8	0.0		6.000		74.48		0.0	
F15	351.0	58.8	0.0		6.065		159.48	0.000	0.0	
Pipe: 78		0.0	0.0				130.00	140	0.0	
F16	351.0	58.8	0.0		4.000	L: 8.0	10.64		0.0	
F15	351.0	58.8	0.0		4.026	G: 2.7	140.64	0.000	0.0	

Pipe Tag / Frm Node	El (ft)	K-fac / PT	Add Fl (q) / Tot.(Q)	Add Fl To Node/ Disch	Nom ID / Act ID	Fit: Eq.Ln. (ft.)	L / F / T	C / Pf/ft.	(Pt) (Pe) (Pf)	Notes
Pipe: 79		0.0	0.0				35.00	140	0.0	
FH	351.0	58.8	0.0		4.000	2E:26.6	29.26		0.0	
F16	351.0	58.8	0.0		4.026	G: 2.7	64.26	0.000	0.0	

NOTES (HASS):

(1) Calculations were performed by the HASS 8.8 D computer program
in accordance with NFPA13 (2016)
under license no. 50051107 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760

(2) The system has been calculated to provide an average
imbalance at each node of 0.005 gpm and a maximum
imbalance at any node of 0.139 gpm.

(3) Total pressure at each node is used in balancing the system.
Maximum water velocity is 7.2 ft/sec at pipe 64.

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
71.51 psi with a flow of 650.00 gpm.

(6) PIPE FITTINGS TABLE

HASS Pipe Table Name: standard.pip

PAGE: * MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
	F F45Ell								
23.000	111.72 55.86	242.07	98.42	279.31	82.46	23.94	194.18	194.18	242.07

Dublin San Ramon Services District
Water, wastewater, recycled water

7051 Dublin Blvd., Dublin, CA 94568

DEDICATED FIRE SERVICE FIREFLOW REQUEST FORM

WATER FLOW AND PRESSURE INFORMATION SHEET

REQUESTOR INFO:		***Date of Request****	1/2/2020
Company	Telgian Engineering & Consulting		
Contact	Robert Gehrke	***Email***	rgehrke@telgian.com
Phone	480-878-5677	***Fax***	
Tract AND Lot #s/OR Street Address	Dublin High School – SE Corner of Central Parkway and Chancery Lane		

*Normal turnaround is five (5) days from date of request. However, certain circumstances require a shorter turnaround. If this request is urgent, please indicate the date the information is needed and we will do our best to accommodate the request.

Date Required 1/9/2020

In response to your request, we ran our hydraulic model to determine water pressures at the above noted location. The results are as follows:

Potable Water:

Static Pressure	72-75	psi		
Residual Pressure	58-61	psi at a flow of	4000	gpm

Recycled Water:

Static Pressure		psi		
Residual Pressure		psi at a flow of		gpm

Additional Notes/Comments:

Pressures modeled at various spots surrounding new proposed school site. Static and residual pressures stayed within the ranges listed above depending on exact location.

Disclaimer: Actual water pressures may vary depending on delivery pressures from water wholesaler (Zone 7), system demands, and the dynamic status of facilities. This information does not relieve Requestor of responsibility to perform due diligence. Actual field test is recommended.

Date of Response 1/2/2020 ***Response Provided By*** Ryan Pendergraft

Phone (925) 875-2242 ***Email*** pendergraft@dsrsd.com

Appendix H:
Noise Impact Report

Fundamentals of Noise

NOISE

Noise is most often defined as unwanted sound; whether it is loud, unpleasant, unexpected, or otherwise undesirable. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

Noise Descriptors

The following are brief definitions of terminology used in this chapter:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Decibel (dB).** A unitless measure of sound, expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20 μPa).

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

- **Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Maximum Sound Level (L_{max})**. The highest RMS sound level measured during the measurement period.
- **Root Mean Square Sound Level (RMS).** The square root of the average of the square of the sound pressure over the measurement period.

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. NOTE: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive – that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Characteristics of Sound

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves.

Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). Loudness or amplitude is measured in dB, frequency or pitch is measured in Hertz [Hz] or cycles per second, and duration or time variations is measured in seconds or minutes.

Amplitude

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 1 presents the subjective effect of changes in sound pressure levels. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Changes of 1 to 3 dB are detectable under quiet, controlled conditions, and changes of less than 1 dB are usually not discernible (even under ideal conditions). A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernible to most people in an exterior environment, and a 10 dB change is perceived as a doubling (or halving) of the sound.

Table 1 Noise Perceptibility

Change in dB	Noise Level
± 3 dB	Barely perceptible increase
± 5 dB	Readily perceptible increase
± 10 dB	Twice or half as loud
± 20 dB	Four times or one-quarter as loud

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").

Frequency

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all, but are "felt" more as a vibration. Similarly, though people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz.

When describing sound and its effect on a human population, A-weighted (dBA) sound levels are typically used to approximate the response of the human ear. The A-weighted noise level has been found to correlate well with people's judgments of the "noisiness" of different sounds and has been used for many years as a measure of community and industrial noise. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- General nature of the existing conditions (e.g., quiet rural or busy urban)
- Difference between the magnitude of the sound event level and the ambient condition
- Duration of the sound event
- Number of event occurrences and their repetitiveness
- Time of day that the event occurs

Duration

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These "n" values are typically used to demonstrate compliance for stationary noise sources with many cities' noise ordinances. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period, respectively.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment (or "penalty") of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or L_{dn} metrics are commonly applied to the assessment of roadway and airport-related noise sources.

Sound Propagation

Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single-point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level would be 79 dBA, and at 200 feet it would be 73 dBA. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance over a reflective ("hard site") surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dB for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, through generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 2 shows typical noise levels from familiar sources.

Table 2 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. As with noise, vibration can be described by both its amplitude and frequency. Vibration displacement is the distance that a point on a surface moves away from its original static position; velocity is the instantaneous speed that a point on a surface moves; and acceleration is the rate of change of the speed. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the

square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage and RMS is typically more suitable for evaluating human response.

As with airborne sound, annoyance with vibrational energy is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons accustomed to elevated ambient vibration levels, such as in an urban environment, may tolerate higher vibration levels. Table 3 displays the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Table 3 Human Reaction to Typical Vibration Levels

Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e. not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: California Department of Transportation (Caltrans). 2013, September. Transportation and Construction Vibration Guidance Manual.

LOCAL REGULATIONS AND STANDARDS

City of Dublin
General Plan

Chapter 9

ENVIRONMENTAL RESOURCES MANAGEMENT: NOISE ELEMENT

9.1 INTRODUCTION

Government Code sec. 65302(f) outlines the statutory requirements for Noise Elements. Recognizing the State Office of Noise Control (ONC) guidelines, Noise Elements must quantify current and projected noise levels for local noise sources. Among the noise sources to be evaluated are highways and freeways, arterials and major streets, railroads and rapid transit systems, airports and heliports, industrial plants, and other ground stationary sources identified by local agencies as contributing to the community noise environment.

Traffic noise is the major source of noise in Dublin's three Planning Areas. Therefore, the focus of this Noise Element is the effect of traffic noise on locating categories of land use and developing projects within those categories. Information supporting the adopted noise policies is located in the corresponding Noise Element section of the Technical Supplement. The City's Planning Areas contain no railroads, airports, heliports or industrial plants. However, the Parks Reserve Forces Training Area (Parks RFTA) does contain a heliport and is located between Dublin's Primary and Eastern Extended Planning Areas. Noise impacts from the Parks RFTA were addressed in the Army's 2005 Environmental Noise Management Plan (ENMP). Additionally, the southern portions of the Eastern Extended Planning Area east of Tassajara Road fall within the Livermore Municipal Airports Airport Influence Area (AIA). Noise impacts from the Livermore Municipal Airport were addressed in Alameda County's 2012 Airport Land Use Compatibility Plan (ALUCP). Development within the AIA must be consistent with the ALUCP.

Traffic is the primary source of continuous noise in Dublin. Noise exposure contours have been plotted for 2011 (based on current traffic data) and projected to 2035 based on anticipated traffic volume increases (see Figures 9-1 and 9-2). The Community Noise Equivalent Level (CNEL) describes 24-hour average noise levels measured in decibels (dB) taking into account the increased sensitivity of people to noise during evening and nighttime hours. Sound levels between 7:00 p.m. and 10:00 p.m. are penalized 5 dB and those between 10:00 p.m. and 7:00 a.m. are penalized 10 dB. The dB scale is logarithmic; a 3 dB difference normally is discernable and a 10 dB increase is subjectively heard as a doubling in loudness.

The Land Use Compatibility Table (Table 9.1) provides the basis for decisions on the location of land uses in relation to noise sources, and for determining noise mitigation needs. Noise impacts resulting from development within the Eastern Extended Planning Area were addressed in the Eastern Dublin Specific Plan Environmental Impact Report and subsequent environmental analyses for projects within the Eastern Extended Planning Area.

9.2 TRAFFIC NOISE

9.2.1 ALL PLANNING AREAS

A. Guiding Policy

1. Where feasible, mitigate traffic noise to levels indicated by Table 9.1: Land Use Compatibility for Community Noise Environments.

B. Implementing Policies

1. Encourage homeowners west of San Ramon Road who are affected by 1-580 noise to construct noise barriers on their properties where these would be effective and require such barriers for new development. This policy also applies to sites adjoining the west side of San Ramon Road at higher elevations.

   Where the noise source is below the receptors, only barriers near the receptor will be effective. About 5 dB noise reduction could be achieved.

2. Support unified action by residential owners on the east side of San Ramon Road and along Village Parkway to install, repair, or extend noise barriers.

   Much of this frontage was developed before effective noise barriers were required as a condition of subdivision approval. Because construction for a single lot is costly, relatively ineffective, and potentially unattractive, the City should assist in the formation of assessment districts or otherwise promote group action where there is consensus that a problem exists.

3. Design Dougherty Road improvements and adjoining residential development for compliance with noise standards.

   This corridor offers the opportunity to do it right the first time without continuous walls. Berms, open space, garages near the road, and noise-conscious site planning can be used.

4. Noise impacts related to all new development shall be analyzed by a certified acoustic consultant.

5. Request demonstration of ability to mitigate noise prior to approval of light rail or bus service in the Southern Pacific Right-of-Way Transportation Corridor.

   A depressed rail line or noise walls close to the tracks could make light rail a good neighbor.

6. Review all multi-family development proposals within the projected 60 CNEL contour for compliance with noise standards (45 CNEL in any habitable room) as required by State law.

   Because the General Plan designates almost all residential sites subject to 60 or greater CNEL for multifamily development, this standard will be effective in Dublin. Project designers may use one or more of four available categories of mitigation measures: site planning, architectural layout (bedrooms away from noise source, for example), noise barriers, or construction modifications.

7. Review all non-residential development proposals within the projected CNEL 65 dBA contour for compliance with exterior noise transmission standards as required by the California Green Building Standards Code.

Table 9.1 | **LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS COMMUNITY NOISE EXPOSURE (dB)**

LAND USE CATEGORY	NORMALLY ACCEPTABLE	CONDITIONALLY ACCEPTABLE*	NORMALLY UNACCEPTABLE	CLEARLY UNACCEPTABLE
Residential	60 or less	61-70	71-75	Over 75
Motels, hotels	60 or less	61-70	71-80	Over 80
Schools, churches, nursing homes	60 or less	61-70	71-80	Over 80
Neighborhood parks	60 or less	61-65	66-70	Over 70
Offices: retail commercial	70 or less	71-75	76-80	Over 80
Industrial	70 or less	71-75	Over 75	

* Conditionally acceptable exposure requires noise insulation features in building design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Source: California Office of Noise Control, 1976, as modified by Charles M. Salter Associates, Inc.

9.3 AIRPORT LAND USE COMPATIBILITY

9.3.1 EASTERN EXTENDED PLANNING AREA

A. Guiding Policy

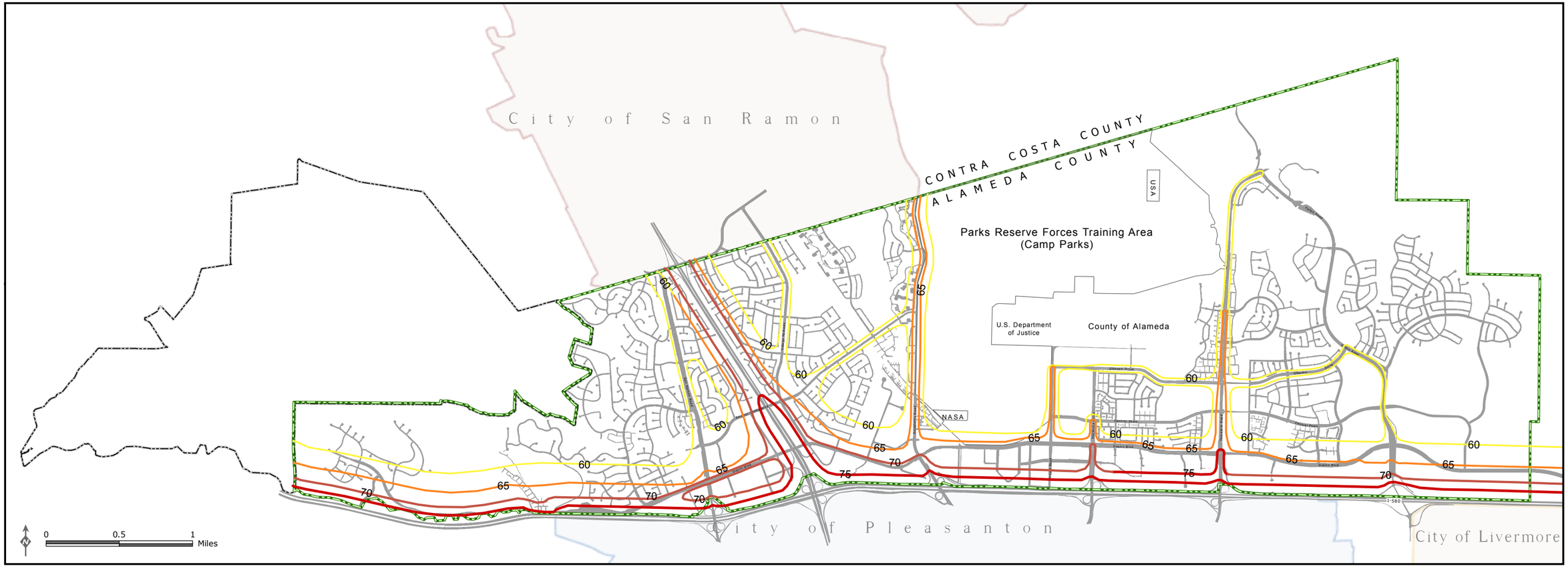
1. All proposed land uses within the Airport Influence Area (AIA) shall be reviewed for consistency with the noise compatibility policies and overflight policies of the Airport Land Use Compatibility Plan (ALUCP) for the Livermore Municipal Airport.

