DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

KCCD ARVIN GENERAL EDUCATIONAL CENTER

JANUARY 2020

DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

KCCD ARVIN CAMPUS, ARVIN, CALIFORNIA

Prepared for:

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Project #190166

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Arvin, CA 93203

City of Arvin
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Arvin, CA 93203

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Kern Council of Governments
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Arvin, CA 93203

Kern County Public Works
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Arvin, CA 93203

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Geothermal Resources
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Eshom Valley Band
Kenneth Woodrow, Chairperson
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Salinas, CA 93906

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Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Arvin General Education Center

Lead Agency: Kern Community College District | Contact Person: Eric Mittlestead

Mailing Address: 2100 Chester Avenue | Phone: (661) 336-5095

City: Bakersfield | Zip: 93301 | County: Kern

Project Location: County: Kern | City/Nearest Community: Arvin

Cross Streets: Campus Drive and Varsity Road | Zip Code: 93203

Longitude/Latitude (degrees, minutes and seconds): 35 ° 12 ′ 54.6 ″ N / 118 ° 50 ′ 10.8 ″ W | Total Acres: 37

Assessor's Parcel No.: 190-020-14,190-020-46,190-020-48 | Section: 23 | Twp.: 31S | Range: 29E | Base: MDB&M

Within 2 Miles: State Hwy #: 223 | Waterways: N/A

Airports: N/A | Railways: N/A | Schools: Arvin HS, Grimmway Aca

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other:

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: School Developm

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☒ Educational: 1,000 student capacity
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☒ Schools/Universities ☒ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☐ Cumulative Effects ☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

Vacant land. Lmtd Multiple Family Dwelling (R-3), Professional Office (C-0), Mixed-Use Overlay (MUO)/Gen Commercial (C-2), Hig

Project Description: *(please use a separate page if necessary)*

The Kern Community College District (KCCD, as lead agency) has proposed to construct and operate a new educational facility (Project) within the City of Arvin, at the southern end of San Joaquin Valley, California. The campus will occupy a portion of the approximately 37-acre site (APNs 190-020-14, -46, and -48), which is located on the southwest corner of Campus Drive and Varsity Avenue. The Project includes the construction of an approximately 27,100 square foot general education facility and associated 260-space parking lot. The college student population is estimated to be approximately 1,000 students. The Project site would be primarily accessed from Varsity Road from the north and North Walnut Street from the south.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

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____	Boating & Waterways, Department of	____	Office of Public School Construction
____	California Emergency Management Agency	____	Parks & Recreation, Department of
____	California Highway Patrol	____	Pesticide Regulation, Department of
X	Caltrans District #6	____	Public Utilities Commission
____	Caltrans Division of Aeronautics	X	Regional WQCB #5
____	Caltrans Planning	____	Resources Agency
____	Central Valley Flood Protection Board	____	Resources Recycling and Recovery, Department of
____	Coachella Valley Mtns. Conservancy	____	S.F. Bay Conservation & Development Comm.
____	Coastal Commission	____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
____	Colorado River Board	____	San Joaquin River Conservancy
____	Conservation, Department of	____	Santa Monica Mtns. Conservancy
____	Corrections, Department of	____	State Lands Commission
____	Delta Protection Commission	____	SWRCB: Clean Water Grants
____	Education, Department of	X	SWRCB: Water Quality
____	Energy Commission	____	SWRCB: Water Rights
X	Fish & Game Region #4	____	Tahoe Regional Planning Agency
____	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
____	Forestry and Fire Protection, Department of	X	Water Resources, Department of
____	General Services, Department of		
____	Health Services, Department of	X	Other: Division of the State Architect
____	Housing & Community Development	____	Other:
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date January 3, 2020 Ending Date February 3, 2020

Lead Agency (Complete if applicable):

Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: _____

Applicant: _____
Address: _____
City/State/Zip: _____
Phone: _____

Signature of Lead Agency Representative: /s/ **Date:** 1/3/2020

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

This is to advise that the Kern Community College District (KCCD) has prepared a Mitigated Negative Declaration for the Project identified below that is scheduled to be the subject of a public hearing and consideration of adoption at the Kern Community College District – Board of Trustees meeting on Thursday, **February 13, 2020**.

PLEASE BE ADVISED that the Kern Community College District – Board of Trustees will consider adopting the Mitigated Negative Declaration at the Board's meeting to be held on **February 13, 2020**. Presentations will be made at approximately 11:00 a.m. Action on items on the board agenda will occur after the presentations. The meeting will be held in the Weill Institute, Pacific Conference Room, 2100 Chester Avenue, Bakersfield, CA 93301

Project Name

KCCD Arvin General Educational Center

Project Location

Southwest corner of Varsity Road and Campus Drive in Arvin, California.

Project Description

The Kern Community College District (KCCD, as lead agency) has proposed to construct and operate a new educational facility (Project) within the City of Arvin, at the southern end of San Joaquin Valley, California. The campus will occupy a 14 gross acre portion of the approximately 37-acre site (APNs 190-020-14, -46, and -48), which is located on the southwest corner of Campus Drive and Varsity Avenue. The Project includes the demolition of abandoned on-site structures and construction of an approximately 27,100 square foot general education facility. The eventual maximum college student population is estimated to be approximately 1,000 students. The Project site would be primarily accessed from Varsity Road from the north and North Walnut Street from the south.

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at Kern Community College District Office, 2100 Chester Avenue, Bakersfield, CA 93301, and at the Kern County Arvin Branch Library located at 201 Campus Drive in Arvin, CA 93203.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on January 3, 2020 and ended on Monday February 3, 2020. For further information, please contact Jaymie Brauer at 661-616-2600.

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MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the Kern Community College District (KCCD) reviewed the Project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, "[s]ignificant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Project Name

Kern Community College Arvin General Education Center

Project Location

Southwest corner of Varsity Road and Campus Drive, Arvin, CA

Project Description

The District is proposing to construct and operate a general educational center (Project) within the City of Arvin at southern end of the San Joaquin Valley in California. Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and landscaping.

The Project would occupy a 14 gross acre portion of an approximately 37-acre Project site. The enrollment capacity will be approximately 1,000 students. The Project includes the construction of a 27,100 square foot general education and associated 260-space parking lot, pathways, and landscaping. Outdoor lighting would be provided for the pathways and parking areas. The Project also includes the demolition of the abandoned house, shed, and pump house that currently exist on the Project site. The Project site would be primarily accessed from Varsity Road from the north and North Walnut Street from the south.

Student population for the educational facility would come from Arvin and Lamont community members, which currently need to travel considerable distances to continue their education after high school. The City of Arvin is the largest community in the southeast portion of the Kern Community College District (District). The construction of a community college campus in Arvin would reduce the barriers to access for community members to continue their education after high school graduation.

Mailing Address and Phone Number of Contact Person

Kern Community College District
2100 Chester Avenue
Bakersfield, CA 93301
Contact Person: Eric Mittlestead
Phone: (661) 827-3100

Findings

As Lead Agency, the District finds that the Project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see Section 3 - *Environmental Checklist*) identified one or more potentially significant effects on the environment, but revisions to the Project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts to less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this Project would have a significant effect on the environment.

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

MM AES-1: Security and nighttime lighting installed at the school site shall be designed to reduce potential nuisances from light and/or glare by incorporating shielding of lighting and orienting lighting downward to prevent direct uplighting. Lighting used for any nighttime events shall be turned off by 11:00 p.m. All lights in excess of 150 watts shall be directed toward the Project site and away from adjacent properties. All light fixtures shall be designed with appropriate reflectors, hoods and side shields to direct the angle of incidence to reflect light downward.

MM AQ-1: Prior to ground disturbance activities, the Project proponent shall prepare a Dust Control Plan in accordance with SJVAPCD's Rule 8021 Section 6.3 that identifies the fugitive dust sources at the construction site and describes all dust control measures to be implemented before, during, and after any dust generating activity.

MM BIO-1: Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction.

The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, American badger, Swainson's hawk, burrowing owl, nesting birds and other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project site and the 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required.

MM BIO-2: If dens/burrows that could support the San Joaquin kit fox or American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Potential Den – 50 feet
Atypical Den – 50 feet (includes pipes and other manmade structures)
Known Den – 100 feet
Natal/Pupping Den – 500 feet

MM BIO-3: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site.
b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or

who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.

h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
i. All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.
j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.
k. If burrowing owl are found to occupy the Project site and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited, and after the burrow is confirmed empty through non-invasive methods (surveillance). Replacement or occupied burrows shall consist of artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1). Ongoing surveillance of the Project site during construction activities shall occur at a rate sufficient to detect Burrowing owl, if they return.

MM BIO-4: If construction is planned outside the nesting period for raptors (other than the western burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can cease.

MM BIO-5: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure shall need not be applied. If no Swainson's hawk nests are found, no further action is required.

If construction is planned during the nesting season, a preconstruction survey shall be conducted by a qualified biologist to evaluate the site and a 0.5-mile buffer around the site for active Swainson's hawk nests. If potential Swainson's hawk nests or nesting substrates occur within 0.5 mile of the Project site, then those nests or substrates must be monitored for Swainson's hawk nesting activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. Monitoring shall be conducted according to the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The protocol recommends that ten visits be made to each nest or nesting site: one during January 1-March 20 to identify potential nest sites, three during March 20-April 5, three during April 5-April 20, and three during June 10-July 30. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. During the nesting period, active Swainson's hawk nests shall be avoided by 0.5 mile unless this avoidance buffer is reduced through consultation with the CDFW and/or USFWS. If an active Swainson's hawk nest is located within 500 feet of the Project or within the Project site, the Project proponent shall contact CDFW for guidance.

MM BIO-6: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

MM BIO-7: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be

instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

MM BIO-8: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist.

The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include:

- An acknowledgement form signed by each worker indicating that environmental training has been completed; and
- A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and

debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

MM GEO-1: Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls

The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.

MM GEO-2: Prior to commencement of grading, a site-specific design-level geotechnical report shall be prepared by a registered engineering geologist or soils engineer. The report shall provide a hydrocompaction assessment and protection recommendations and grading recommendations.

MM GEO-3: During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may

include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

MM HAZ-1: Prior to operation of the Project, the Project proponent shall prepare a hazardous materials business plan that identifies the new location of the new school campus and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times.

MM HAZ-2: In the event that other abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, all work shall cease, and the California Department of Conservation, Division of Oil, Gas and Geothermal Resources shall be contacted for requirements and approvals. The California Department of Conservation, Division of Oil, Gas and Geothermal Resources may determine that remedial plugging operations may be required.

MM HYD-1: The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.

MM HYD-2: Prior to initiation of grading activities, the District shall obtain a water "will serve" letter from Arvin Community Services District.

MM NSE-1: During construction, the contractor shall implement the following measures:

1. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive receptors.

2. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles During construction, stationary construction equipment shall be placed such that emitted noise is

directed away from sensitive noise receivers.

Construction activities shall take place during daylight hours, when feasible.

MM TRA-1: The District shall consult with Arvin City Engineering Division regarding required roadway improvements. The District shall pay fair share costs of 20.3 percent for a signal at the intersection of Comanche Road and Varsity Road to Arvin City Engineering Division prior to Project commencement.