B. Implementing Policy

1. Adopt an Airport Overlay Zoning District to ensure that all proposed development within the Airport Influence Area (AIA) is reviewed for consistency with all applicable Livermore Municipal Airport, Airport Land Use Compatibility Plan (ALUCP) policies.

DUBLIN GENERAL PLAN
2011 EXISTING NOISE EXPOSURE CONTOURS

(Figure 9-1)
February 2013



CNEL Contour — 60 dB — 65 dB — 70 dB — 75 dB

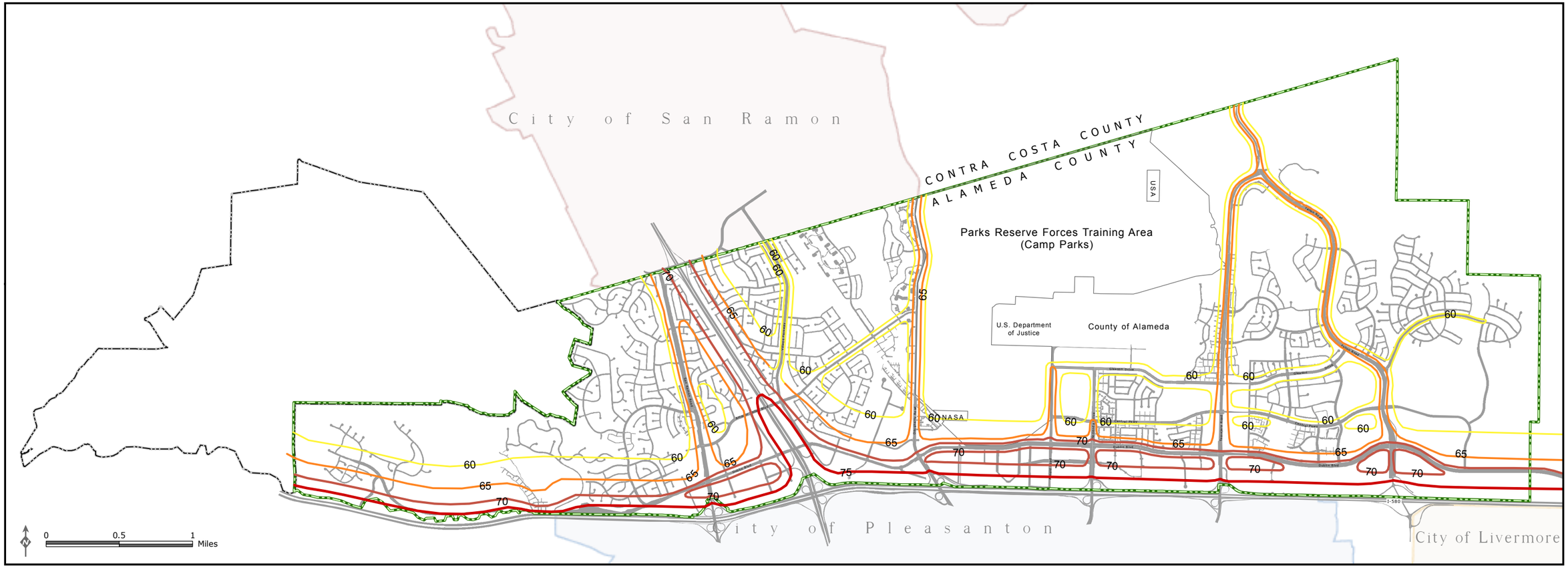
Streets

City of Dublin

Sphere of Influence

DUBLIN GENERAL PLAN
2035 PROJECTED NOISE EXPOSURE CONTOURS

(Figure9-2)
February 2013



Chapter 5.28
NOISE

Sections:

5.28.010 Findings.
5.28.020 Unreasonable noise prohibited.
5.28.030 Violation—Penalty.

5.28.010 Findings.

The City Council finds that the making, creation or maintenance of loud, unnecessary, unnatural, unusual or habitual noises which are prolonged, unusual, and unnatural in their time, place and use affect and are a detriment to the public health, comfort, safety, welfare, and prosperity of the residents of the city. The provisions of this chapter are enacted for the purpose of securing and promoting the public health, comfort, safety, welfare, and prosperity and the peace and quiet of the city and its inhabitants. (Ord. 4-84 § 1)

5.28.020 Unreasonable noise prohibited.

A. It is unlawful and a nuisance for any person within the city persistently to maintain, emit, cause, mechanically or otherwise, or permit any animal owned by him or in his possession or control to make any loud, or disturbing, or unnecessary, or unusual or habitual noise or any noise which annoys or disturbs or injures or endangers the health, repose, peace or safety of any reasonable person of normal sensitivity present in the area.

B. The standards which shall be considered in determining whether a violation of the provisions of this chapter exists shall include, but shall not be limited to the following:

1. The level, intensity, character and duration of the noise;
2. The level, intensity and character of background noise, if any;
3. The time when and the place and zoning district where the noise occurred;
4. The proximity of the noise to residential sleeping facilities; and
5. Whether the noise is recurrent, intermittent or constant. (Ord. 4-84 § 2)

5.28.030 Violation—Penalty.

Each violation of this chapter shall constitute a separate offense, and persons violating this chapter shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine not to exceed five hundred dollars ($500) or by imprisonment in the county jail for a period not exceeding thirty (30) days, or both such fine and imprisonment. (Ord. 4-84 § 3)

8.36.060 Projections Into Required Setbacks - Building Features And Equipment.

Three classes of projections into required setback are permitted:

A. Landing, Uncovered Porch, Stairway. A landing place, or uncovered porch, and stairway leading thereto which serves a dwelling unit entrance not greater than six (6) feet above the ground level, may project into a required yard a distance not greater than three (3) feet.

B. Building Wall. A building wall encroaching two feet or less into a required yard may be extended so as to continue the same building wall line but may not reduce the required yard to a dimension less than that previously provided.

C. Building Roof, Wall Features, Building Equipment. Certain building roof and wall features and building equipment, including but not limited to chimneys, bay windows with a maximum width of 8 feet, cornices, eaves, canopies, landings, stairways, and similar architectural features (not including decks more than 30 inches above natural grade, porches, or other indoor or outdoor living areas), and equipment such as solar collectors, air conditioning equipment and swimming pool equipment. These classes of projections may extend into required setbacks as follows where consistent with the requirements of Sections 504 and Section 1710 of the Uniform Building Code:

1. Front and Rear Setbacks. Such features and equipment may extend into any required Front or Rear Setback a maximum of 5 feet, provided that any equipment other than window-mounted air conditioners shall be screened from the view of the public road.

2. Side Setbacks.

a. 5 feet or less. Where Side Setbacks are 5 feet or less, cornices, eaves, and canopies may extend into any required Side Setback a maximum of 2 1/2 feet, provided that no such feature shall be permitted within 3 feet of any Side Lot Line.

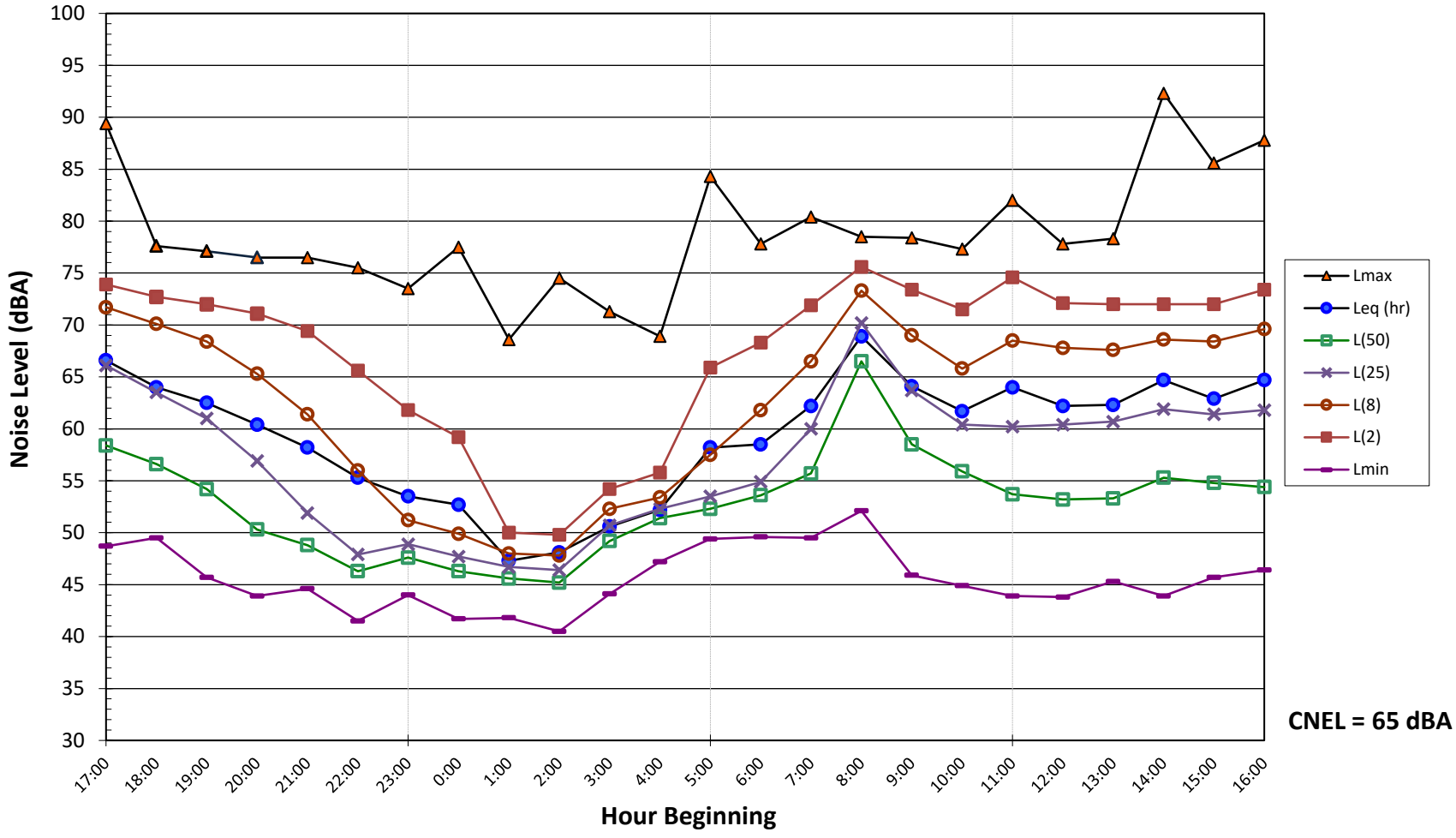
b. More than 5 feet. Where Side Setbacks are more than 5 feet, such features and equipment listed above in Section 8.36.060.C may extend into any required Side Setback a maximum of 2 1/2 feet, provided that no such feature shall be permitted within 3 feet of any Side Lot Line.

3. Enclosure of equipment required. For lots less than 5,000 square feet in size, mechanical equipment that generates noise (such as swimming pool, spa and air conditioning equipment) on the property shall be enclosed as necessary to reduce noise at the property line to a maximum of 50 dBA at any time.

For lots 5,000 square feet in size or larger, mechanical equipment that generates noise (such as swimming pool, spa and air conditioning equipment) when located within a required setback as allowed by this subsection, and within 10 feet of an existing or potential residence, or an existing paved patio area on adjoining property, shall be enclosed as necessary to reduce noise at the property line to a maximum of 50 dBA at any time. *Rev. Ord. 16-02 (October 2002)*