SECTION 1 - INTRODUCTION

1.1 - Overview

The District is proposing to construct and operate a general educational center and 12 portable classrooms (Project) within the City of Arvin at southern end of the San Joaquin Valley in California. Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's aerial location. Figure 1-3 provides the conceptual site plan for the proposed construction and landscaping.

1.2 - California Environmental Quality Act

The District is the Lead Agency for this Project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see Section 3 – *Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the Project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary Project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see Section 6 – *Mitigation Monitoring and Reporting Program*).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of "no impact" is appropriate if the analysis concludes that the Project would not affect a topic area in any way.
- An impact is considered "less than significant" if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered "less than significant with mitigation incorporated" if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.
- An impact is considered "potentially significant" if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- Section 1 – *Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- Section 2– *Project Description:* This section describes the Project and provides data on the site's location.
- Section 3 – *Initial Study:* This section contains the evaluation of 18 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed Project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 18 environmental resource factors, then an Environmental Impact Report will be required.
- Section 4 – *List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- Section 5 – *Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- Section 6 – *Mitigation Monitoring and Reporting Program:* This section contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- City of Arvin General Plan Update 2019;
- City of Arvin Zoning Ordinance;
- City of Arvin Sustainability Best Practice Activities; and
- California Building Code, Title 24.

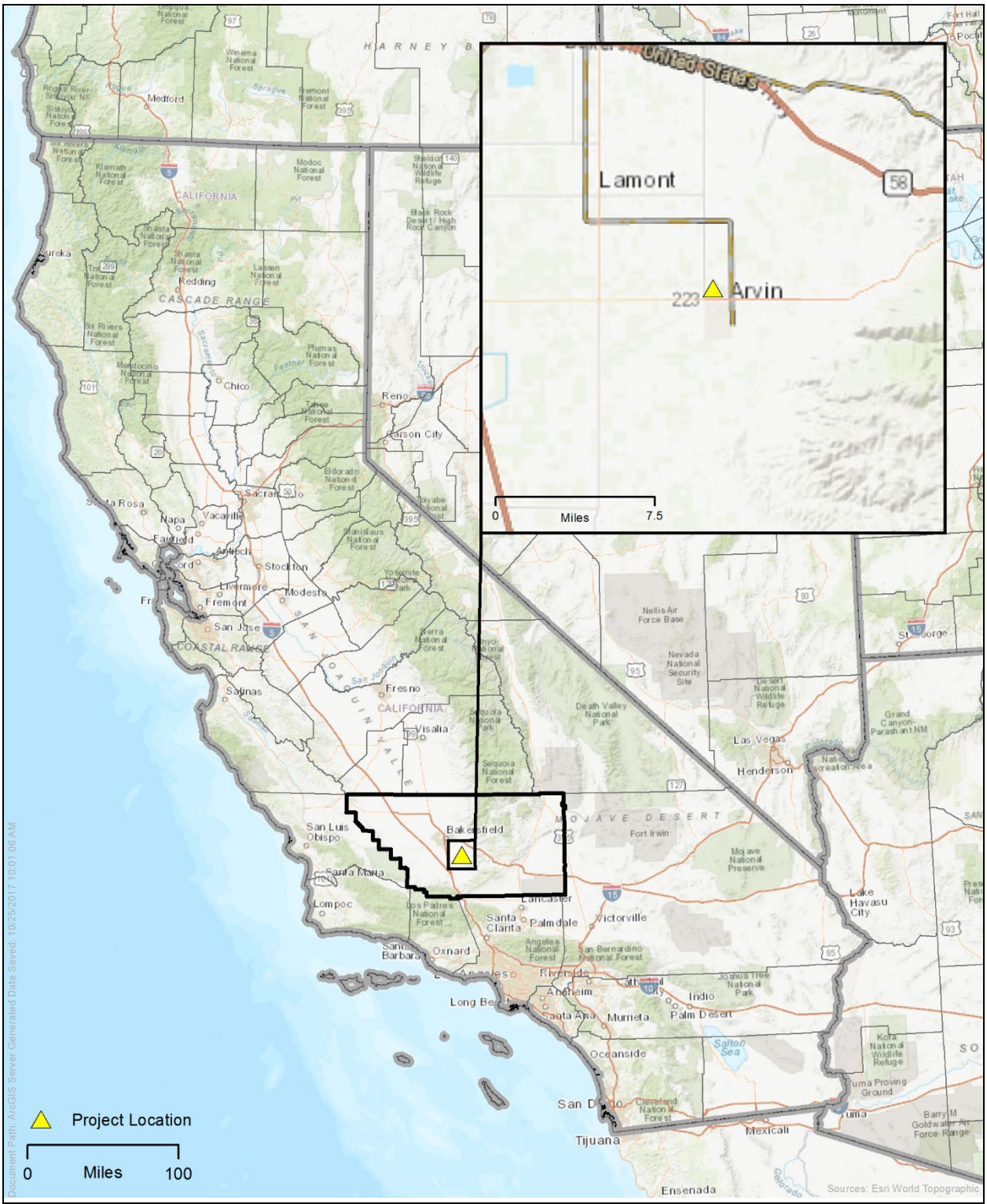
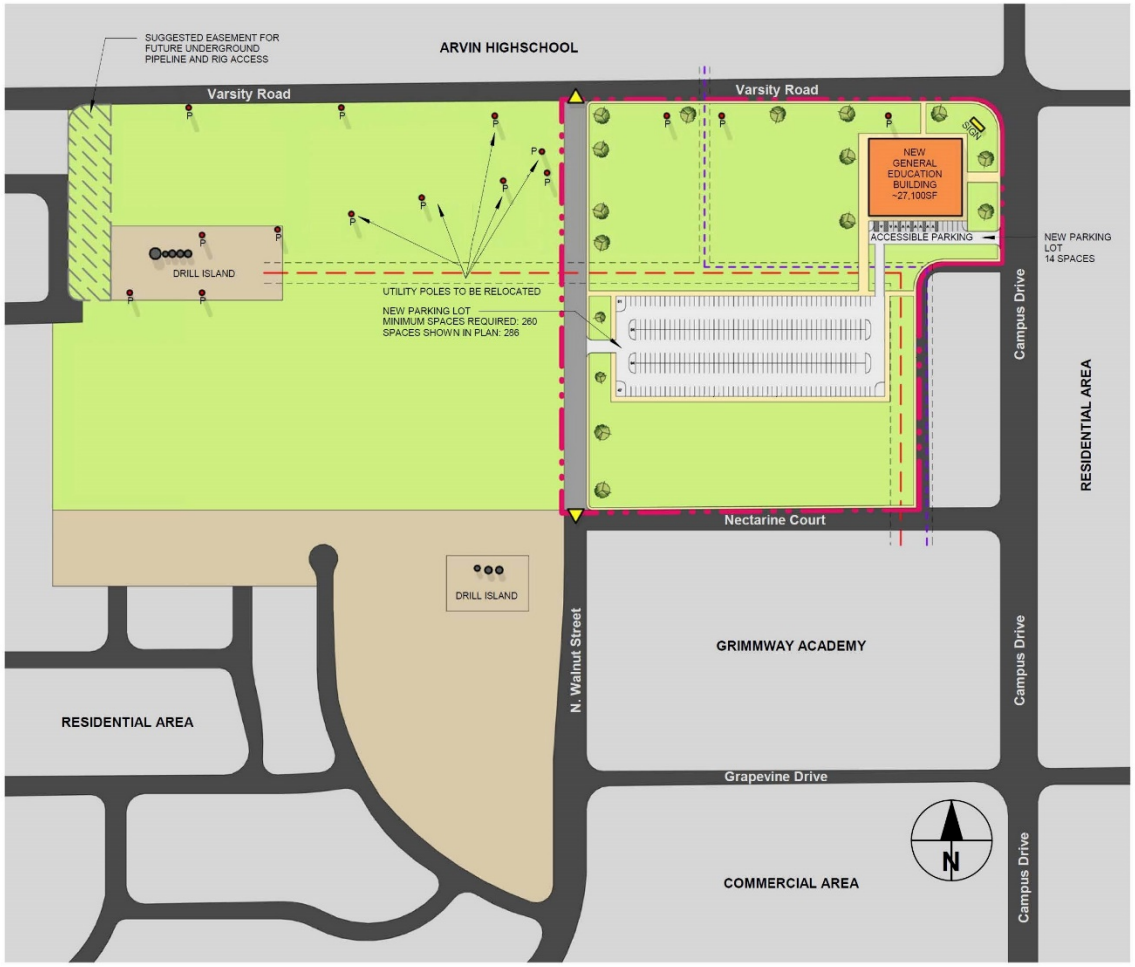


Figure 1-1
Regional Location



Figure 1-2
Aerial Location



LEGEND:

- Existing Road
- New Road
- Surrounding Blocks / Properties
- Site Planned for Development
- Not a Part of the Project
- New Buildings
- New Sidewalk / Pedestrian Path
- Future Development
- Plantings
- Current Campus Scope
- Existing Utility Poles
- Existing Abandoned Pipeline with 20ft Easement and 20ft Setback per DSA for Community Colleges
- Existing Sewer Line with 20ft Easement
- SIGN — New Monument Sign
- Gate Access Points

NOTES:

1. Minimum parking count determined using Kern County, California Municipal Code. Chapter 19.82 Off-Street Parking.
   - A. **Assumed Category:** College, Business School, or Trade School
   - B. **Requirement:** (1) per employee plus (1) per (2) students at full enrollment
   - C. **Employee Count:** Assuming (10) employees
   - D. **Student Count:** Assuming (500) full time students
   - E. **Parking Space Size:** 9ft x 20ft

Figure 1-3
Conceptual Site Plan

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The District is proposing to construct and operate a general education center (Project) within the City of Arvin at the southern end of San Joaquin Valley, California. Figure 1-1 is a map of the regional location and Figure 1-2 shows the Project's vicinity.

2.2 - Project Location

The Project site is located within Section 23, Township 31 South, Range 29 East, Mount Diablo Base and Meridian (MDB&M), within the Arvin U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The site encompasses approximately 37-acre portion of Assessor's Parcel Numbers (APN) 190-020-14, -46, and -48. The Project site is located on the southwest corner of Varsity Road and Campus Drive.

The Project is within the Arvin General Plan, which designates the Project site as General Commercial (C-2) and High Density Residential (R-3). Additionally, the Project site is zoned Limited Multiple Family Dwelling (R-3) and Professional Office (C-O) within a Pedestrian-oriented Mixed-Use Overlay (MUO) zone, which permits public facilities such as a post-secondary educational campus (City of Arvin, 2017).

2.3 - Project Environment

Agricultural activities occurred at the site from at least the 1930s until the 1980s. The property is currently idle land with a vacant house, two sheds and two water wells. Four oil wells and two tank settings are present in the northwestern and southern portion of the site area. The Project site is within the Arvin General Plan.

The site is bordered by mainly residential properties to the west, east and south and by Varsity Avenue and Arvin High School to the north.