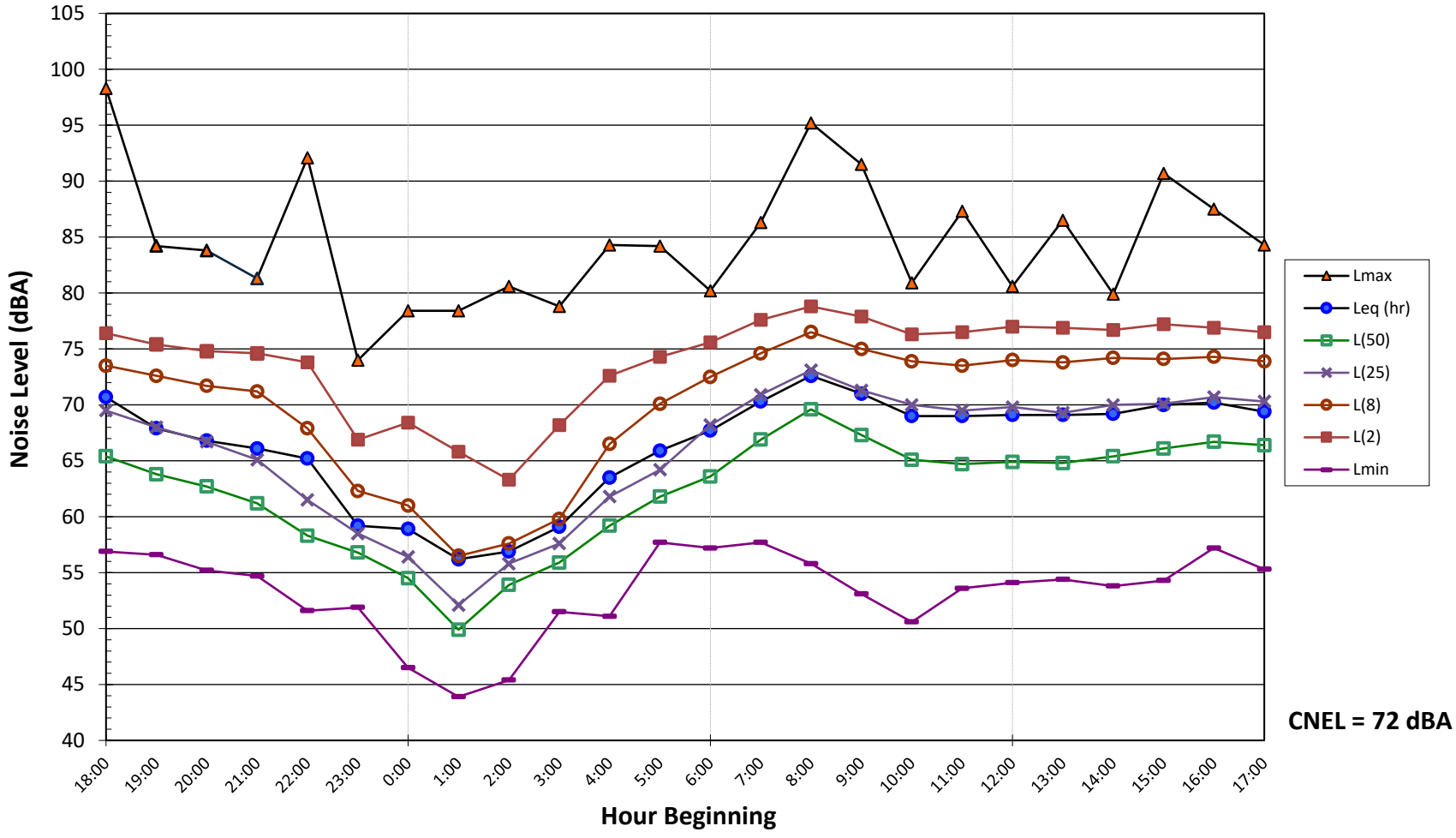
AMBIENT NOISE MONITORING RESULTS

Noise Levels at LT-1
Central Parkway, Dublin, CA
Tuesday, January 7 through Wednesday, January 8, 2020



CNEL = 65 dBA

Noise Levels at LT-2
Dublin Boulevard, Dublin, CA
Tuesday, January 7 through Wednesday, January 8, 2020



CNEL = 72 dBA

TRAFFIC NOISE INCREASE CALCULATIONS

Segment	Existing No Project	Existing Plus Project	Cumulative No Project	Cumulative Plus Project	Project Noise Increase	Cumulative Increase	Project Cumulative Contribution
Tassajara Road - North of Gleason Drive	18,150	20,511	23,556	25,917	0.5	1.5	0.4
Tassajara Road - Central Parkway to Gleason	17,750	19,517	21,611	23,378	0.4	1.2	0.3
Tassajara Road - Dublin to central Parkway	20,000	20,378	22,444	22,822	0.1	0.6	0.1
Tassajara Road 580 to Dublin	28,133	28,828	51,111	51,806	0.1	2.7	0.1
Lee Tompson Street North of Central Parkway	1,933	3,106	2,333	3,506	2.1	2.6	1.8
Keegan Street - Dublin to Central Parkway	1,961	2,783	3,444	4,267	1.5	3.4	0.9
Fallon Road - North of Gleason Drive	11,361	12,539	20,222	21,400	0.4	2.7	0.2
Fallon Road - 580 to Dublin	20,833	21,300	34,167	34,633	0.1	2.2	0.1
Fallon Road - Central Parkway to Gleason	14,228	15,406	24,444	25,622	0.3	2.6	0.2
Fallon Road - Dublin to Central Parkway	18,878	20,856	34,056	36,033	0.4	2.8	0.0
Grafton Street - Central Parkway to Gleason	1,489	3,261	3,500	5,272	3.4	5.5	1.8
Chancery Lane - Finnian to Central Parkway	756	1,467	1,056	1,767	2.9	3.7	2.2
Dublin - Tassajara Road to Brannigan Street	15,306	16,089	46,222	47,006	0.2	4.9	0.1
Dublin - Brannigan Street to Grafton Street	13,583	14,044	44,778	45,239	0.1	5.2	0.0
Dublin - Grafton Street to Keegan Street	12,972	14,650	43,500	45,178	0.5	5.4	0.2
Dublin - Keegan Street to Fallon Road	8,478	10,589	30,778	32,889	1.0	5.9	0.3
Central Parkway - Tassajara Road to Brannigan Street	5,933	7,611	8,167	9,844	1.1	2.2	0.8
Central Parkway - Brannigan Street to Chancery Lane	5,000	7,472	8,611	11,083	1.7	3.5	1.1
Central Parkway - Chancery Lane to Grafton Street	4,900	7,367	8,333	10,800	1.8	3.4	1.1
Central Parkway - Grafton Street to Keegan Street	4,033	8,189	7,389	11,544	3.1	4.6	1.9
Central Parkway - Keegan Street to "Fallon road	3,617	6,711	8,500	11,594	2.7	5.1	1.3
Central Parkway - East of Fallon Road	7,128	8,306	8,222	9,400	0.7	1.2	0.6
Gleason Drive - Tassajara Road to Brannigan Street	7,094	7,689	9,500	10,094	0.3	1.5	0.3
Gleason Drive - Brannigan Street to Grafton Street	4,806	4,806	6,000	6,000	0.0	1.0	0.0
Gleason Drive - Grafton Street ot Fallon Road.	4,622	4,622	6,944	6,944	0.0	1.8	0.0

SOUNDPLAN MODELING OUTPUTS

No Wall - 1st Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A)	Lr,lim	dB(A)	Ldn	dB(A)	Leq,d	dB(A)	Leq,n	dB(A)	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G									68.7		62.3		62.3				
R1	SCR	G									71.9		65.5		65.5				
R2	SCR	G									72.4		66		66				
R3	SCR	G									72.6		66.2		66.2				
R4	SCR	G									72.8		66.4		66.4				
R5	SCR	G									72.9		66.5		66.5				
R6	SCR	G									72.9		66.5		66.5				
R7	SCR	G									72.7		66.3		66.3				
R8	SCR	G									74.7		68.3		68.3				
R9	SCR	G									73.5		67.1		67.1				
R10	SCR	G									71.7		65.3		65.3				
R11	SCR	G									70.5		64.1		64.1				
R12	SCR	G									69.2		62.8		62.8				
R13	SCR	G									67.9		61.5		61.5				
R14	SCR	G									66.8		60.4		60.4				
R15	SCR	G									65.4		59		59				
R16	SCR	G									63.8		57.4		57.4				
R17	SCR	G									64.2		57.8		57.8				
R18	SCR	G									63.9		57.5		57.5				
R19	SCR	G									63.4		57		57				
R20	SCR	G									62.8		56.4		56.4				
R21	SCR	G									63.5		57.1		57.1				
R22	SCR	G									64.3		57.9		57.9				
R23	SCR	G									64.8		58.4		58.4				
R24	SCR	G									65.5		59.1		59.1				
R25	SCR	G									66.5		60.1		60.1				
R26	SCR	G									66.9		60.5		60.5				
R27	SCR	G									67.2		60.8		60.8				
R28	SCR	G									76		69.6		69.6				
R29	SCR	G									75.7		69.3		69.3				
R30	SCR	G									75.1		68.7		68.7				

R31	SCR	G	74.4	68	68
R32	SCR	G	73.7	67.3	67.3
R33	SCR	G	73	66.6	66.6
R34	SCR	G	72.2	65.8	65.8

No Wall - 2nd Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A)	Lr,lim	dB(A)	Ldn	dB(A)	Leq,d	dB(A)	Leq,n	dB(A)	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G									68.7		62.3		62.3				
R1	SCR	G									72.8		66.4		66.4				
R2	SCR	G									73.3		66.9		66.9				
R3	SCR	G									73.5		67.1		67.1				
R4	SCR	G									73.7		67.3		67.3				
R5	SCR	G									73.8		67.4		67.4				
R6	SCR	G									73.8		67.4		67.4				
R7	SCR	G									73.6		67.2		67.2				
R8	SCR	G									75.7		69.3		69.3				
R9	SCR	G									74.4		68		68				
R10	SCR	G									72.6		66.2		66.2				
R11	SCR	G									71.3		64.9		64.9				
R12	SCR	G									70		63.6		63.6				
R13	SCR	G									68.8		62.3		62.3				
R14	SCR	G									67.7		61.3		61.3				
R15	SCR	G									66.2		59.8		59.8				
R16	SCR	G									64.6		58.2		58.2				
R17	SCR	G									65		58.6		58.6				
R18	SCR	G									64.7		58.2		58.2				
R19	SCR	G									64.2		57.8		57.8				
R20	SCR	G									63.5		57.1		57.1				
R21	SCR	G									64.3		57.9		57.9				
R22	SCR	G									65.1		58.7		58.7				
R23	SCR	G									65.7		59.3		59.3				
R24	SCR	G									66.3		59.9		59.9				
R25	SCR	G									67.3		60.9		60.9				
R26	SCR	G									67.7		61.3		61.3				
R27	SCR	G									68		61.6		61.6				
R28	SCR	G									76.9		70.4		70.4				
R29	SCR	G									76.6		70.2		70.2				
R30	SCR	G									76		69.6		69.6				

R31	SCR	G	75.4	69	69
R32	SCR	G	74.7	68.3	68.3
R33	SCR	G	73.9	67.5	67.5
R34	SCR	G	73.1	66.7	66.7

No Wall - 3rd Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A)	Lr,lim	dB(A)	Ldn	dB(A)	Leq,d	dB(A)	Leq,n	dB(A)	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G									69.7		63.3		63.3				
R1	SCR	G									73.1		66.7		66.7				
R2	SCR	G									73.6		67.2		67.2				
R3	SCR	G									73.9		67.5		67.5				
R4	SCR	G									74.1		67.7		67.7				
R5	SCR	G									74.2		67.8		67.8				
R6	SCR	G									74.3		67.8		67.8				
R7	SCR	G									74		67.6		67.6				
R8	SCR	G									76.1		69.7		69.7				
R9	SCR	G									74.8		68.3		68.3				
R10	SCR	G									72.8		66.4		66.4				
R11	SCR	G									71.5		65.1		65.1				
R12	SCR	G									70.2		63.8		63.8				
R13	SCR	G									68.9		62.5		62.5				
R14	SCR	G									67.9		61.4		61.4				
R15	SCR	G									66.4		60		60				
R16	SCR	G									64.8		58.4		58.4				
R17	SCR	G									65.1		58.7		58.7				
R18	SCR	G									64.8		58.4		58.4				
R19	SCR	G									64.3		57.9		57.9				
R20	SCR	G									63.7		57.3		57.3				
R21	SCR	G									64.5		58.1		58.1				
R22	SCR	G									65.3		58.9		58.9				
R23	SCR	G									65.8		59.4		59.4				
R24	SCR	G									66.5		60.1		60.1				
R25	SCR	G									67.5		61.1		61.1				
R26	SCR	G									67.9		61.4		61.4				
R27	SCR	G									68.2		61.8		61.8				
R28	SCR	G									77.2		70.8		70.8				
R29	SCR	G									77		70.6		70.6				
R30	SCR	G									76.4		70		70				

R31	SCR	G	75.8	69.4	69.4
R32	SCR	G	75.1	68.7	68.7
R33	SCR	G	74.3	67.9	67.9
R34	SCR	G	73.5	67.1	67.1

No Wall - 4th Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A)	Lr,lim	dB(A)	Ldn	dB(A)	Leq,d	dB(A)	Leq,n	dB(A)	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G								69.7		63.3		63.3					
R1	SCR	G								73.4		67		67					
R2	SCR	G								73.9		67.5		67.5					
R3	SCR	G								74.2		67.8		67.8					
R4	SCR	G								74.4		68		68					
R5	SCR	G								74.6		68.2		68.2					
R6	SCR	G								74.6		68.2		68.2					
R7	SCR	G								74.3		67.9		67.9					
R8	SCR	G								76.3		69.9		69.9					
R9	SCR	G								75		68.6		68.6					
R10	SCR	G								73		66.6		66.6					
R11	SCR	G								71.7		65.3		65.3					
R12	SCR	G								70.3		63.9		63.9					
R13	SCR	G								69		62.6		62.6					
R14	SCR	G								67.9		61.5		61.5					
R15	SCR	G								66.4		60		60					
R16	SCR	G								64.8		58.4		58.4					
R17	SCR	G								65.1		58.7		58.7					
R18	SCR	G								64.8		58.4		58.4					
R19	SCR	G								64.3		57.9		57.9					
R20	SCR	G								63.7		57.3		57.3					
R21	SCR	G								64.5		58.1		58.1					
R22	SCR	G								65.3		58.9		58.9					
R23	SCR	G								65.8		59.4		59.4					
R24	SCR	G								66.5		60.1		60.1					
R25	SCR	G								67.5		61.1		61.1					
R26	SCR	G								67.9		61.4		61.4					
R27	SCR	G								68.2		61.8		61.8					
R28	SCR	G								77.2		70.8		70.8					
R29	SCR	G								77		70.6		70.6					
R30	SCR	G								76.4		70		70					