Fire service would be served by the County of Kern via Station 54 located at 301 Campus Drive in Arvin. Police service would be served by the City of Arvin Police Department. An active sewer easement that runs through the Project site to connect Arvin High School would also serve the proposed Project. Sanitation/garbage collection will be provided by a local waste hauler. Water service will be provided by Arvin Community Services District.

2.4 - Proposed Project

The Project would occupy approximately 37 acres of Accessor's Parcel Numbers 190-020-14, 46, and -48. The enrollment capacity will be approximately 1,000 students. The Project includes the construction of a 27,100 square foot general education and associated 260-space parking lot, pathways, and landscaping. The Project also includes the demolition of the abandoned house, shed, and pump house that currently exist on the Project site. The Project

site would be primarily accessed from Varsity Road from the north and North Walnut Street from the south.

Student population for the educational facility would come from Arvin and Lamont community members, which currently need to travel considerable distances to continue their education after high school. The City of Arvin is the largest community in the southeast portion of the Kern Community College District (District). The construction of a community college campus in Arvin would reduce the barriers to access for community members to continue their education after high school graduation.

An Enhanced Phase I Environmental Site Assessment (ESA) was prepared by Soils Engineering, Inc. (SEI) and a Limited Soil Investigation and Workplan was prepared by BSK (see Appendix C). The ESA shows that a petroleum pipeline is present running east from the northwestern tank setting, in addition to a petroleum pipeline near the southern edge of the Project site. That pipeline is severed and abandoned in place.

Oilfield activities have been conducted on-site within two tank settings on the western and southern portions of the site. The Project is located within the boundaries of Mountain View oilfield (see Figure 3.4.8-1).

The Project site is not located within a Land Use Compatibility zone of the Kern County Airport Land Use Compatibility Plan (ALUCP).

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   KCCD Arvin General Educational Center

2. **Lead Agency Name and Address:**

   Kern Community College District
   2100 Chester Avenue
   Bakersfield, CA 93301

3. **Contact Person and Phone Number:**

   Eric Mittlestead
   (661) 336-5095

4. **Project Location:**

   Southwest corner of Campus Drive and Varsity Road, Arvin, CA

5. **General Plan Designation:**

   General Commercial (C-2), High Density Residential (R-3)

6. **Zoning:**

   Limited Multiple Family Dwelling (R-3), Professional Office (C-0), Mixed-Use Overlay (MUO)

7. **Description of Project:**

   Please see Section 2.

8. **Surrounding Land Uses and Setting:**

   Residential properties to the west, east, and south; Varsity Avenue and Arvin High School to the north.

9. **Other Public Agencies Whose Approval May be Required:**

   - California Department of Toxic Substances Control;
   - Regional Water Quality Control Board- Central Valley
   - California Division of the State Architect; and
   - San Joaquin Valley Air Pollution Control District.

3.2 - Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation and Traffic	☐ Utilities and Service Systems
☐ Wildfire	☐ Mandatory Findings of Significance	

3.3 - Determination

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Jaymie L. Brauer
Signature

1/3/2010
Date

Jaymie L. Brauer
Printed Name

Eric Mittlestead
For

3.4 - Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.1 - AESTHETICS					
Except as provided in Public Resources Code Section 21099, would the Project:					
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☒	☐
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

Discussion

Impact #3.4.1a – Would the Project have a substantial adverse effect on a scenic vista?

The proposed school site is located in an area characterized by flat, undeveloped land that has been historically used for agricultural production. No aesthetic resources have been identified on the site by the General Plan (City of Arvin, 2019). Furthermore, development of the Project would not block or preclude views to any area containing important or what would be considered visually appealing landforms. Therefore, no scenic vistas will be impacted by construction of this Project. The Project does not lie near or within a State Designated or Eligible State Scenic Highway (California Department of Transportation, 2011). Further, the Project does not include the removal of trees determined to be scenic or of scenic value, the destruction of rock outcroppings or degradation of any historic building. The Project will not result in development that is substantially different than surrounding land uses. Therefore, impacts to scenic vistas would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1b – Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

See Impact #3.4.1a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1c – Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The Project is in an area that is predominantly residential with educational facilities to the north and south. The Project campus and associated structures will be set back from the roadway but will be visible to traveling motorists. However, changes to the visual quality and character of the Project site will be similar in nature to the surrounding development and the development planned by the General Plan (City of Arvin, 2019). The Project's appearance would not change or degrade the visual character of the site. Therefore, the Project would not result in a substantial impact to the visual quality of the area.

See also discussion of Impact #3.4.1a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1d – Would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction of the proposed Project would generally occur during daytime hours, typically from 7:00 a.m. to 6:00 p.m. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and prevent light spillage onto adjacent properties. Because lighting used to illuminate work areas would be shielded, focused downward, and turned off by 6:00 p.m., the potential for lighting to affect any residents adversely is minimal. Increased truck traffic and the transport of construction materials to the

Project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal. Construction activity would focus on specific areas on the sites, and any sources of glare would not be stationary for a prolonged period of time. Therefore, construction of the proposed Project would not create a new source of substantial glare that would affect daytime views in the area.

The school facility would include lighting for classrooms and on-site security. State law requires the District to follow the California Code of Regulations Title 24 (Part 3) regarding indoor light design. In addition, Mitigation Measure MM AES-1 would require the school's lighting design to be designed to reduce light and glare and to be shut off by 11:00 p.m. These requirements would substantially reduce potential nuisances from light or glare. With implementation of Mitigation Measure MM AES-1, the proposed Project would not create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. Therefore, the Project would have a less-than-significant impact with mitigation.

MITIGATION MEASURE(S)

MM AES-1: Security and nighttime lighting installed at the school site shall be designed to reduce potential nuisances from light and/or glare by incorporating shielding of lighting and orienting lighting downward to prevent direct uplighting. Lighting used for any nighttime events shall be turned off by 11:00 p.m. All lights in excess of 150 watts shall be directed toward the Project site and away from adjacent properties. All light fixtures shall be designed with appropriate reflectors, hoods and side shields to direct the angle of incidence to reflect light downward.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use or a Williamson Act Contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The proposed Project is located on a "Vacant or Disturbed Land" as designated by Farmland Mapping and Monitoring Program (see Figure 3.4.2-1) (CA Department of Conservation,

2016). Therefore, no farmland would be converted to a non-agricultural use as a result of the proposed Project and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act Contract?

The Project site is zoned Professional Office (C-O) and Limited Multiple Family Dwelling (R-3). Additionally, the Project site is within a Pedestrian-oriented Mixed-Use Overlay (MUO) zone, which is not a zoning designation that permits agricultural use. Therefore, there would be no conflict with existing zoning as a result of the proposed Project. There are no lands adjacent to the Project site that are currently held under Williamson Act Contract. Therefore, there would be no impacts to existing agricultural zoning or Williamson Act Contracts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

Impact #3.4.2c – Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Public Resources Code Section 12220 (g) and Section 4526 defines "Forest land" as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There are no forest lands identified on the Project site or within its vicinity; therefore, there would be no conflict with or impacts to zoning for forest land or timber land. The Project would not result in the loss or conversion of forest land to a non-forest use.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2d – Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

See discussion of Impact #3.4.2c, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See discussion of Impacts #3.4.2b and #3.4.2c, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

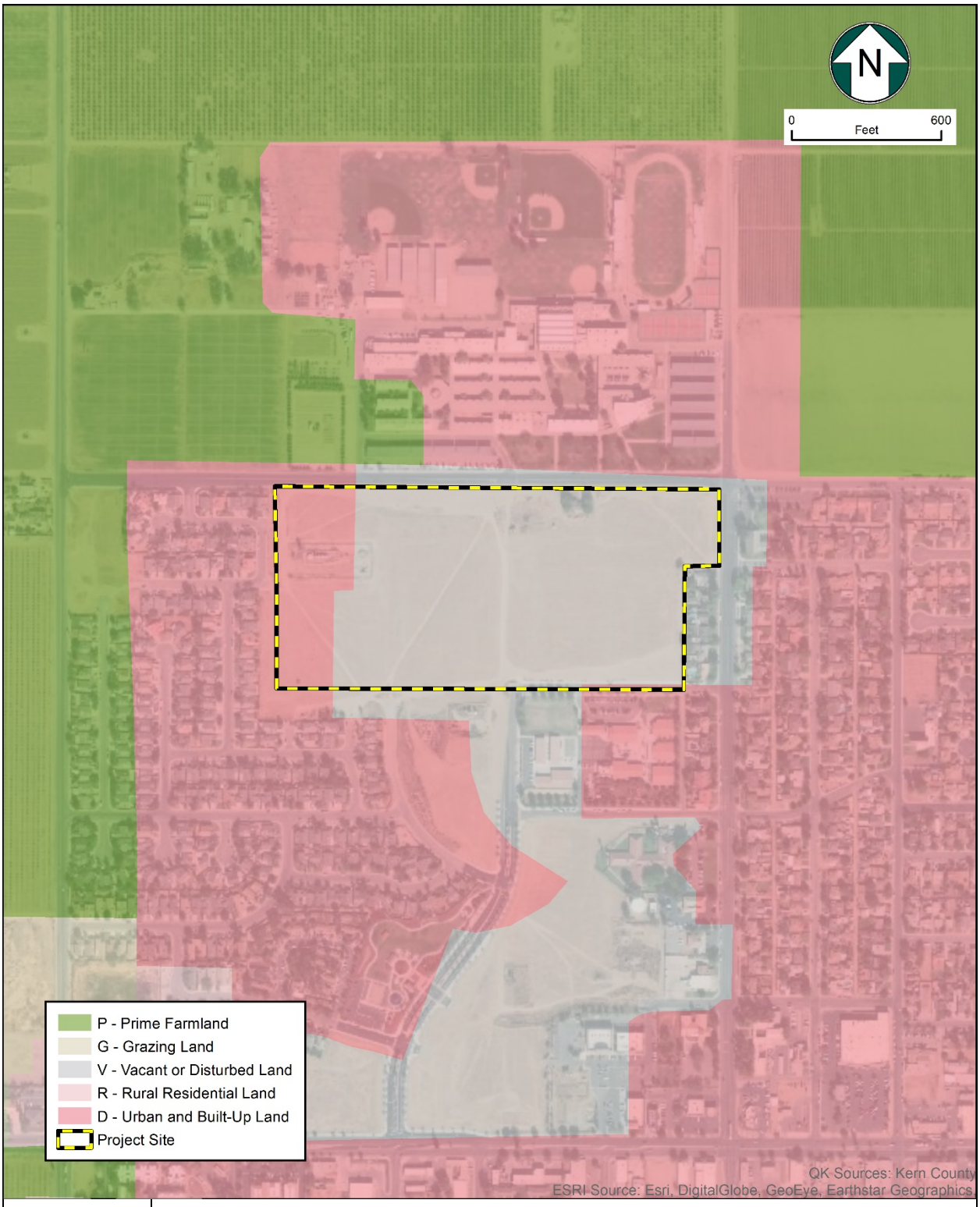


Figure 3.4.2-1
Farmland Mapping and Monitoring Program

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.3 - AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:

a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☒	☐	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

The following analysis is based primarily on an Air Quality Impact Analysis prepared is for the Project (Insight, 2019). This section is also based on the Asbestos Report prepared for this Project (Rooster Environmental Services, 2019). The AQIA and Asbestos Report are included in this document as Appendix A.

Impact #3.4.3a – Would the Project Conflict with or obstruct implementation of the applicable air quality plan?

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan. The San Joaquin Valley Air Basin (SJVAB) is designated non-attainment of State and federal health-based air quality standards for ozone and particulate matter less than 2.5 microns (PM2.5). The SJVAB is designated attainment for federal particulate matter less than 10 microns (PM10) standards and non-attainment of State PM10. To meet federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the one-hour ozone standard (2004);
- 2007 Ozone Plan for attainment of the eight-hour ozone standard;

- 2007 PM10 Maintenance Plan and Request for Redesignation; and
- 2008 PM2.5 Plan.

Because of the region's federal non-attainment status for ozone and PM2.5, and State non-attainment status for ozone, PM2.5, and PM10, if the Project-generated emissions of either the ozone precursor pollutants [reactive organic gases (ROG) or oxides of nitrogen (NOx)], PM10, or PM2.5 were to exceed the SJVAPCD's significance thresholds, then the Project uses would be considered to conflict with the attainment plans. In addition, if the Project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

The GAMAQI states that the SJVAPCD's established thresholds of significance for criteria pollutant emissions, which are based on the NSR, require offsets for stationary sources. "Emission reductions achieved through implementation of District offset requirements are a major component of the District's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's air quality plan'" (SJVAPCD, 2015).

Project's Contribution to Air Quality Violations

As discussed in Impact #3.4.3c below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM10, and PM2.5. As a result, the Project would not conflict with emissions inventories contained in regional AQAPs and would not result in a significant contribution to the region's air quality non-attainment status.

Consistency with Assumptions in Air Quality Attainment Plans

The primary way of determining consistency with the AQAP's assumptions is determining consistency with the applicable General Plan to ensure that the Project's population density and land use are consistent with the growth assumptions used in the AQAPs for the air basin.

As required by California law, city and county general plans contain a land use element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designates locations for land uses to regulate growth. The Kern County Council of Governments uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then vehicle miles traveled (VMT), which are then provided to SJVAPCD to estimate future emissions in the AQAPs. Existing and future pollutant emissions computed in the AQAP are based on land uses from area general plans. AQAPs detail the control measures and emission reductions required for reaching attainment of the air standards.

The Project is within the Arvin General Plan, which designates the Project site as Professional Office (C-O) and Limited Multiple Family Dwelling (R-3). Additionally, the Project site is within a Pedestrian-oriented Mixed-Use Overlay (MUO) zone, which permits public facilities

such as a post-secondary educational campus (City of Arvin, 2017). The Project is not anticipated to result in substantial direct or indirect population growth that was not previously anticipated by the Arvin General Plan. Accordingly, it can be concluded the proposed Project's uses are consistent with the growth and vehicle miles traveled projections contained in the AQAP. The Project impact is less than significant for this criterion.

Control Measures

The AQAPs contain a number of control measures, including the rules outlined by the SJVAPCD. The control measures in the AQAP are enforceable requirements. The Project would comply with all of the SJVAPCD's applicable rules and regulations. Therefore, the Project complies with this criterion.

The EPA has established the Federal Prevention of Significant Deterioration (PSD) Program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less-than-significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

Project emissions were estimated for the following Project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using model a 27-month construction schedule and defaults for construction equipment for the development of a 27,100 square foot community college campus on 14 gross acres. Demolition-related hauling trips were based on demolition of a 2,000 square foot structure, haul truck capacity of 20 cubic yards, 80 round haul trips, and an average haul trip length of 24.25 miles.
- Long-term (Operations) – Long term emissions were also estimated in CalEEMod using model defaults for operations of a 27,100 square foot community college campus. While there are two units by which the Project can be modeled in CalEEMod, either by building square footage or by number of students, comparison modeling for this Project showed that modeling based on building square footage produced more conservative operational emissions estimates and was, therefore, the method of choice.

Short-term emissions are primarily from the construction phase of a project and would have temporary impacts on air quality.

The Project applicant did not provide a list of specific construction equipment; the construction emissions were therefore based on the default CalEEMod equipment list accordingly for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in January of 2020. Based on estimates from the KCCD, the Project construction is estimated to last 27 months and Project operations are estimated to begin during year 2022. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction and demolition equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, hours per day and horsepower.

SJVAPCD's required measures for all projects were also applied:

- Water exposed areas three times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 3.4.3-1 presents the Project's short-term emissions based on the anticipated construction period.

Table 3.4.3-1
Short-Term Project Emissions

Emissions Source	Pollutants (tons/year)					
	ROG	NOx	CO	S02	PM10	PM2.5
Unmitigated						
2020	0.49	4.72	3.46	0.01	0.75	0.40
2021	0.41	3.81	3.23	0.01	0.49	0.22
2022	0.34	0.25	0.32	0.001	0.03	0.01
Maximum Annual Emission	0.49	4.72	3.46	0.01	0.75	0.40
Mitigated						
2020	0.49	4.72	3.46	0.01	0.56	0.31
2021	0.41	3.81	3.23	0.01	0.49	0.22
2022	0.34	0.25	0.32	0.001	0.03	0.01
Maximum Annual Emission	0.49	4.72	3.46	0.01	0.56	0.31
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded for a Single Year After Mitigation?	NO	NO	NO	NO	NO	NO

Source: Insight, 2019

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during any given year and would therefore be less than significant.

Long-term emissions are caused by operational mobile, area and energy sources. Long-term emissions would consist of the following components.

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM10) emissions. The main source of PM10 emissions would be from vehicular traffic associated with the Project site.

PM10 on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance;
- Regulation VIII – Fugitive PM10 Prohibitions:
  - Rule 8011 - General Requirements;
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities;
  - Rule 8041 - Carryout and Trackout; and
  - Rule 8051 - Open Areas.

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis.

Project-related transportation activities from employees, students and parents would generate mobile source ROG, NOx, SOx, CO, PM10 and PM2.5 exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of residents and visitors. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

The proposed Project is expected to have long-term air quality impacts as shown in Table 3.4.3-2.

Table 3.4.3-2
Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Unmitigated Operational Emissions	0.34	0.63	1.78	0.01	0.56	0.16
Mitigated Operational Emissions	0.33	0.57	1.56	0.01	0.47	0.13
SJVAPCD Threshold	10	10	100	27	15	15

Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

Source: Insight, 2019

As shown in Table 3.4.3-2, operations-related emissions, as calculated by CalEEMod, would be well under the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a less-than-significant impact during Project operations. The Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?

A cumulatively considerable net increase could be said to occur if the Project would exceed thresholds established by agencies having jurisdiction within the Project area or region. As discussed in #3.4.3b, above, the Project would not exceed the thresholds established by the SJVAPCD and thus would not be considered cumulatively considerable.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.3c – Would the Project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside. The proposed Project, because of its educational nature, is not expected to result in the generation of odors or hazardous air pollutants. The Project would not expose sensitive receptors to substantial concentrations of localized PM10, carbon monoxide, diesel particulate matter, hazardous air pollutants, or naturally occurring asbestos, as discussed below.

Hazardous Pollutants or Odors

The GAMAQI guidelines introduce two types of projects that should be assessed when considering hazardous air pollutants (HAPs) that includes: 1) placing a toxic land use in an area where it may have an adverse health impact on an existing sensitive land use and 2) placing a sensitive land use in an area where an adverse health impact may occur from an existing toxic land use. Some examples of projects that may include HAPs are:

- Agricultural products processing;
- Bulk material handling;
- Chemical blending, mixing, manufacturing, storage, etc.;
- Combustion equipment (boilers, engines, heaters, incinerators, etc.);
- Metals etching, melting, plating, refining, etc.;
- Plastics & fiberglass forming and manufacturing;
- Petroleum production, manufacturing, storage, and distribution; and
- Rock & mineral mining and processing.

The proposed Project is located on a site that is currently vacant land that was historically used for agricultural purposes. The proposed Project consists of the construction of a community college campus, associated parking lot, and landscaped areas. During the construction period some odors could result from vehicles and equipment using diesel fuels. However, vehicles and equipment using diesel fuels at the proposed Project would have to comply with the California Air Resources Board (CARB) guidelines, which limit idling time to five minutes with the Airborne Toxic Control Measure (ATCM). In addition, the construction period would be temporary. In 2009, Senate Bill (SB) 124 (Amended Regulation) acknowledged and codified CARBs ATCM limiting school bus idling. During the operation of the proposed Project, school buses may be utilized and would emit diesel fumes, but are also subject to the CARB's ATCM limiting school bus idling and idling at or near schools to only when necessary for safety or operational concerns.

An asbestos survey has been completed in order to determine the presence of asbestos located within the existing abandoned house, shed, and pump house that will be demolished in order to construct the campus. The results of this survey concludes that no asbestos containing material exists in any of the abandoned structures on the Project site (Rooster Environmental Services, 2019) (Appendix A).

Naturally Occurring Asbestos

The CARB has an ATCM for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. This ATCM applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. No naturally-occurring asbestos (NOA) bearing rock is present within 10 miles of the site location according to the USGS NOA Maps reviewed (SEI, 2017).

Valley Fever Exposure

Valley Fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis*. The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and include dust storms, grading, and recreational off-road activities.

There is a potential risk of contracting Valley Fever within the region based on the general similarity between the sediments known to contain the spores and the sediments believed to be present in the area of the proposed Project. In addition, it must be noted that: 1) airborne dust containing the spores can be transported to the Project area from other areas within the Arvin area potentially exposing those present to the disease and 2) persons who have not resided in the Arvin area may be more susceptible to contracting the disease than long-time residents due to any environmental, medical, and personal factors. (Note: The conclusions regarding the potential for either exposure to or contraction of Valley Fever through the construction of the proposed Project should not be construed as a professional medical or public health opinion. These conclusions are merely a review of the geologic condition of the Project site relative to potential presence of sediments known to contain the Valley Fever spore.)

The proposed Project has the potential to generate substantial amounts of fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. During Project construction, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. The Project would minimize the generation of fugitive dust by complying with the SJVAPCD's Regulation VIII and implementation of MM AQ-1. Additionally, dust-disturbing activities would be limited in scope and duration.

MITIGATION MEASURE(S)

MM AQ-1: Prior to ground disturbance activities, the Project proponent shall prepare a Dust Control Plan in accordance with SJVAPCD's Rule 8021 Section 6.3 that identifies the fugitive dust sources at the construction site and describes all dust control measures to be implemented before, during, and after any dust generating activity.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.3d: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

See Impact #3.4.3c, above. The proposed Project, because of its educational nature, is not expected to result in the generation of odors other than diesel fumes.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.4 - BIOLOGICAL RESOURCES				
Would the Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☒	☐

Discussion

A biological reconnaissance survey was conducted to determine whether there are sensitive biological resources that might be adversely affected by the proposed Project. The evaluation is based upon existing site conditions, the potential for sensitive biological resources to occur on and in the vicinity of the Project site, and any respective impacts that could potentially occur.