R31	SCR	G	75.8	69.4	69.4
R32	SCR	G	75.1	68.7	68.7
R33	SCR	G	74.3	67.9	67.9
R34	SCR	G	73.5	67.1	67.1

Mitigated - 1st Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A	Lr,lim	dB(A	Ldn	dB(A)	Leq,d	dB(A	Leq,n	dB(A	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G									68.7		62.3		62.3				
R1	SCR	G									54.8		48.4		48.4				
R2	SCR	G									54.9		48.5		48.5				
R3	SCR	G									55.2		48.7		48.7				
R4	SCR	G									55.3		48.9		48.9				
R5	SCR	G									55.5		49		49				
R6	SCR	G									55.5		49		49				
R7	SCR	G									55.3		48.8		48.8				
R8	SCR	G									57.4		51		51				
R9	SCR	G									56.3		49.9		49.9				
R10	SCR	G									55.5		49.1		49.1				
R11	SCR	G									70.5		64.1		64.1				
R12	SCR	G									69.2		62.8		62.8				
R13	SCR	G									67.9		61.5		61.5				
R14	SCR	G									66.8		60.4		60.4				
R15	SCR	G									65.4		59		59				
R16	SCR	G									63.8		57.4		57.4				
R17	SCR	G									64.2		57.8		57.8				
R18	SCR	G									63.9		57.5		57.5				
R19	SCR	G									63.4		57		57				
R20	SCR	G									62.8		56.4		56.4				
R21	SCR	G									63.5		57.1		57.1				
R22	SCR	G									64.3		57.9		57.9				
R23	SCR	G									64.8		58.4		58.4				
R24	SCR	G									65.5		59.1		59.1				
R25	SCR	G									66.4		60		60				
R26	SCR	G									66.7		60.3		60.3				
R27	SCR	G									66.9		60.5		60.5				
R28	SCR	G									58		51.6		51.6				
R29	SCR	G									57.8		51.4		51.4				
R30	SCR	G									57.4		51		51				

R31	SCR	G	56.7	50.3	50.3
R32	SCR	G	56.3	49.9	49.9
R33	SCR	G	55.5	49.1	49.1
R34	SCR	G	55.4	49	49

Mitigated - 2nd Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A	Lr,lim	dB(A	Ldn	dB(A)	Leq,d	dB(A	Leq,n	dB(A	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G								68.7		62.3		62.3					
R1	SCR	G								57.1		50.7		50.7					
R2	SCR	G								56.3		49.9		49.9					
R3	SCR	G								56.5		50.1		50.1					
R4	SCR	G								56.9		50.5		50.5					
R5	SCR	G								57		50.6		50.6					
R6	SCR	G								57.4		50.9		50.9					
R7	SCR	G								57.4		51		51					
R8	SCR	G								60.7		54.3		54.3					
R9	SCR	G								59.5		53.1		53.1					
R10	SCR	G								59		52.5		52.5					
R11	SCR	G								71.3		64.9		64.9					
R12	SCR	G								70		63.6		63.6					
R13	SCR	G								68.8		62.3		62.3					
R14	SCR	G								67.7		61.3		61.3					
R15	SCR	G								66.2		59.8		59.8					
R16	SCR	G								64.6		58.2		58.2					
R17	SCR	G								65		58.6		58.6					
R18	SCR	G								64.7		58.2		58.2					
R19	SCR	G								64.2		57.8		57.8					
R20	SCR	G								63.5		57.1		57.1					
R21	SCR	G								64.3		57.9		57.9					
R22	SCR	G								65.1		58.7		58.7					
R23	SCR	G								65.7		59.3		59.3					
R24	SCR	G								66.3		59.9		59.9					
R25	SCR	G								67.1		60.7		60.7					
R26	SCR	G								67.5		61.1		61.1					
R27	SCR	G								67.7		61.3		61.3					
R28	SCR	G								58.6		52.2		52.2					
R29	SCR	G								59.5		53.1		53.1					
R30	SCR	G								59.8		53.4		53.4					

R31	SCR	G	58.7	52.3	52.3
R32	SCR	G	58.8	52.4	52.4
R33	SCR	G	57.4	51	51
R34	SCR	G	57.7	51.3	51.3

Mitigated - 3rd Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A	Lr,lim	dB(A	Ldn	dB(A)	Leq,d	dB(A	Leq,n	dB(A	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G								69.7	63.3		63.3						
R1	SCR	G								64.3	57.9		57.9						
R2	SCR	G								62.9	56.5		56.5						
R3	SCR	G								63.1	56.7		56.7						
R4	SCR	G								63.9	57.5		57.5						
R5	SCR	G								63.9	57.5		57.5						
R6	SCR	G								64.5	58.1		58.1						
R7	SCR	G								64.8	58.4		58.4						
R8	SCR	G								68.1	61.7		61.7						
R9	SCR	G								66.8	60.4		60.4						
R10	SCR	G								65.9	59.5		59.5						
R11	SCR	G								71.5	65.1		65.1						
R12	SCR	G								70.2	63.8		63.8						
R13	SCR	G								68.9	62.5		62.5						
R14	SCR	G								67.9	61.4		61.4						
R15	SCR	G								66.4	60		60						
R16	SCR	G								64.8	58.4		58.4						
R17	SCR	G								65.1	58.7		58.7						
R18	SCR	G								64.8	58.4		58.4						
R19	SCR	G								64.3	57.9		57.9						
R20	SCR	G								63.7	57.3		57.3						
R21	SCR	G								64.5	58.1		58.1						
R22	SCR	G								65.3	58.9		58.9						
R23	SCR	G								65.8	59.4		59.4						
R24	SCR	G								66.5	60.1		60.1						
R25	SCR	G								67.3	60.9		60.9						
R26	SCR	G								67.7	61.3		61.3						
R27	SCR	G								67.9	61.5		61.5						
R28	SCR	G								62.7	56.3		56.3						
R29	SCR	G								66.5	60.1		60.1						
R30	SCR	G								67	60.6		60.6						

R31	SCR	G	65.7	59.3	59.3
R32	SCR	G	66	59.6	59.6
R33	SCR	G	64.4	58	58
R34	SCR	G	64.6	58.2	58.2

Mitigated - 4th Story

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(A	Lr,lim	dB(A	Ldn	dB(A)	Leq,d	dB(A	Leq,n	dB(A	Ldn,diff	dB	Leq,d,diff	Leq,n,diff	dB
Park	SCR	G								69.7		63.3		63.3					
R1	SCR	G								73.4		67		67					
R2	SCR	G								73.9		67.5		67.5					
R3	SCR	G								74.2		67.8		67.8					
R4	SCR	G								74.4		68		68					
R5	SCR	G								74.6		68.2		68.2					
R6	SCR	G								74.6		68.2		68.2					
R7	SCR	G								74.3		67.9		67.9					
R8	SCR	G								76.3		69.9		69.9					
R9	SCR	G								75		68.6		68.6					
R10	SCR	G								73		66.6		66.6					
R11	SCR	G								71.7		65.3		65.3					
R12	SCR	G								70.3		63.9		63.9					
R13	SCR	G								69		62.6		62.6					
R14	SCR	G								67.9		61.5		61.5					
R15	SCR	G								66.4		60		60					
R16	SCR	G								64.8		58.4		58.4					
R17	SCR	G								65.1		58.7		58.7					
R18	SCR	G								64.8		58.4		58.4					
R19	SCR	G								64.3		57.9		57.9					
R20	SCR	G								63.7		57.3		57.3					
R21	SCR	G								64.5		58.1		58.1					
R22	SCR	G								65.3		58.9		58.9					
R23	SCR	G								65.8		59.4		59.4					
R24	SCR	G								66.5		60.1		60.1					
R25	SCR	G								67.3		60.9		60.9					
R26	SCR	G								67.7		61.3		61.3					
R27	SCR	G								67.9		61.5		61.5					
R28	SCR	G								62.7		56.3		56.3					
R29	SCR	G								66.5		60.1		60.1					
R30	SCR	G								67		60.6		60.6					

R31	SCR	G	65.7	59.3	59.3
R32	SCR	G	66	59.6	59.6
R33	SCR	G	64.4	58	58
R34	SCR	G	64.6	58.2	58.2

Appendix I:
AB 52 Consultation

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

December 9, 2019

Chris Stevens
Dublin Unified School District (DUSD)

VIA Email to: stevenchris@dublinusd.org

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, New Comprehensive Dublin High School EIR Project, Alameda County.

Dear Mr. Stevens:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;

   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

   - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.
4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez

Staff Services Analyst

Attatchment

Native American Heritage Commission
Tribal Consultation List
12/9/2019

Amah MutsunTribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
789 Canada Road
Woodside , CA 94062
amahmutsuntribal@gmail.com
(650) 851-7489 Cell
(650) 851-7747 Office
Ohlone/Costanoan

The Confederated Villages of Lisian
Corrina Gould, Chairperson
10926 Edes Avenue
Oakland , CA 94603
corrinagould@gmail.com
(510) 575-8408
Ohlone/Costanoan

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street
Pomona , CA 91766
rumsen@aol.com
(909) 524-8041 Cell
Ohlone/Costanoan

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3388
Fremont , CA 94539
chochenyo@AOL.com
(510) 882-0527 Cell
Ohlone
Bay Miwok
Plains Miwok
Patwin

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister , CA 95024
ams@indiancanyon.org
(831) 637-4238
Ohlone/Costanoan

Muwekma Ohlone Indian Tribe of the SF Bay Area
Charlene Nijmeh, Chairperson
20885 Redwood Road, Suite 2
Castro Valley , CA 94546
cnihmeh@muwekma.org
(408) 464-2892
Ohlone / Costanoan

North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717
Linden , CA 95236
canutes@verizon.net
(209) 887-3415
Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 50 97.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.1, 21080.3.1, and 21080.3.2 for proposed:New Comprehensive Dublin High School EIR Project, Alameda County.

DUBLIN UNIFIED
School District

7471 Larkdale Avenue
Dublin, CA 94568
(925) 828-2551
www.dublin.k12.ca.us

April 3, 2020

Tony Cerda, Chairperson
Costanoan Rumsen Carmel Tribe
244 E. 1st Street
Pomona, CA, 91766

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Mr. Cerda,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

Phase II will accommodate the remaining 1,237 students, and will consist of a second 70,500 sf academy, a 26,490 sf theatre, an orchestra pit, 5,060 sf of VAPA classrooms, a 7,815 sf basement, 4,500 sf of concessions, an aquatic complex, a 400 sf pressbox, and 4,000 seat bleachers.

The District is the lead agency responsible for the California Environmental Quality Act (CEQA). As such, the District would like to provide you with an opportunity to communicate concerns you might have regarding places within the project area that may be important to your community. The District requests your participation in the protection of cultural resources, sacred lands or other heritage sites, with the understanding that you or other members of the community might possess specialized knowledge of the project area. The District requested a Sacred Lands File search, which was completed by NAHC Staff Services Analyst Nancy Gonzalez-Lopez on December 9, 2019, with negative results.

Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Board of Trustees
Amy Miller, President
Megan Rouse, Vice President
Dan Cherrier
Gabrielle Blackman

Superintendent
Dave Marken, Ph.D.
markendave@dublinusd.org

If you or any of your tribal members have any questions or concerns regarding this project, please contact me at 925-828-2551 ext. 8061 or via e-mail at stevenschris@dublinusd.org. Thank you for your consideration of this request.