In addition to providing an evaluation of the Project's impacts to biological resources, the report includes a detailed description of the regulatory environment as it relates to biological resources.

A literature review of the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) (CNDDB 2019), California Native Plant Society (CNPS 2019), and United States Fish and Wildlife Service Endangered Species List (USFWS 2019) was conducted to identify special-status plant and wildlife species with the potential to occur within the Project site and vicinity (the surrounding nine quads and a 10-mile radius). The results of the database inquiry were subsequently reviewed to evaluate the potential for occurrence of special-status species on or near the Project site prior to conducting the biological reconnaissance survey.

On May 21, 2019, QK biologists conducted a biological reconnaissance survey of the entire Project site and a 250-foot buffer area (Survey Area), where feasible. The purpose of the survey was to determine the locations and extent of potential plant communities and sensitive habitats, determine the potential for occurrence of special-status plant and animal species, and identify other sensitive biological resources within the Survey Area methodologies included walking meandering pedestrian transects through all present habitat types. Protocol surveys for specific special-status wildlife species were not conducted for this report as it was determined by the consulting biologist that such surveys were not warranted due to the condition of the Project site. Photographs were taken to document existing landscape of the Project site and adjacent land uses; detailed notes on observed plant and wildlife species and site conditions were taken while conducting the survey.

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The literature search indicated that there is a potential for several special-status species to be present on the Project site. An evaluation of each of the potential special-status species, which included habitat requirements, likelihood of required habitat to occur within the Project area, and a comparison to the CNDDB records was conducted. The results of this evaluation concluded that four wildlife species have a reasonable potential to occur on or near the Project site.

Most of the Project site has experienced significant historical and ongoing ground disturbance including disking, and from school and residential development uses surrounding the Project site. The wildlife species inhabiting the Project site and immediate surrounding area include those typically found in moderately- to heavily-disturbed habitats associated with urban development zones of Kern County and the Southern San Joaquin Valley. The Project site has been previously disked, but at the time of the survey it was densely vegetated, primarily with non-native grasses. There is a fenced oil well with large tanks located on the northwestern corner of the site and an abandoned, boarded-up house

with several open shed structures on the north side of the site, adjacent to Varsity Road. There were very few small mammal burrows observed and several bird species observed in surrounding horticultural trees and along the oil well fence-line during the survey. Two swallow nests were observed under the eaves on the west side of the abandoned house.

There were 18 plant species, eight bird species, and five mammal species identified during the site examination, either through direct observation or by the presence of diagnostic signs (Table 3.4.4-1). No reptile or amphibian species were observed during the survey.

Table 3.4.4-1
List of Plant and Wildlife Species Observed on the Project Site

Scientific name	Common name
Plants	
Agaricus sp.	palm tree
Amsinckia menziesii	citrus tree
Avena fatua	mushroom
Bromus carinatus var. *carinatus*	fiddleneck
Bromus diandrus	wild oat
Erodium sp.	California brome
Euphorbia sp.	ripgut brome
Hordeum sp.	filaree
Lactuca serriola	spurge
Malva neglecta	foxtail barley
Medicago sp.	prickly lettuce
Raphanus sp.	common mallow
Salsola tragus	burclover
Sisymbrium altissimum	charlock
Sisymbrium irio	Russian thistle
Taraxacum officinale ssp. *officinale*	tumble mustard
Sysimbrium ireo	London rocket
Taraxacum officinale	common dandelion
Wildlife	
	small mammal*
Archilochus alexandri	black-chinned hummingbird
Canis lupus familiaris	domestic dog
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Felis catus	feral cat
Haemorhous mexicanus	house finch
Hirundinidae	swallow species*
Mimus polyglottos	northern mockingbird
Passer domesticus	house sparrow
Thomomys sp.	pocket gopher*
Vulpes macrotis mutica	San Joaquin kit fox*
Zenaida macroura	mourning dove

*Indicates that only sign (scat, tracks, prey remains, dens and burrows) were observed. Burrows did not have kangaroo rat characteristics.

Sensitive Natural Communities and Special-Status Species

SENSITIVE NATURAL COMMUNITIES AND SPECIAL-STATUS PLANTS

Based on the survey, there are two sensitive natural communities and 32 special-status plant species that have the potential to occur within the subject quadrangle and eight surrounding quadrangles. There were records of two sensitive natural communities and 17 plant species that are present within a 10-mile buffer of the Project site. The Project site and vicinity has been disturbed for years due to disking activities and surrounding residential development and does not provide habitat for any of these sensitive natural communities or special-status plant species. No special-status plant species were identified during the biological reconnaissance survey. Although protocol-level botanical surveys were not conducted and the reconnaissance survey did not coincide with the optimum blooming periods for all plant species, the Project site does not exhibit characteristics that would support any of the special-status plant species. It is not anticipated that any special-status plant species occur on the Project site.

SPECIAL-STATUS WILDLIFE

Based on the database query there were 31 special-status wildlife species that were identified as having a potential to occur within subject quadrangle and eight surrounding quadrangles. There were records of 20 wildlife species in the CNDDB that occur within a 10-mile buffer of the Project site. Of the 31 species, 27 were eliminated from consideration due to the lack of suitable habitat within the Project site. The remaining four species have the potential to occur within the Project site and vicinity. The four species that have the potential to occur on site include: San Joaquin kit fox (*Vulpes macrotis mutica*), American badger (*Taxidea taxus*), Swainson's hawk (*Buteo swainsoni*), and burrowing owl (*Athene cunicularia*).

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) has a moderate potential to occur within the Project site and immediate surrounding area. The nearest historical CNDDB record (1975) for SJKF observation occurred approximately 2.5 miles north of the Project site. San Joaquin kit fox scat was observed on the Project site at the time of the survey. Due to the lack of high-quality habitat and the lack of suitable foraging opportunities including the limited number of small mammal burrows, there is a moderate potential for SJKF to reside or forage in the disturbed field and residential area surrounding the Project site. However, the San Joaquin kit fox is known to occur in the vicinity of the Project site and could potentially be present from time to time as a transient forager.

American Badger

American badger (*Taxidea taxus*) has a low potential to occur within the Project site and immediate surrounding area. The nearest historical CNDDB record (2012) for American badger occurred approximately 3.5 miles southeast of the Project site. There is a low

potential for American badger to reside or forage on the Project site. However, the American badger is known to occur in the vicinity of the Project site and could potentially be present from time to time as a transient forager.

Western Burrowing owl

Western burrowing owl *(Athene cunicularia)* has a low potential to occur within the Project site and immediate surrounding area. The nearest historical CNDDB record (1990) for burrowing owl occurred approximately 3.4 miles southeast of the Project site. There is a moderate potential for burrowing owl to reside or forage in open fields in the vicinity of the Project site. However, due to the continual disking disturbance there is a low potential for burrowing owl to reside or forage on the Project site. There were no potential burrows observed within the Project site. No burrowing owl or sign were observed at the time of the survey.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) has a low potential to occur within immediate surrounding area. The nearest historical CNDDB record (2012) for Swainson's hawk occurred approximately 10 miles northeast of the Project site. Swainson's hawk are known to forge in open fields, shrublands, and grasslands. The area surrounding the Project site has very few trees large enough for potential nesting; furthermore, no Swainson's hawks or sign of the species was observed during the reconnaissance level biological survey.

CONCLUSION

The Project site and surrounding area has been disturbed for years due to ongoing disking activities and surrounding residential development. The Project site and vicinity does not provide suitable habitat for any of these special-status plant species and many special-status wildlife species. No special-status plant or wildlife species were identified during the biological reconnaissance survey.

Special-status plant species are unlikely to be impacted by Project activities and no mitigation measures to protect, avoid, or minimize impacts to special-status plant species are warranted. There is the potential for some special-status or protected wildlife species to be impacted by Project activities. Mitigation Measures MM BIO-1 through MM BIO-8 would protect, avoid, and minimize impacts to special-status wildlife species, as provided below. When implemented, these measures would reduce impacts to these species to below significant levels.

Through implementation of mitigation measures listed below, impacts of the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the Project will have a less-than-significant impact with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM BIO-1: Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction.

The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, American badger, Swainson's hawk, burrowing owl, nesting birds and other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project site and the 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but MM BIO-3 shall be implemented.

MM BIO-2: If dens/burrows that could support the San Joaquin kit fox or American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Potential Den – 50 feet
Atypical Den – 50 feet (includes pipes and other man-made structures)
Known Den – 100 feet
Natal/Pupping Den – 500 feet

MM BIO-3: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site.
b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
i. All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.
j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.
k. If burrowing owls are found to occupy the Project site and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited, and after the burrow is confirmed empty through non-invasive methods (surveillance). Replacement or occupied burrows shall consist of artificial burrows at a ratio of 1 burrow collapsed

to 1 artificial burrow constructed (1:1). Ongoing surveillance of the Project site during construction activities shall occur at a rate sufficient to detect Burrowing owl, if they return.

MM BIO-4: If construction is planned outside the nesting period for raptors (other than the western burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can cease.

MM BIO-5: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure shall need not be applied. If no Swainson's hawk nests are found, no further action is required.

If construction is planned during the nesting season, a preconstruction survey shall be conducted by a qualified biologist to evaluate the site and a 0.5-mile buffer around the site for active Swainson's hawk nests. If potential Swainson's hawk nests or nesting substrates occur within 0.5 mile of the Project site, then those nests or substrates must be monitored for Swainson's hawk nesting activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. Monitoring shall be conducted according to the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The protocol recommends that ten visits be made to each nest or nesting site: one during January 1-March 20 to identify potential nest sites, three during March 20-April 5, three during April 5-April 20, and three during June 10-July 30. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. During the nesting period, active Swainson's hawk nests shall be avoided by 0.5 mile unless this avoidance buffer is reduced through consultation with the CDFW and/or USFWS. If an active Swainson's hawk nest is located within 500 feet of the Project or within the Project site, the Project proponent shall contact CDFW for guidance.

MM BIO-6: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

MM BIO-7: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

MM BIO-8: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site shall

attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist.

The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include:

- An acknowledgement form signed by each worker indicating that environmental training has been completed.
- A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant impact with mitigation incorporated.*

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

There are two sensitive natural communities, including Stabilized Interior Dunes and Valley Saltbush Scrub, with the potential to occur within 10 miles of the Project site. The Project site is highly disturbed and does not provide habitat to maintain these communities. No sensitive natural communities were identified within the Project site or buffer area during the biological reconnaissance survey. Although protocol-level botanical surveys were not conducted, it is unlikely that these habitat communities exist in the Project area due to heavy disturbance of the Project site and surrounding vicinity. There are no anticipated impacts to sensitive natural communities as a result of the proposed Project. The Project site covers an area of approximately 32 acres in size and consists of mostly vacant, previously disturbed land. The Project site is surrounded by residential and school development.

Riparian habitat is defined as lands that are influenced by a river, specifically the land area that encompasses the river channel and its current or potential floodplain. The Project is not located within a river or an area that encompasses a river or potential floodplain. With respect to sensitive natural communities, due to the previous disking activities and surrounding residential development that has occurred, there are no identified sensitive natural communities located within or in close proximity to the Project site. The proposed

Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Therefore, the Project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.4c – Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based upon the presence of wetland hydrology, hydric soils, and hydrophilic vegetation. There are no water features, federally protected wetlands or vernal pools that occur within the Project site.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and State jurisdiction under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State jurisdiction under Section 1602 of the California Fish and Game Code. There are no features on the Project site that would meet the criteria for either federal or State jurisdiction. Accordingly, there are no wetlands or Waters of the U.S. occurring on the Project site. There would be no impact to federally protected wetlands or waterways as a result of the proposed Project. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife migratory corridors are described as a narrow stretch of land that connects two open pieces of habitat that would otherwise be unconnected. These routes provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat and are important elements of resident species' home ranges.

The proposed Project and surrounding area does not occur within a known terrestrial migration route, significant wildlife corridor, or linkage area as identified in the Recovery Plan for Upland Species in the San Joaquin Valley (US Fish and Wildlife Service, 1998) or in habitat identified by the Essential Habitat Connectivity Project (Spencer, W.D., et al, 2010). The survey conducted for the Project did not provide evidence of a wildlife nursery or important migratory habitat being present on the Project site. Migratory birds and raptors could use habitat on or near the Project for foraging and/or as stopover sites during migrations or movement between local areas.

The Project will not restrict, eliminate, or significantly alter a wildlife movement corridor, wildlife core area, or Essential Habitat Connectivity area, either during construction or after the Project has been constructed. Project construction will not substantially interfere with wildlife movements or reduce breeding opportunities.

Additionally, the land surrounding the Project site is already developed with residences or education facilities that has severed most wildlife movement through the site and eliminate any nursery site. The proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, the Project's impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.4e – Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

There are no adopted local policies or ordinances protecting biological that would apply to this Project site. Therefore, implementation of the proposed Project would have no conflict related to an adopted local policies or ordinances protecting biological resources.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.4f – Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?

The Project is subject to biological resources mitigation and this environmental analysis has concluded that the Project would have a less than significant impact with incorporation of mitigation. The Project would follow approved survey protocols and avoidance and minimization measures.

The Project is not located within any other Natural Community Conservation Plan or any other local, regional, or State Conservation Plan. With mitigation, the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.5 - CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

This section is based on a cultural resource record search obtained from the Southern San Joaquin Valley Information Center of the California Historical Resources Information System at the California State University, Bakersfield and a Sacred Lands File Request to the Native American Heritage Commission (see Appendix B).

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

As defined by CEQA Guidelines Section 15064.5, "historical resources" are:

- A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Public Resource Code Section 5024.1, Title 14 California Code of Regulations, Section 4850 et seq.).
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency

to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code Section 5024.1, Title 14 CCR, Section 4852) including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

The records search revealed that approximately 20 acres of the subject property previously had been surveyed for cultural resources with negative results. Eight additional cultural resource studies have been conducted within a half mile of the Project site (Parr, 2019). Two historical cultural resources have been recorded within a half mile of the property, an isolated historical artifact (P-15-9042) and a row of palm trees planted sometime prior to 1937 (P-15-18878). The Project will not impact these historical resources.

A request for a Sacred Land File search was submitted to the Native American Heritage Commission (NAHC) and a negative response was received on July 30, 2019 (Appendix B). On July 31, 2019, letters were mailed to each of the Native American tribes identified by the NAHC (see Appendix B). The letters included a brief Project description and location maps. To date, no response has been received from any tribe.

Although there is no obvious evidence of historical or archaeological resources on the Project site, there is the potential during construction for the discovery of cultural resources. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including historical resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact under CEQA. However, implementation of MM CUL-1 would reduce potential impacts to cultural resources to less-than-significant levels.

MITIGATION MEASURE(S)

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.

Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant with mitigation incorporated*.

Impact #3.4.5b – Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See discussion of Impact #3.4.5a, above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.5c – Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The records searches did not indicate the presence of human remains, burials, or cemeteries within the Project site. No human remains have been discovered at the Project site, and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Implementation of the below mitigation measure would ensure that the proposed Project would not directly or indirectly destroy previously unknown human remains. The proposed Project would not disturb any known human remains, including those interred outside of formal cemeteries. Therefore, the Project would have a less-than-significant impact with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American

involvement, in the event of discovery of human remains, at the direction of the county coroner.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant with mitigation incorporated*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.6 - ENERGY				
Would the Project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

This analysis of energy impacts is based on calculations using data provided by the Project applicant and the data within the AQIA prepared for this Project. Information provided that informs this analysis consists of vehicle types and the number and length of each vehicle trip; equipment type, horsepower, load factor, and number of days used; and annual Vehicle Miles Traveled as a result of the proposed Project (Insight, 2019). To determine fuel consumption for the construction phase, the provided load factor for each piece of equipment was multiplied by the provided horsepower and total hours of usage to calculate the horsepower-hour. A standard conversion from horsepower-hour to gallons of diesel yielded the final estimate for fuel consumption during the construction phase (ConvertUnits.com, 2019). Operational energy consumption was calculated using data provided in the AQIA prepared for this Project. The analysis also utilized the City of Arvin's Sustainability Best Practice Activities Report (City of Arvin, 2013)

Impact #3.4.6a – Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and employee vehicle trips. Construction equipment includes excavators, graders, off-highway trucks, rubber-tired dozers, scrapers, tractors, loaders, backhoes, forklifts, cement and mortar mixers and cranes. The Project would comply with the SJVAPCD requirements regarding the use of fuel-efficient vehicles. The construction phase of the proposed Project is expected to require a total of approximately 6,568 gallons of diesel fuel, based on calculations using data provided by the Project applicant and included in the appendix of the AQIA prepared for this Project (Insight, 2019) (Appendix A). The Project will not use natural gas during the construction phase.

There are no unusual Project characteristics that would cause construction equipment to be less energy efficient compared with other similar construction sites in other parts of the State. Thus, construction-related fuel consumption at the Project would not result in inefficient, wasteful, or unnecessary energy use.

Energy demand during the operational phase would result from HVAC, maintenance equipment, on-site lighting, and the arrival and departure of students and staff. According to calculations based on data provided by the applicant, the Project would require approximately 345,882 kWh/yr to serve the educational center and lighting located within the parking lot (Insight, 2019). Estimated annual VMT resulting from the arrival and departure of students and staff is 1,227,562 miles (Insight, 2019). Using an average fuel economy of 25 miles per gallon, operational fuel consumption would be approximately 49,100 gallons of gasoline per year. The Project would use approximately 598,639 kBTU of natural gas per year (Insight, 2019).

The City of Arvin adopted the 2016 California Green Building Standard Codes to encourage sustainable construction practices. The Project will comply with Title 24, Chapter 4 of the California Building Standards Commission for all school buildings and the California Energy Code of Regulations. Finally, the Project will comply with the 2016 California Green Building Standard Codes to the extent feasible to help reduced energy and water consumption.

Energy saving strategies will be implemented where possible to further reduce the Project's energy consumption, during the construction phase. Strategies being implemented include those recommended by the California Air Resources Board (CARB) that may reduce both the Project's energy consumption, including diesel anti-idling measures, light-duty vehicle technology, usage of alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption. Additionally, as outlined in the SJVAPCD's GAMAQI, the Project includes recommendations to reduce energy consumption by shutting down equipment when not in use for extended periods, limiting the usage of construction equipment to eight cumulative hours per day, usage of electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment, and encouragement of employees to carpool to retail establishments or to remain on-site during lunch breaks.

The Project will also incorporate energy saving design features to offset electrical lighting use in the facility by installing skylights and dual-pane glass windows with window treatments throughout the campus. Energy efficient lighting and motion detector switches will be installed throughout the interior of the facility. In addition, the Project will use low flow toilets and other water reduction methods. The campus will have landscaping including xeriscaping, drought tolerant plants and trees and drip irrigation to reduce water consumption. Based on this analysis, the Project would not conflict with or obstruct a State or local plan related to renewable energy or energy consumption and impacts would be less than significant. Construction and operations related fuel consumption at the Project would not result in inefficient, wasteful, or unnecessary energy use. The Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.6b – Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

See Impact #3.4.6a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.7 - GEOLOGY AND SOILS				
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion

The following analysis is based primarily on the *Preliminary Geotechnical Investigation and Geohazards Report* (BSK Associates, 2019, Appendix C), prepared for this Project.

Impact #3.4.7a(i) – Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Project would develop a new community college campus on a site that is mostly vacant, disturbed land with oil wells on the eastern portion of the Project site. The site has been historically used for agriculture. The proposed construction and operation of the Project would increase the potential exposure of persons working on the Project site to seismic events including risk of loss, injury, and death related to earthquakes and related hazards.

The Project site is not located within an Alquist-Priolo Earthquake Zone. The nearest Fault Rupture Hazard Zone is the White Wolf Fault located approximately 3.8 miles southeast (BSK, 2019). The nearest Seismic Source Type A fault is the San Andreas Fault, located 27 miles from the site, and would be considered potentially significant if located within 15 miles of the Project site.

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. The site is within the Arvin 7.5 Minute Quadrangle and there are no mapped areas that have Seismic Hazard Zones in the Project area (BSK, 2019).

In addition, pursuant to the California Educational Code Sections 17212 and 17212.5 construction of school buildings will have to comply with safety standards that prohibit schools to be located on an active earthquake fault or fault trace. The proposed Project would comply with the most recent California Building Standards Code (CBC), which is implemented by the City of Arvin Engineering Department and provides criteria for the seismic design of buildings. Compliance with local and State codes and regulations would reduce impacts to less-than-significant levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impact would be *less than significant*.

Impact #3.4.7a(ii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

In the event of an earthquake on one of the nearby faults, it is likely that the Project site would experience ground shaking and expose people and structures associated with the Project, as well as the existing petroleum and gas lines to ground shaking. The White Wolf Fault has produced most of the historical earthquakes in the vicinity of the Project site.

Structures constructed as part of the Project would be required by State law to be constructed in accordance with all applicable California Educational Code, International Building Code (IBC) and CBC earthquake construction standards, including those relating to soil characteristics. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the Project site. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction could result in local areas during a strong earthquake or seismic ground shaking where unconsolidated sediments and a high-water table coincide. The subsurface soils generally consist of Hesperia sandy loam, zero to two percent slopes (BSK, 2019).

The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction. Structures constructed as part of the Project would be required by State law to be constructed in accordance with all applicable IBC and CBC earthquake construction standards, including those relating to soil characteristics. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the Project site. Therefore, there would be less-than-significant impacts as a result of ground failure and liquefaction.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iv) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

There is no potential for rock fall and landslides to impact the site in the event of a major earthquake, as the proposed site and surrounding areas are flat and do not include dramatic elevation changes. Based on the soil types of the Project site minor subsurface settlement may occur on site during a major earthquake, and this is considered less than significant. The property is flat and there is a low potential for landslides. The site would not be subject to liquefaction impacts due to the depth of groundwater below ground surface.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7b – Would the Project result in substantial soil erosion or the loss of topsoil?