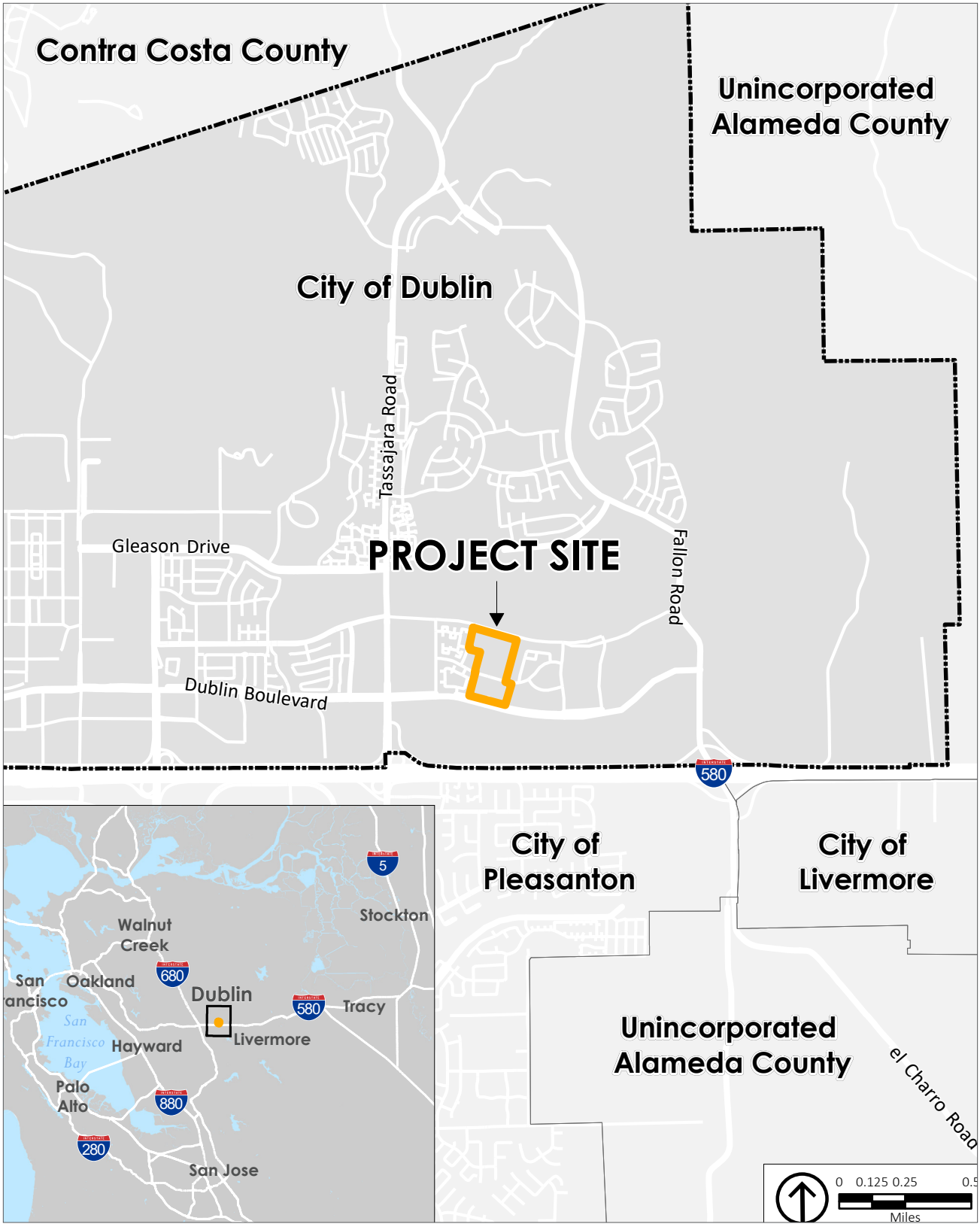
Sincerely,

Chris Stevens, Chief Facilities Operations Officer

Dublin Unified School District

Attachments:
Figure 1: Project Site Location

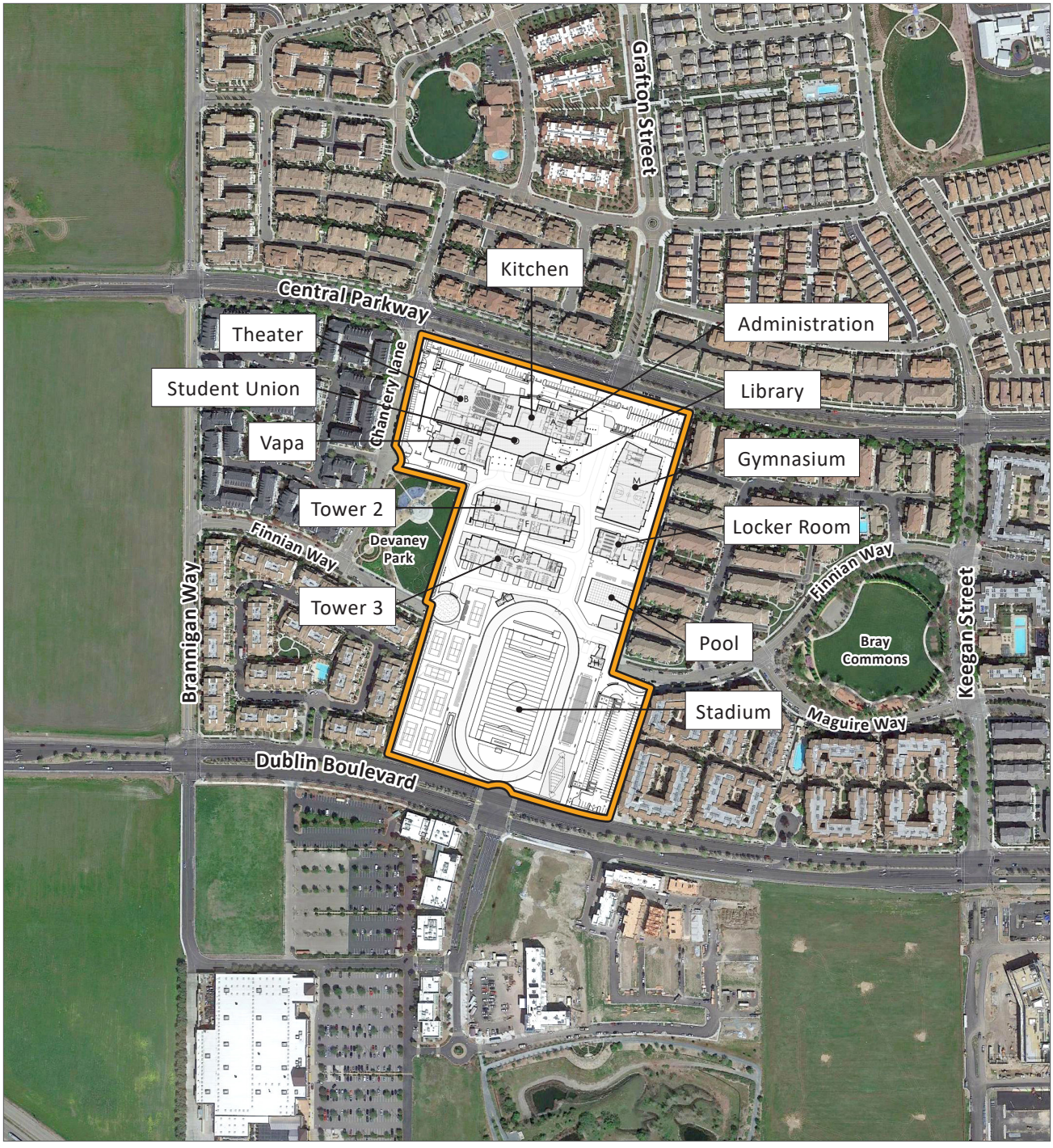
Figure 2: Project Site Plan



Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Project Site Location



Source: Google Earth Professional, 2018. PlaceWorks, 2018.

Figure 2
Project Site Plan

DUBLIN UNIFIED
School District

7471 Larkdale Avenue
Dublin, CA 94568
(925) 828-2551
www.dublin.k12.ca.us

April 3, 2020

Andrew Galvan, Chairperson
The Ohlone Indian Tribe
P.O. Box 3388
Fremont, CA, 94539

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Mr. Galvan,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

Phase II will accommodate the remaining 1,237 students, and will consist of a second 70,500 sf academy, a 26,490 sf theatre, an orchestra pit, 5,060 sf of VAPA classrooms, a 7,815 sf basement, 4,500 sf of concessions, an aquatic complex, a 400 sf pressbox, and 4,000 seat bleachers.

The District is the lead agency responsible for the California Environmental Quality Act (CEQA). As such, the District would like to provide you with an opportunity to communicate concerns you might have regarding places within the project area that may be important to your community. The District requests your participation in the protection of cultural resources, sacred lands or other heritage sites, with the understanding that you or other members of the community might possess specialized knowledge of the project area. The District requested a Sacred Lands File search, which was completed by NAHC Staff Services Analyst Nancy Gonzalez-Lopez on December 9, 2019, with negative results.

Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

Board of Trustees
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Megan Rouse, Vice President
Dan Cherrier
Gabrielle Blackman

Superintendent
Dave Marken, Ph.D.
markendave@dublinusd.org

If you or any of your tribal members have any questions or concerns regarding this project, please contact me at 925-828-2551 ext. 8061 or via e-mail at stevenschris@dublinusd.org. Thank you for your consideration of this request.

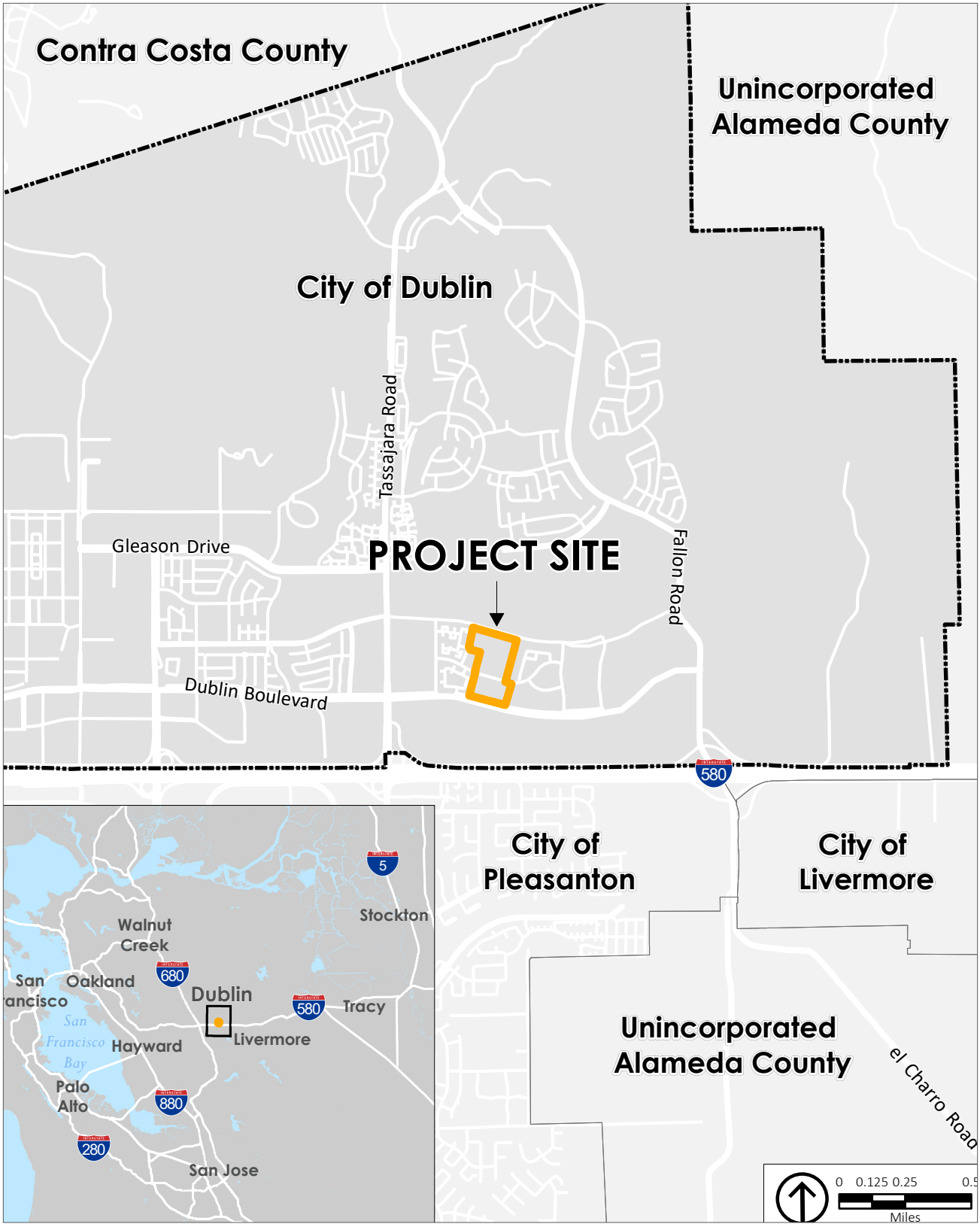
Sincerely,

Chris Stevens, Chief Facilities Operations Officer

Dublin Unified School District

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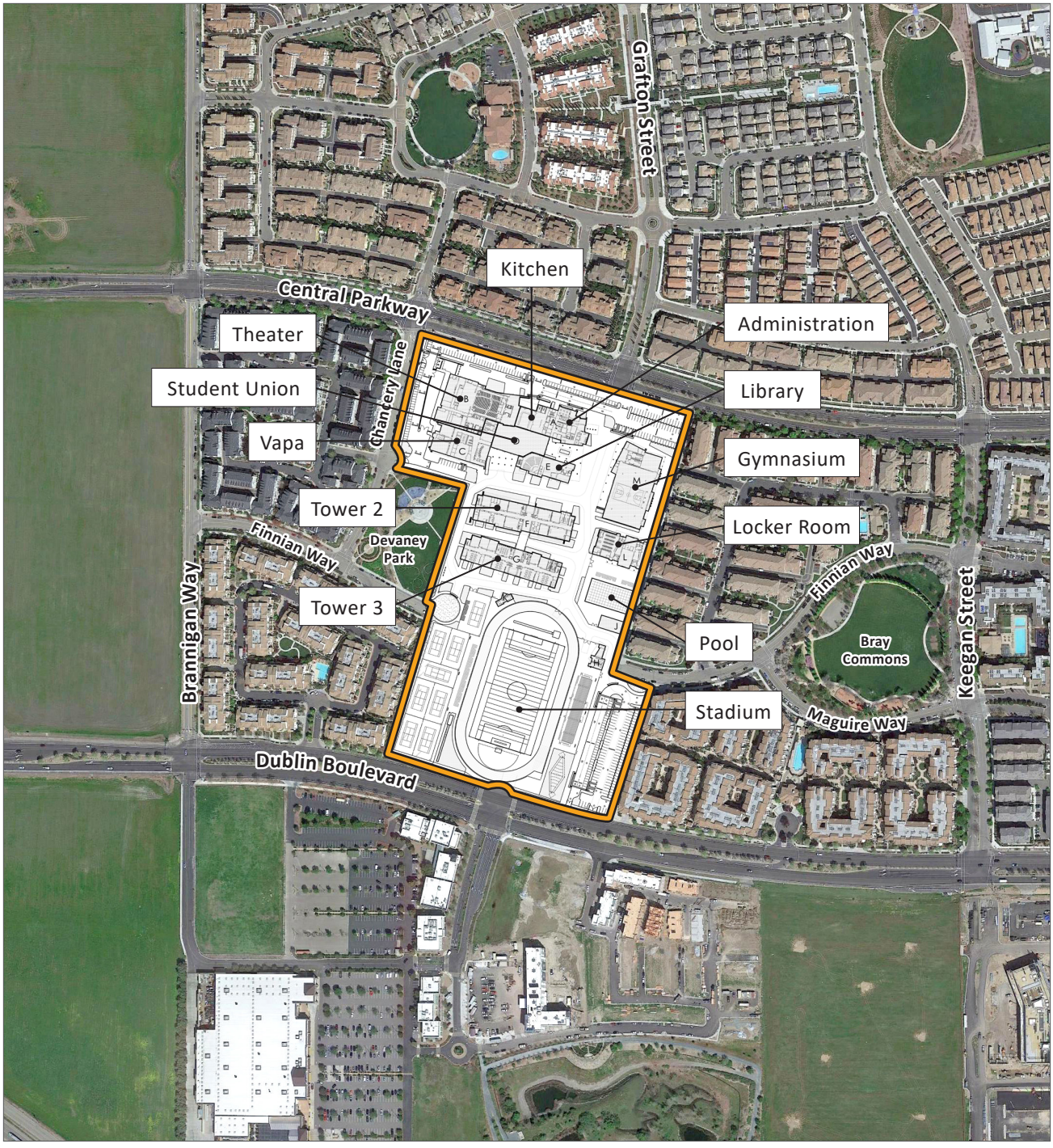
Figure 2: Project Site Plan



Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Project Site Location



Source: Google Earth Professional, 2018. PlaceWorks, 2018.