The proposed Project site is essentially flat which would minimize the possibility for the formation of significant rills or gullies by water. With respect to soil erosion by wind, earthwork at the site during construction would cause disturbed soils to be exposed and possibly affected by wind erosion. Construction activities associated with the proposed Project will disturb surface vegetation and soils during construction and would expose these disturbed areas to erosion by wind and water. To reduce the potential for soil erosion and loss of topsoil, the Project would comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the State of California Central Valley Regional Water Quality Control Board (RWQCB)during construction. Under the NPDES, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) are required for construction activities that would disturb an area of one acre or more. A SWPPP must identify potential sources of erosion or sedimentation as well as identify and implement best management practices (BMPs) that ensure reduce erosion. Typical BMPs intended to control erosion include sandbags, retention basins, silt fencing, street sweeping, etc. Mitigation Measure MM GEO-1 requires the approval of a SWPPP to comply with the NPDES General Construction Permit. The Project will comply with all the grading requirements as outlined in Title 24 and California Building Code.

Once constructed the Project will have both impermeable surfaces as well as permeable surfaces. Permeable surfaces would include the courtyard, undeveloped land and landscaped areas where water will percolate. Impermeable surfaces would include roadways, driveways and building sites. Stormwater would be directed to the existing sewer system.

Overall, development of the Project would not result in conditions where substantial surface soils would be exposed to wind and water erosion. The Project is not expected to result in substantial soil erosion or the loss of topsoil with the incorporation of mitigation measure MM GEO-1.

The Project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant with incorporation of mitigation measures.

MITIGATION MEASURE(S)

MM GEO-1: Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Protecting existing storm drain inlets and stabilizing disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials; and
- Managing waste, aggressively controlling litter, and implementing sediment controls

The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant. with mitigation incorporated*.

Impact #3.4.7c – Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The depth to groundwater is currently greater than 50 feet bgs, therefore, the potential for liquefaction and seismic related ground failure is low (BSK, 2019).

Hydrocompaction is the consolidation of loose dry surface soils from the infiltration of water. Materials of unusually low density deposited in areas of low rainfall undergo significant compaction when they become thoroughly wetted. Site soils may have a potential for hydrocompaction which will require further evaluation. A more detailed geotechnical investigation will be performed once the layout of the structures is defined. Hydrocompaction materials consist of sediments loosely placed by wind or by mudflow, that when saturated, the material hydrocompacts (settlement). If hydrocompaction soil is encountered, Project proponent shall: 1) over-excavate and re-compact the material, 2) design the foundation deeper than the hydrocompaction material zone, or 3) provide an alternative engineering solution to ensure that hydrocompaction will not result in instability of Project features. In order to reduce impacts related to unstable soils, MM GEO-2 requires a registered engineering geologist or soils engineer to prepare a final geotechnical report that would assess requirements necessary to provide sufficient specification for Project structures. With implementation of MM GEO-2, impacts would be less than significant.

MITIGATION MEASURE(S)

MM GEO-2: Prior to commencement of grading, a site-specific design-level geotechnical report shall be prepared by a registered engineering geologist or soils engineer. The report shall provide a hydrocompaction assessment and protection recommendations and grading recommendations.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

See Impact 3.4.7b and c.

The site area soils may be expansive. As noted above, a final geotechnical engineering evaluation would confirm the actual site soil conditions and provide recommendations for grading and construction of the Project. (BSK, 2019). Any recommendations based on the results of the evaluation would be performed according to standard geotechnical engineering practices and meet all local and State codes and regulations. With implementation of MM GEO-1 and MM GEO-2, impacts related to expansive soils would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM GEO-1 and MM GEO-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.7e – Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed Project does not include septic tank installation. The Project would connect to existing wastewater infrastructure provided by the Arvin Community Services District. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.7f – Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no unique geological features or known fossil-bearing sediments in the vicinity of the Project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of less than significant.

MITIGATION MEASURE(S)

MM GEO-3: During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an

accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

LEVEL OF SIGNIFICANCE

Impact would be ***less than significant with mitigation incorporated***.

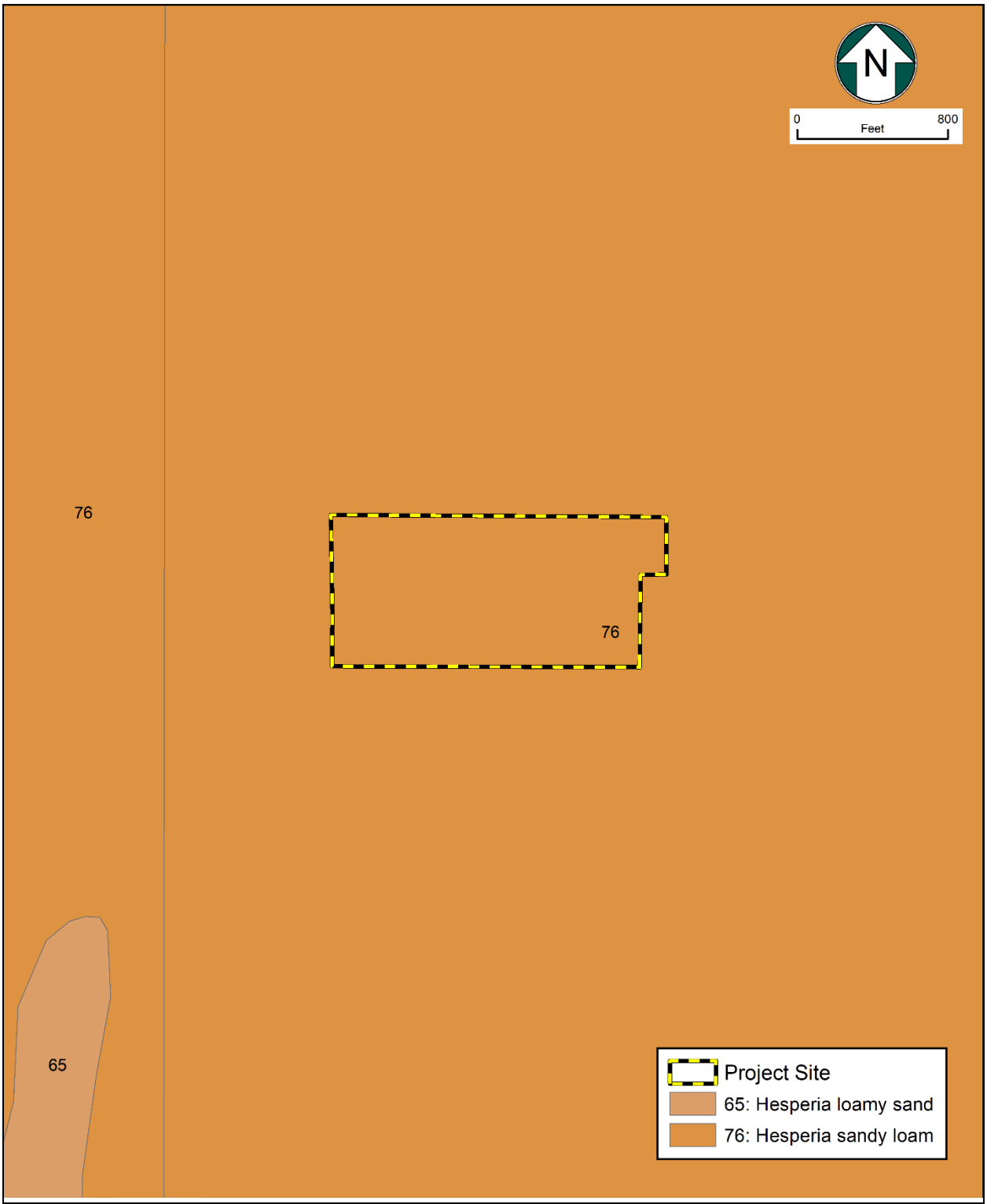


Figure 3.4.7-1
Soil Types

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.8 - GREENHOUSE GAS EMISSIONS				
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

An air quality and greenhouse gas analysis report was relied upon in the analysis of impacts related to greenhouse gases (GHGs) (Insight, 2019) (see Appendix A). This report was prepared in accordance with the SJVAPCDs guidelines and adopted policies of CARB.

In addition to providing an assessment of the Project's impacts to GHGs, the report includes a detailed description of the regulatory environment as it relates to GHGs.

GHGs are identified as any gas that absorbs infrared radiation in the atmosphere. GHGs include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), halogenated fluorocarbons (HCFCs), ozone (O3), perfluorinated carbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF6). On December 7, 2009, the EPA issued an Endangerment Finding on the above referenced key well-mixed GHGs. These GHGs are considered "pollutants" under the Endangerment Finding. However, these findings do not themselves impose any requirements on industry or other entities.

The Global Warming Solutions Act [Assembly Bill (AB) 32] was passed by the California Legislature and signed into law by the Governor in 2006. AB 32 requires that GHGs emissions in 2020 be reduced to 1990 levels.

Impact #3.4.8a – Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Both construction and operation of the proposed Project would result in emissions of GHGs. Construction activities would require the use of on-road heavy equipment to deliver all off-road equipment to the Project site. Depending on the construction phase, varying numbers of workers would commute to the Project site in motor vehicles during construction which is anticipated to start in the year 2020.

Construction

The SJVAPCD does not have thresholds or guidance regarding the significance of construction related emissions. Overall, the impacts to occur during the construction phase would be short-term and temporary in nature. As there are no current significance thresholds to quantify construction emissions and because construction-related impacts are considered temporary they are therefore, generally considered less than significant. In addition, construction of the proposed Project would still have to comply with the SJVAPCD's regulation and requirements as discussed in the air quality section.

Operation

Operational or long-term emissions occur over the life of the Project. The operational emissions for the Project are shown in Table 3.4.7-1. For assumptions and descriptions for the emission sources, please refer to Appendix A. As shown in the Table 3.4.7-1, mitigation and regulation are required to reduce emissions beyond 29 percent.

Table 3.4.8-1
Comparison of Unmitigated and Mitigated GHG Emissions (MT/Year)

	Project Unmitigated	Project Mitigated (2020)
CO2e Emissions	899.5	636.6
Percent Reduction		29.23%

Source: Appendix A.

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project will reduce GHG emissions by 29.23 percent; thus, it will meet the required 29 percent reduction to meet the AB32 goals; therefore, the Project would have less-than-significant GHG impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.8b – Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City of Arvin adopted a Climate Action Plan in 2013. The Project would comply with all applicable regulations.

As discussed under the previous significance criteria, the proposed Project would be consistent with the SJVAPCD's recommendations in its guidance for addressing GHGs in CEQA. The SJVAPCD's guidance is based on a minimum of 29 percent reduction from BAU, which is the same reduction that California would need to reduce GHG emissions to 1990 levels by the year 2020.

In the absence of an applicable local or regional GHG reduction plan, the Project's compliance with AB 32 is evaluated through compliance with the applicable measures in the Scoping Plan below.

Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of GHGs in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in GHGs elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be reduced.