Figure 2
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DUBLIN UNIFIED
School District

7471 Larkdale Avenue
Dublin, CA 94568
(925) 828-2551
www.dublin.k12.ca.us

April 3, 2020

Corrina Gould, Chairperson
The Confederated Villages of Lisian
10926 Edes Avenue
Oakland, CA, 94603

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Ms. Gould,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

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Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

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Gabrielle Blackman

Superintendent
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markendave@dublinusd.org

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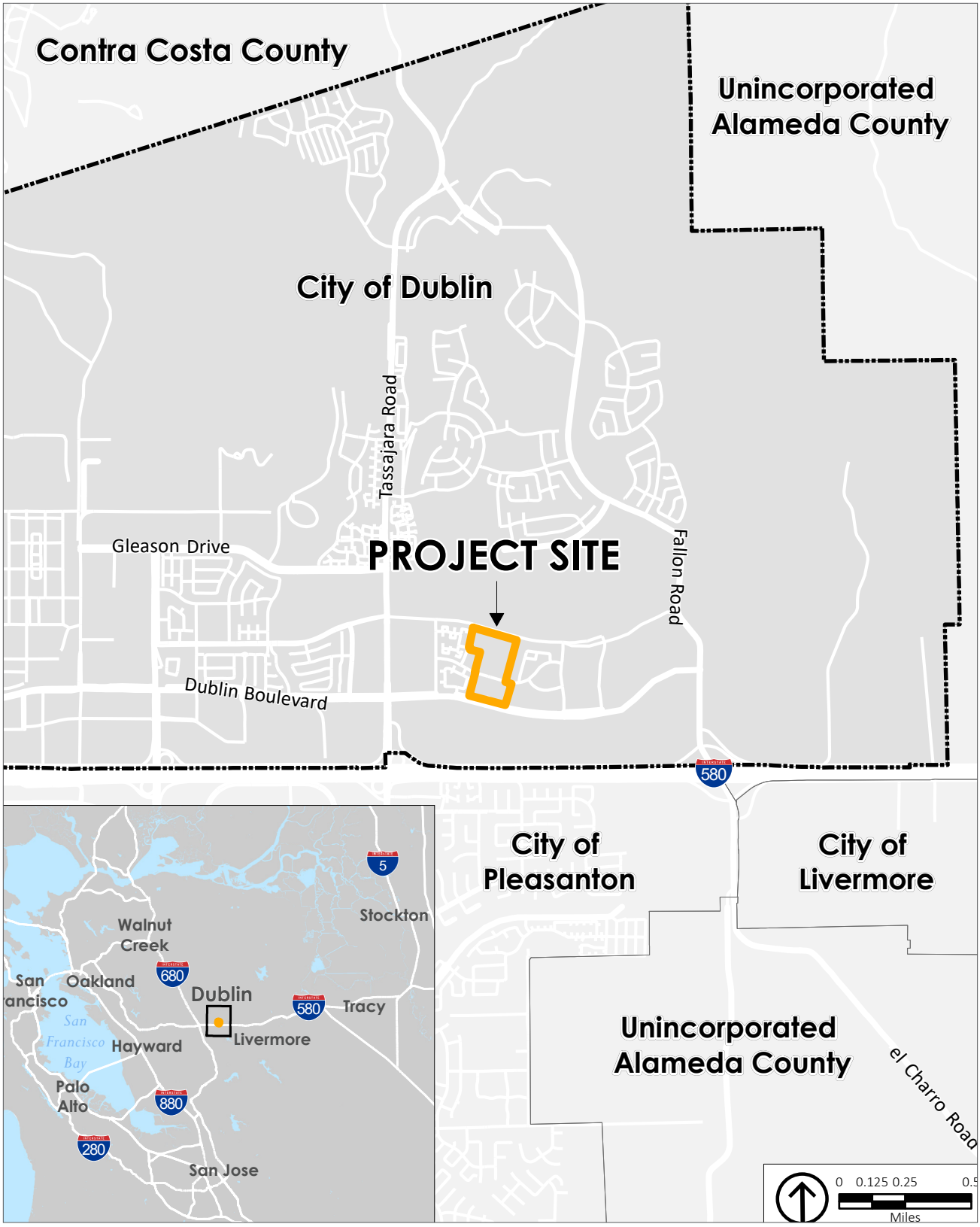
Sincerely,

Chris Stevens, Chief Facilities Operations Officer

Dublin Unified School District

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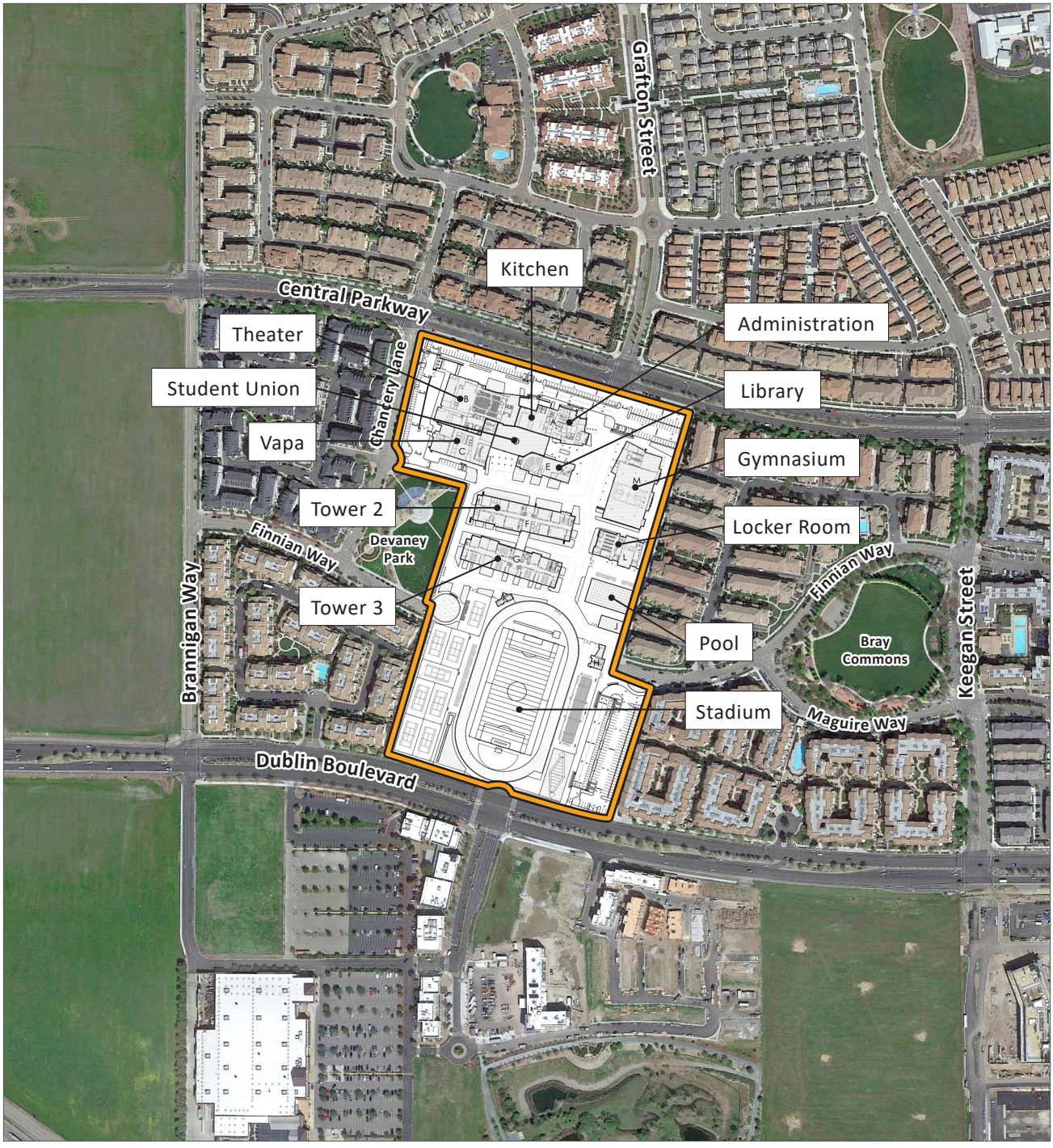
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Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Project Site Location



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Figure 2
Project Site Plan

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www.dublin.k12.ca.us

April 3, 2020

Charlene Nijmeh, Chairperson
Muwekma Ohlone Indian Tribe
of the SF Bay Area
20885 Redwood Road, Suite 232
Castro Valley, CA, 94546

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Ms. Nijmeh,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

Phase II will accommodate the remaining 1,237 students, and will consist of a second 70,500 sf academy, a 26,490 sf theatre, an orchestra pit, 5,060 sf of VAPA classrooms, a 7,815 sf basement, 4,500 sf of concessions, an aquatic complex, a 400 sf pressbox, and 4,000 seat bleachers.

The District is the lead agency responsible for the California Environmental Quality Act (CEQA). As such, the District would like to provide you with an opportunity to communicate concerns you might have regarding places within the project area that may be important to your community. The District requests your participation in the protection of cultural resources, sacred lands or other heritage sites, with the understanding that you or other members of the community might possess specialized knowledge of the project area. The District requested a Sacred Lands File search, which was completed by NAHC Staff Services Analyst Nancy Gonzalez-Lopez on December 9, 2019, with negative results.

Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please consider this letter and preliminary project information as formal notification of a proposed

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Amy Miller, President
Megan Rouse, Vice President
Dan Cherrier
Gabrielle Blackman

Superintendent
Dave Marken, Ph.D.
markendave@dublinusd.org

If you or any of your tribal members have any questions or concerns regarding this project, please contact me at 925-828-2551 ext. 8061 or via e-mail at stevenschris@dublinusd.org. Thank you for your consideration of this request.

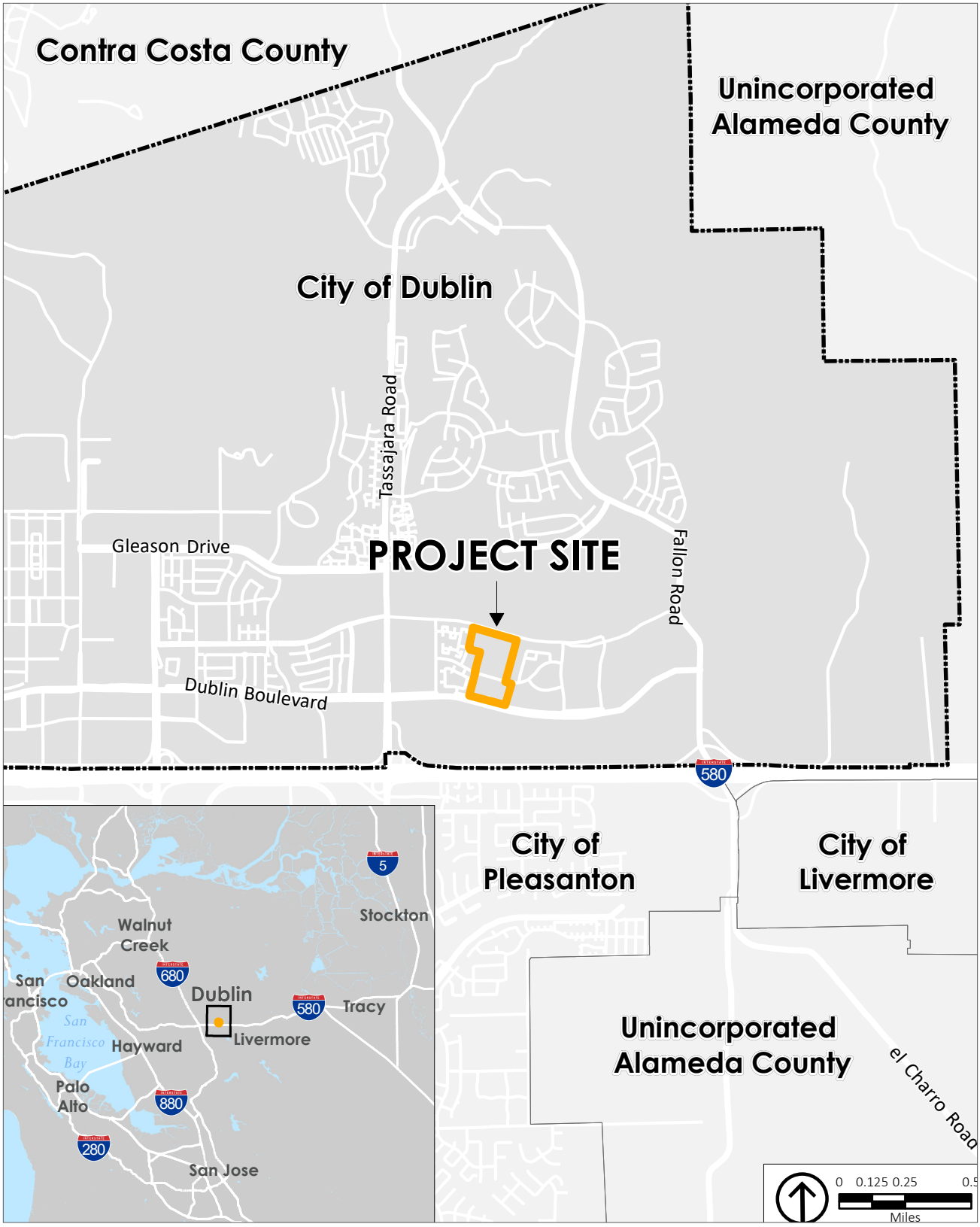
Sincerely,

Chris Stevens, Chief Facilities Operations Officer

Dublin Unified School District

Attachments:
Figure 1: Project Site Location

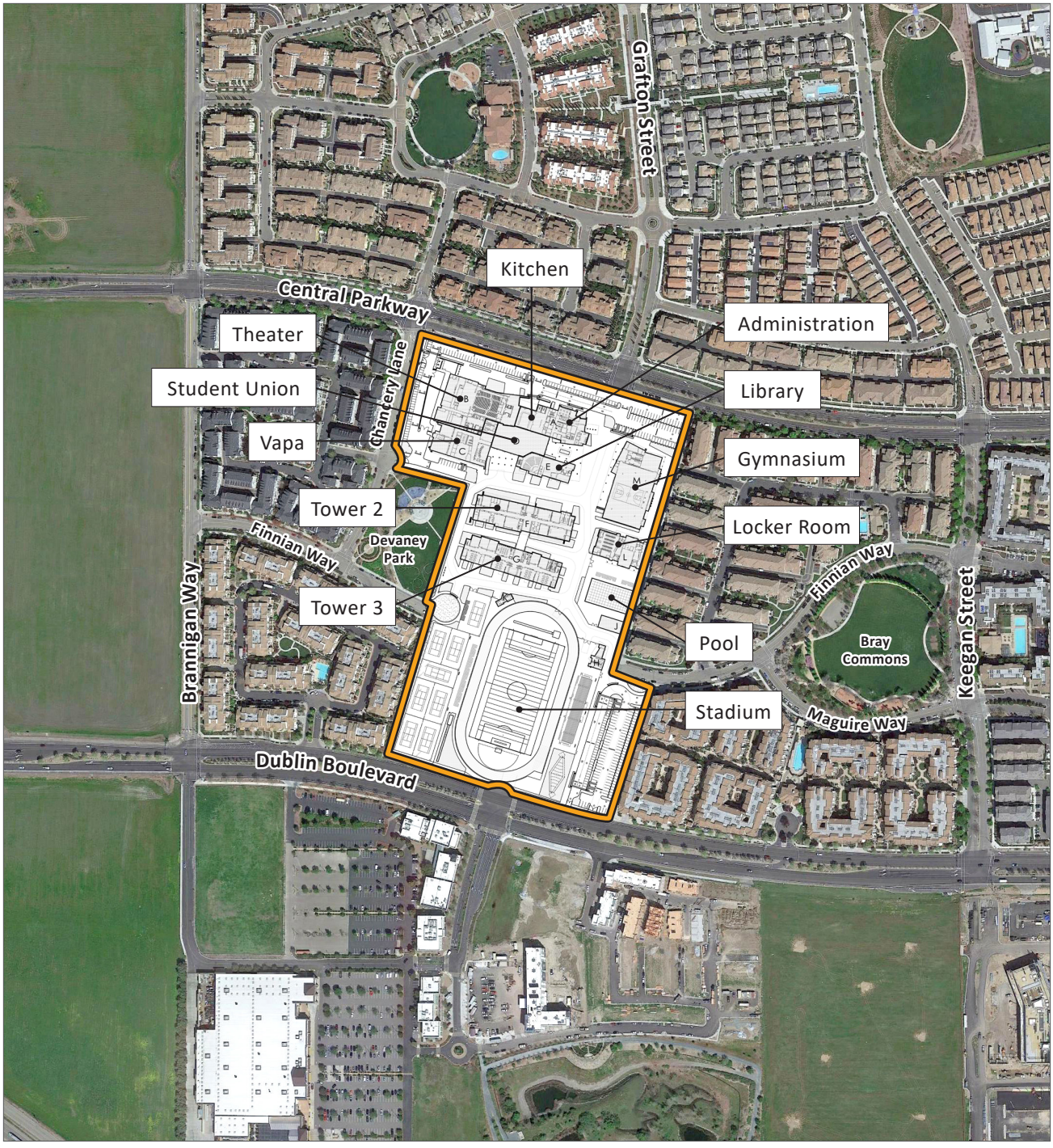
Figure 2: Project Site Plan



Source: ESRI, 2017. PlaceWorks, 2018.

ProjectSite Dublin City Limit

Figure 1
Project Site Location



Source: Google Earth Professional, 2018. PlaceWorks, 2018.

Figure 2
Project Site Plan

DUBLIN UNIFIED
School District

7471 Larkdale Avenue
Dublin, CA 94568
(925) 828-2551
www.dublin.k12.ca.us

April 3, 2020

Katherine Erolinda Perez, Chairperson
North Valley Yokuts Tribe
P.O. Box 717
Linden, CA, 95236

SUBJECT: AB 52 Consultation Notification for the New Dublin Comprehensive Dublin High School Project, Dublin, California

Dear Ms. Perez,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

Phase I will accommodate 1,308 students, and will consist of the construction of a 22,330 square foot (sf) administration building, a 13,200 sf student union, a 6,500 sf kitchen, a 20,900 sf library, a 31,000 sf gymnasium, a 17,500 sf locker room, a 70,500 sf academy, 17,059 sf of Visual and Performing Arts Guidance (VAPA) classrooms, an all-weather track with drainage, a synthetic field with drainage, four overhead field lights, eight tennis courts, and a 134 stall parking garage.

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Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52).

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Dan Cherrier
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Superintendent
Dave Marken, Ph.D.
markendave@dublinusd.org

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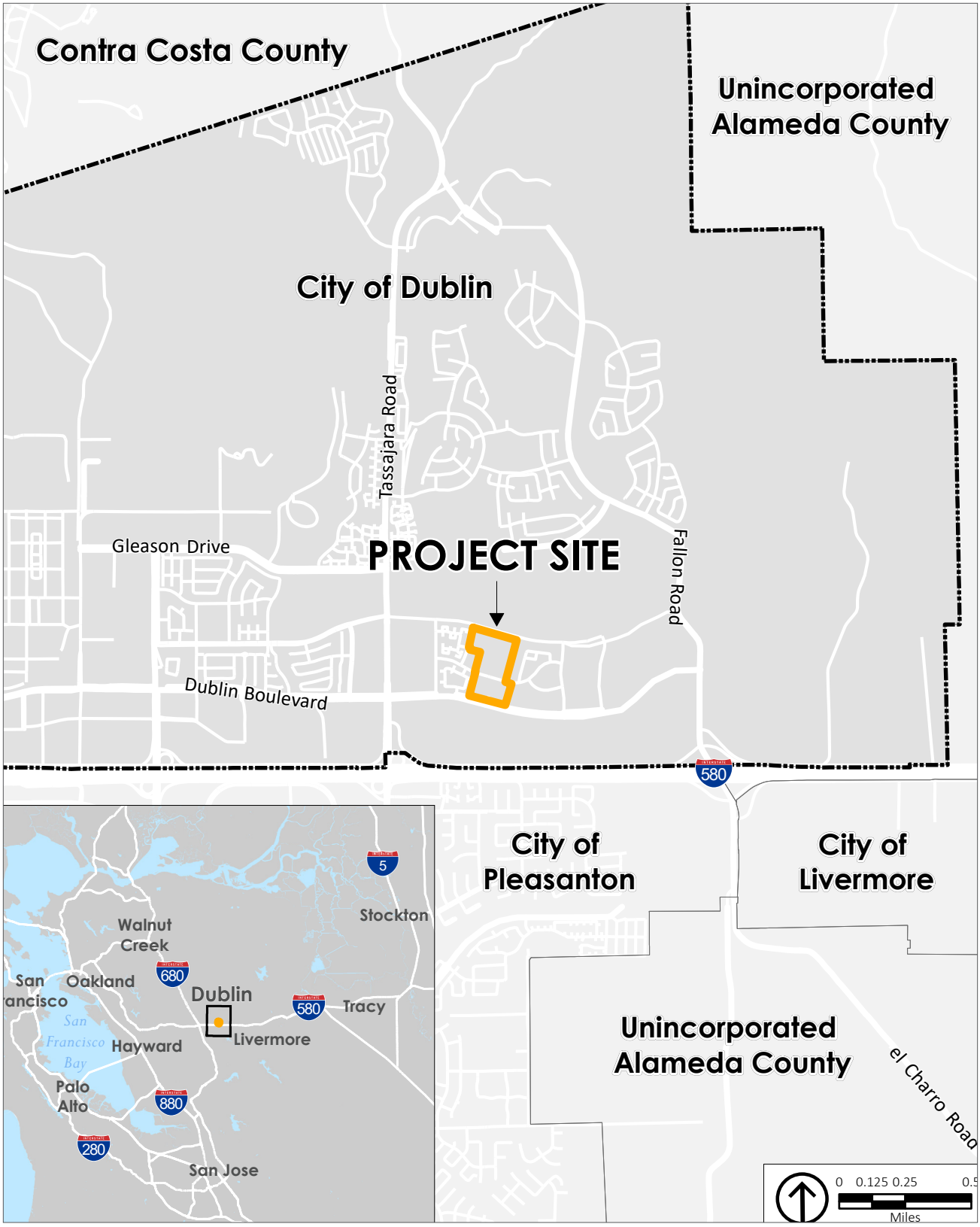
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Dublin Unified School District

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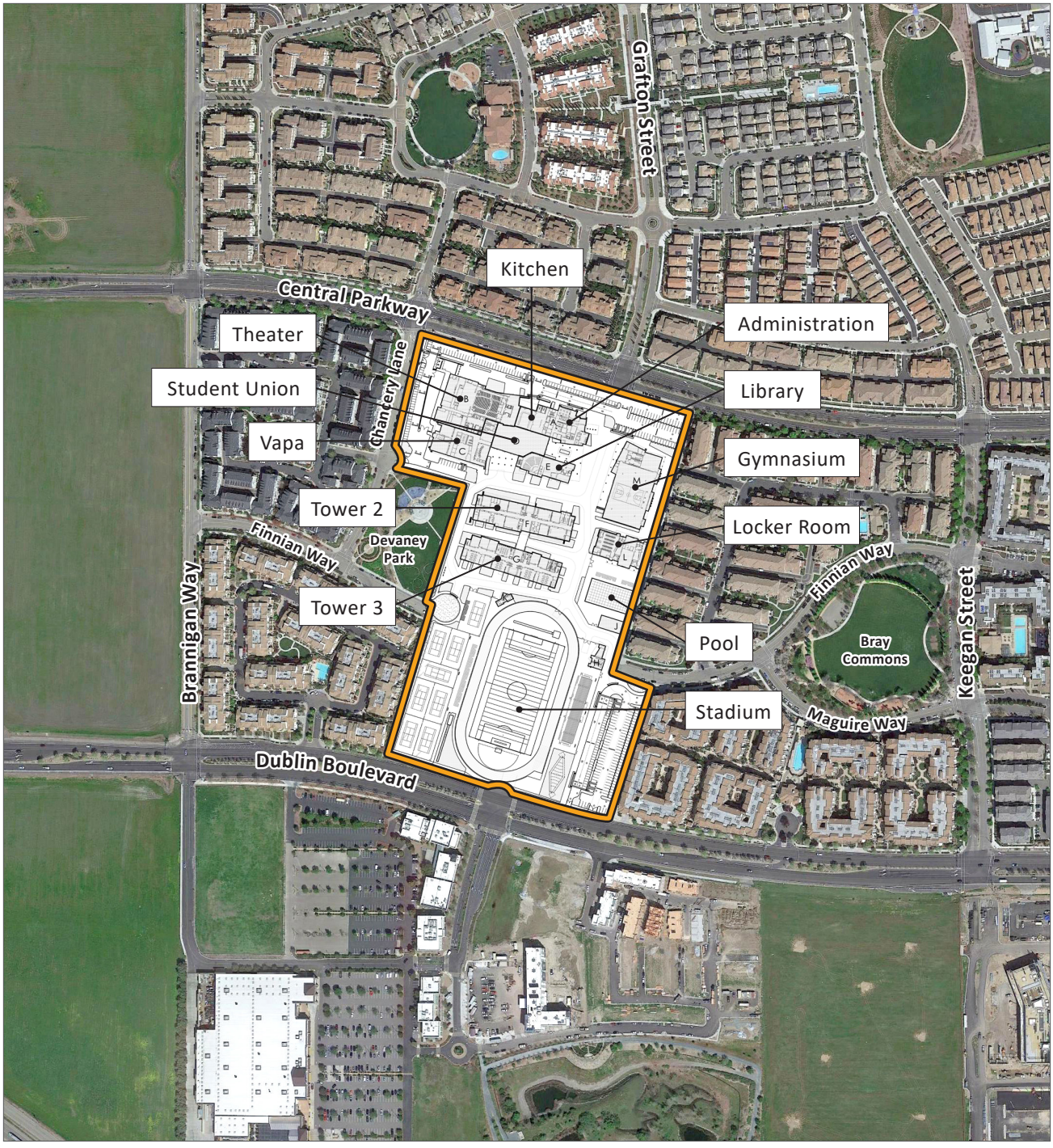
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Figure 1
Project Site Location



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www.dublin.k12.ca.us

April 3, 2020

Ann Marie Sayers, Chairperson
Indian Canyon Mutsun Band of
Costanoan
P.O. Box 28
Hollister, CA, 95024

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Ms. Sayers,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

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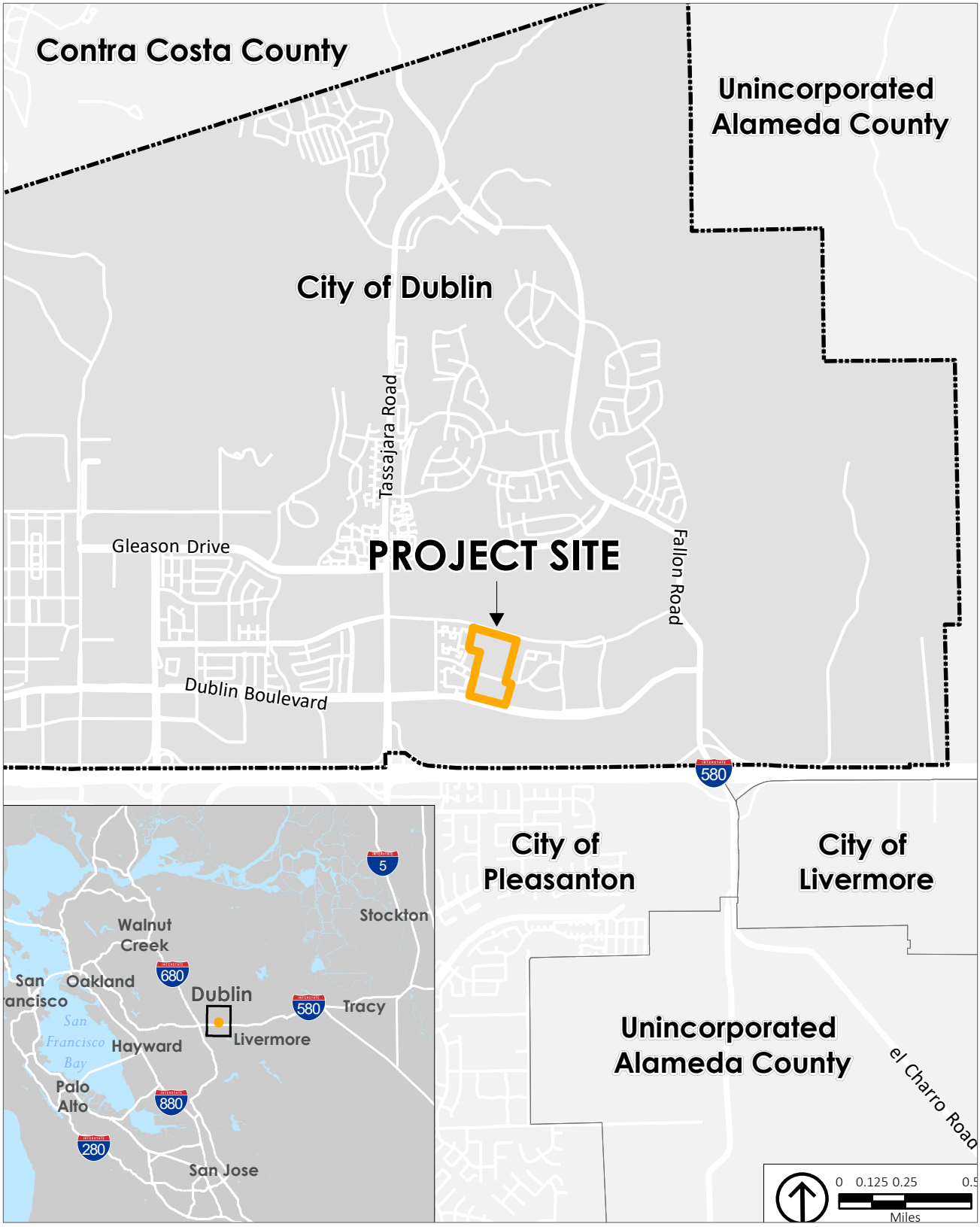
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Dublin Unified School District

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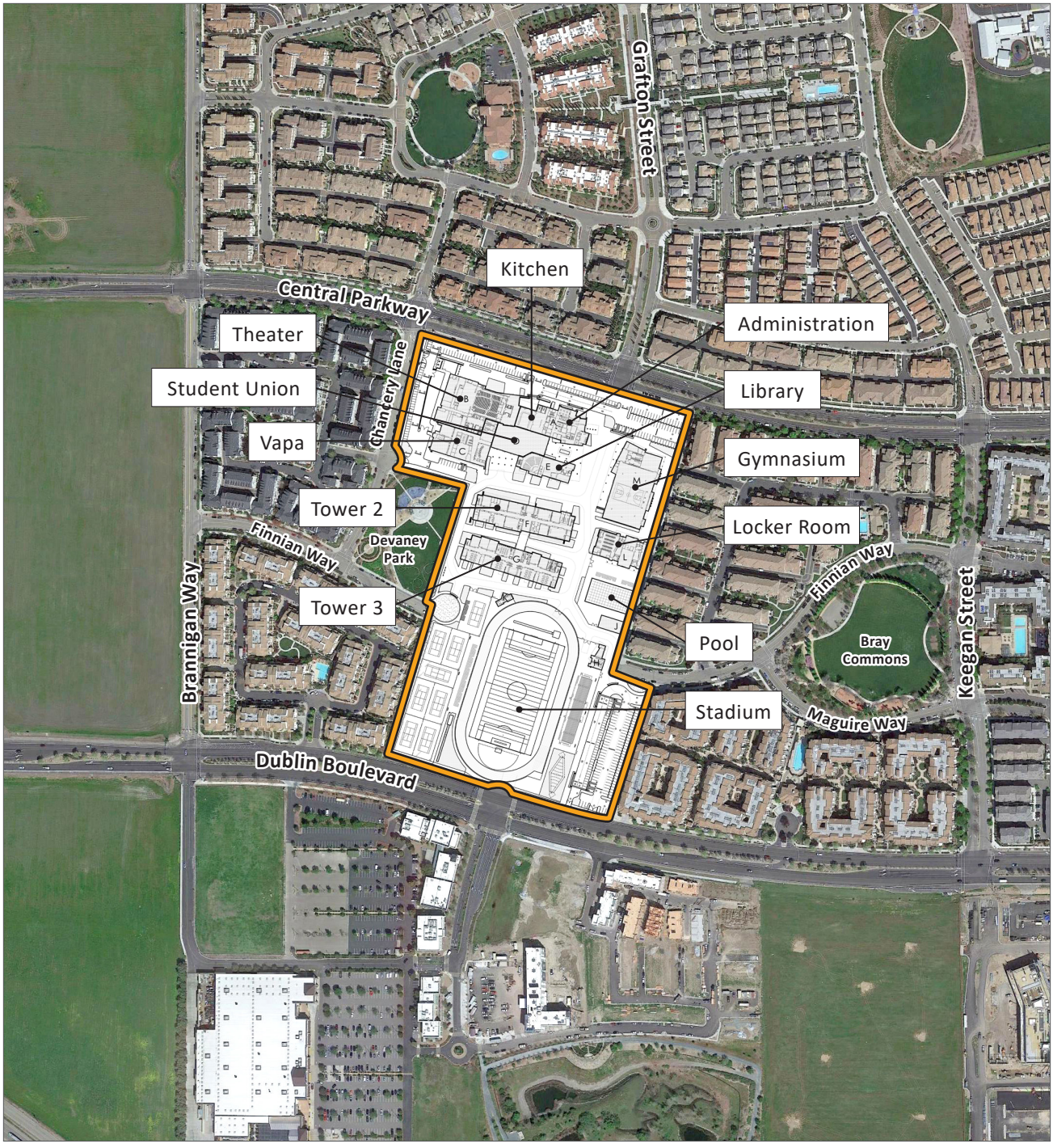
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DUBLIN UNIFIED
School District

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Dublin, CA 94568
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April 3, 2020

Irene Zwierlein, Chairperson
Amah Mutsun Tribal Band of
Mission San Juan Bautista
789 Canada Road
Woodside, CA, 94602

SUBJECT: AB 52 Consultation Notification for the New Comprehensive Dublin High School Project, Dublin, California

Dear Ms. Zwierlein,

The Dublin Unified School District (District) proposes the development, construction, operation, and maintenance of a District high school and related educational purposes, including all uses necessary, incidental, or convenient thereto. The new comprehensive high school is planned to ultimately accommodate approximately 2,500 students and will be built in two phases (Phase I and Phase II).

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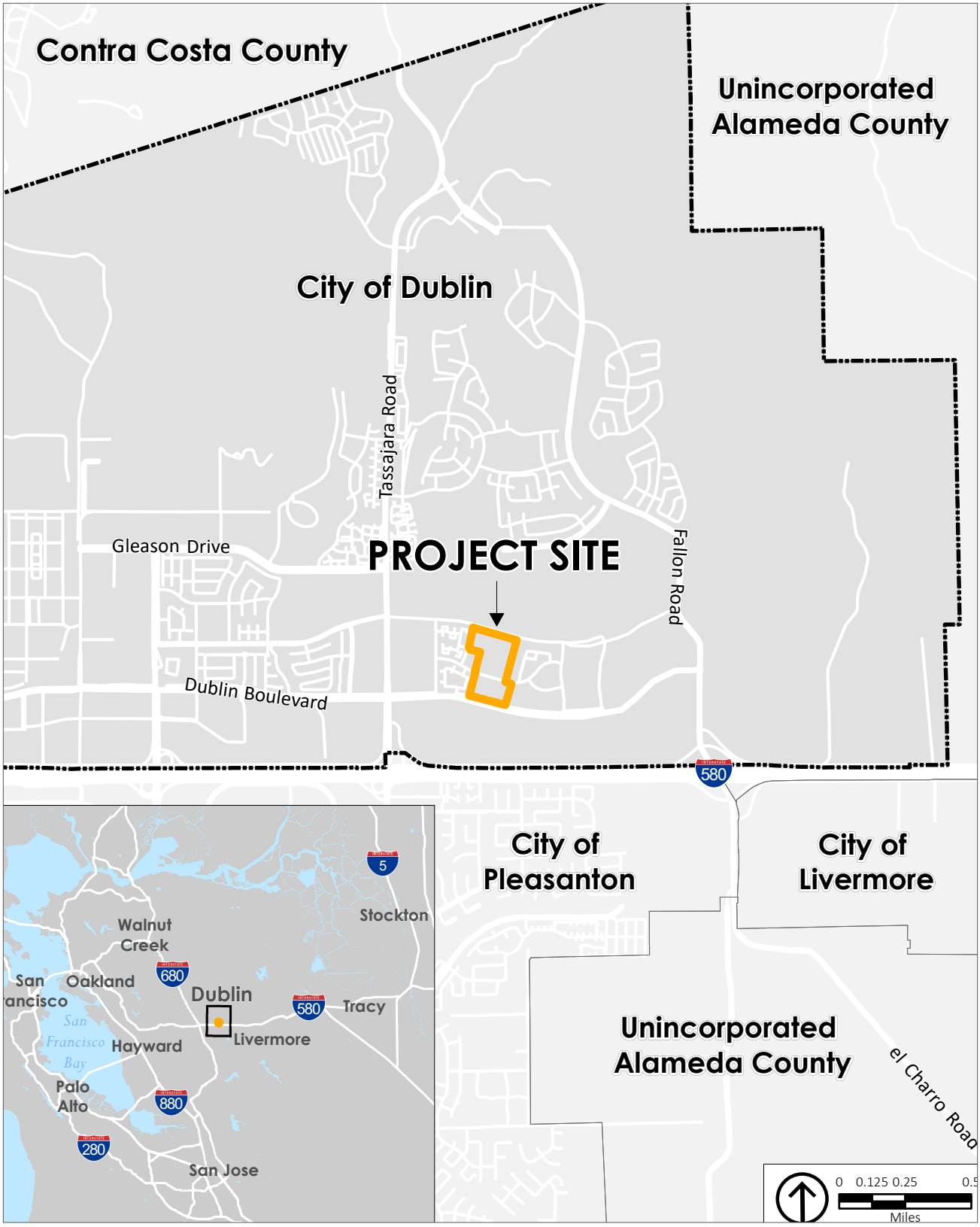
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Chris Stevens, Chief Facilities Operations Officer

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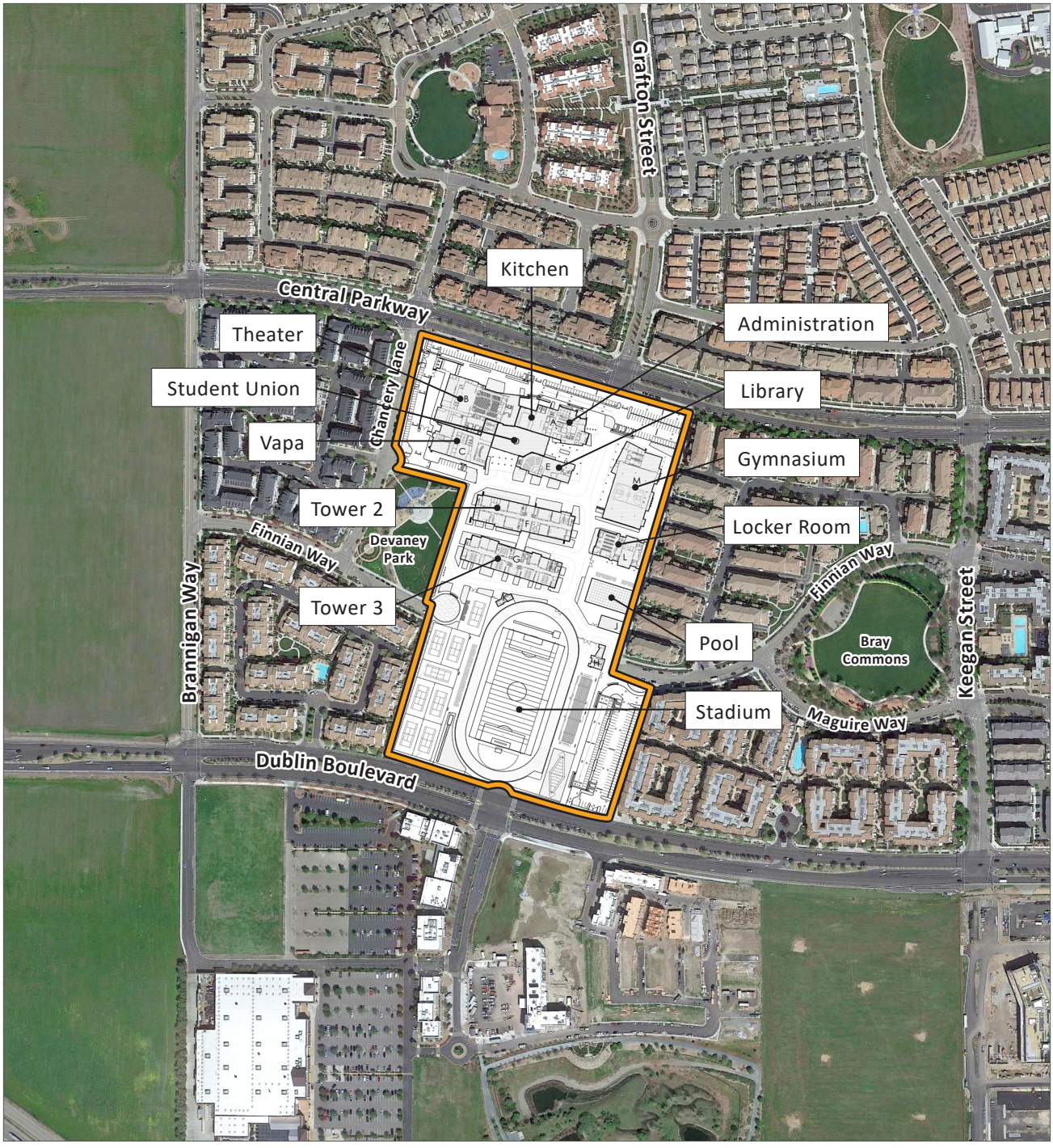
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