The CARB Governing Board approved a Climate Change Scoping Plan. The Scoping Plan outlines the State's strategy to achieve the 2020 GHG emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (CARB 2008).

Project consistency with applicable strategies in the Scoping Plan is assessed in Table 3.4.7-2. As shown, the Project is consistent with the applicable strategies in the Scoping Plan.

Table 3.4.8-2
Consistency with Applicable Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater benefits for California.	Not Applicable. Products or services (such as electricity) would be covered and the cost of the cap-and-trade system would be transferred to the consumers.
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero emission vehicle, alternative and renewable fuel and vehicle	Not Applicable. This is a statewide measure that cannot be implemented by a Project applicant or lead agency. When this measure is initiated, the standards would

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
technology programs with long-term climate change goals.	be applicable to the light-duty vehicles that would access the Project site.
Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California	Consistent. This is a measure for the State to increase its energy efficiency standards. The applicant shall implement Title 24 and Green Building Standards.
Renewable Portfolio Standard. Achieve 33% renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	Consistent. The applicant may consider installing solar panels in the parking lot.
Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard	Not Applicable. This is a statewide measure that cannot be implemented by a Project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the Project site.
Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	Not Applicable. The Project is not related to developing GHG emission reduction targets.
Vehicle Efficiency Measures. Implement light duty vehicle efficiency measures.	Not Applicable. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the Project site.
Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not Applicable. The Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	Consistent. This measure is being implemented by various agencies throughout California. The applicant shall implement Title 24 and Green Building Standards
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Not Applicable. This is a statewide measure that cannot be implemented by a Project applicant or lead agency. When this

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
	measure is initiated, the standards would be applicable to vehicles that access the Project site.
Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	Not Applicable. The Project is not an industrial land use.
High Speed Rail. Support implementation of a high-speed rail system.	Not Applicable. This is a statewide measure that cannot be implemented by a Project applicant or Lead Agency.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The State's goal is to increase the use of green building practices. The Project would implement green building strategies through Project design features.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Not Applicable. When this measure is initiated, it would be applicable to those gases that have high global warming potential that would be used by the Project (such as in air conditioning and refrigerators).
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The Project would not contain a landfill. The State's goal is to help increase waste diversion. The Project would participate in the City's recycling program.
Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	Not Applicable. No forested lands exist on-site.
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. This is a measure for State and local agencies. The Project would implement water conservation features in its BMPs.
Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if	Not Applicable. The proposed Project would include the construction of a school.

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
the program should be made mandatory by 2020.	Previous agricultural activities did not include animals.

Source: California Air Resources Board 2008.

In summary, the Project would not obstruct attainment of any of the goals established under AB 32. The Project would comply with all present and future regulatory measures developed in accordance with AB 32 and CARB's Scoping Plan. The proposed Project would incorporate a number of best management practices and design features that would minimize GHG emissions beyond existing regulatory requirements. Such measures also are consistent with the California Air Pollution Control Officers Association paper and general guidance provided by the SJVAPCD.

With the incorporation of standard measures, Project design features, and applicable laws, the Project's forecasted emission reduction is 29.23 percent, which complies with SJVAPCD thresholds.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.9 - HAZARDS AND HAZARDOUS MATERIALS				
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☒	☐
f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Discussion

This section is based on the *Enhanced Phase I Environmental Site Assessment Report (ESA)* (SEI, 2017), a *Final Limited Soil Investigation Workplan* (BSK, 2019a) *Limited Phase II Soil Investigation Report* (BSK, 2019b) and prepared for this project (Appendix D).

Impact #3.4.9a – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The building and operation of the proposed Project would not involve the transport, use, and storage of large quantities of hazardous materials. Although construction of the site would involve the transport and use of minor quantities of hazardous materials, such materials would be limited to fuels, oils, lubricants, hydraulic fluids, paints and solvents utilized at the Project site for construction purposes. Moreover, use of such materials would be temporary in nature and would cease upon completion of the Project. However, minor amounts of custodial chemicals would be used on site for cleaning supplies. The presence of such materials could present risk if not managed properly.

The presence and use of these materials, which can be classified as hazardous materials, create the potential for accidental spillage and exposure of workers to these substances. KCCD has procedures in place for the transport, use, and storage of hazardous materials which comply with the California Department of Education Title 5, California Code of Regulations. Hazardous and non-hazardous wastes would likely be transported to and from the Project site during the construction phase of the proposed Project. Construction would involve the use of some hazardous materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products, although these materials are commonly used during construction activities and would not be disposed of on the Project site. Any hazardous waste or debris that is generated during construction of the proposed Project would be collected and transported away from the site and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations. Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used at the proposed school. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. Additionally, and in accordance with applicable federal and State Health and Safety Codes, and Kern County regulations, the Project proponent would be required to prepare and submit an updated hazardous materials business plan to include the new school site (Mitigation Measure MM HAZ-1) to the Kern County Environmental Health Services Division/Hazardous Materials Section. Therefore, with implementation of Mitigation Measure MM HAZ-1, no significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the new school campus would occur.

From at least the 1930s to the 1980s, the site was used for agricultural activities. The property is currently idle land with a vacant house, two sheds and two water wells. Historical structures, including two houses and a warehouse, were present in the northeastern portion of the site from the 1940s until approximately 2014. Four oil wells and two tank settings are present in the northwestern and southern portion of the Project site. A severed and abandoned subsurface petroleum pipeline is present running east from the northwestern tank setting (SEI, 2017).

The PEA prepared for the Project analyzed multiple soil samples around the Project site collected and analyzed for organo-chlorine pesticides (OCPs) and arsenic across the field areas. The OCP concentrations were all reported below the EPA Residential Screening Levels (RSLs). Arsenic concentrations were reported within the normal range for the Arvin area in the shallow soil with a few elevated arsenic concentrations reported in the deeper samples. Soil samples were also collected within the former and existing structure areas with selected soil samples analyzed for OCPs, arsenic, lead, and total petroleum hydrocarbons (TPH). Elevated concentrations of the OCPs 4,4'-DDT, chlordane and dieldrin, along with lead and TPH were reported in some of these soil samples (SEI, 2017).

Subsequent to the PEA, additional subsurface soil samples were obtained and analyzed (BSK, 2019b). Results of the focused sampling and analysis indicated concentrations of arsenic above the corresponding soil Environmental Screening Level for Commercial/Industrial Shallow Soil Exposure in all samples; however, the reported concentrations are within the range of naturally occurring arsenic concentrations for the Arvin area (BSK, 2019b).

An underground storage tank (UST) is located adjacent to a small shed southwest of the house. A soil sample collected at a depth of 6 feet adjacent to the east end of the suspected UST had no petroleum hydrocarbons reported of potential concern. This UST will be removed per Kem County Environmental Health Services Department (KCEHSD) regulations and dust controlled during UST excavation activities in order to mitigate inhalation hazards and off-site migration of dusts potentially containing low concentrations of arsenic. Mitigation Measure MM AQ-1 requires that dust control measures will be employed during construction activities in order to reduce impacts of dust inhalation and off-site migration of fugitive dust potentially containing low concentrations of arsenic.

There is an inactive oil extraction facility with three wells and storage tanks secured by a gated fence is located on the northwest side of the Project property. However, this facility is not a part of the Project and is operated by a local petroleum company. The site was not sampled or a part of the additional analysis of the Project. Construction and operation of the Project will not impact this facility. Available Division of Oil Gas and Geothermal Resources (DOGGR) records do not identify any other oil or gas wells on the Project, as shown in Figure 3.4.9-1. Although unlikely, it is possible that during construction an unknown well may be uncovered. To reduce impacts, MM HAZ-2 would require construction work to stop if a well is uncovered, and to contact DOGGR to determine the necessary action to be taken.

The analytical results of the soil samples at this location did not indicate any elevated TPH, volatile organics, chlorides, pH or metals. A severed and inactive petroleum pipeline is runs

east from the northwestern tank setting. Soil samples collected at three locations adjacent to the pipeline had no petroleum hydrocarbons reported. Another suspected petroleum pipeline appears to be present near the southern tip of the site. A soil sample collected adjacent to this suspected pipeline had no petroleum hydrocarbons reported. The cumulative cancer risk calculated for this site is 2.3 x 10-5 with a cumulative hazard index of 0.84 indicating an elevated risk and low hazard level for the site. Arsenic and lead concentrations were evaluated separately from this calculation (SEI, 2017).

As discussed in Section 3.4.3 – *Air Quality,* an asbestos survey has been completed in order to determine the presence of asbestos located within the existing abandoned house, shed, and pump house that need to be demolished in order to construct the community college campus. The results of this survey conclude that no asbestos containing construction material exists in any of the abandoned structures on the Project site (Rooster Environmental Services, 2019) (Appendix A).

With implementation of mitigation, the proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Therefore, the Project would have a less-than-significant impact with remediation and mitigation incorporated.

Based on analysis above, Mitigation Measures MM AQ-1, MM HAZ-1 and MM HAZ-2 have been proposed to reduce potential impacts related to hazardous materials. With this mitigation, the proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials nor create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, impacts would be less than significant with implementation of mitigation measures.

MITIGATION MEASURE(S)

Implementation of MM AQ-1.

MM HAZ-1: Prior to operation of the Project, the Project proponent shall prepare a hazardous materials business plan that identifies the new location of the new community college campus and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times.

MM HAZ-2: In the event that other abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, all work shall cease and the California Department of Conservation, Division of Oil, Gas and Geothermal Resources shall be contacted for requirements and approvals. The California Department of Conservation, Division of Oil, Gas and Geothermal Resources may determine that remedial plugging operations may be required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.9b – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See Impact #3.4.8a, above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AQ-1, MM HAZ-1, and MM HAZ-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

See Impact #3.4.8a, above.

The Project is directly south of the Arvin High School campus and north of the Grimmway Academy. With implementation the recommended mitigation measures, impacts of the Project would be considered less than significant.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AQ-1, MM HAZ-1, and MM HAZ-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Available data for Cortese Act locations or other potentially hazardous sites on or near the Project site indicate that there are no hazardous or toxic sites in the vicinity (within one mile) of the Project site that would pose a safety hazard (SEI, 2017).

The Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. The Project site is not within the immediate vicinity

of a hazardous materials site and would not impact a listed site. Literature review of available federal, State, and local database information systems was performed for the purpose of identifying known recognized environmental conditions present on the site and the nearby properties that have the potential to adversely impact the site. There is no data identifying any facilities within ¼ mile of the site that might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials, substances, or wastes that might affect the proposed school site (SEI, 2017). Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9e – For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The nearest public airport is Bakersfield Municipal Airport, located on East Planz Road, approximately 12.5 miles northwest of the Project site. The proposed Project is not located within any Compatibility Zone of the Kern County Airport Land Use Compatibility Plan for this airport. Therefore, the Project would not result in a safety hazard as a result of proximity to a public use airport and would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9f – Would the Project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The proposed Project is required to adhere to the standards set forth in the Uniform Fire Code, which identifies the design standards for emergency access during both the Project's construction and operational phases. As outlined in the Arvin General Plan- Safety Element, City utilizes the Kern County Emergency Operations Plan, which establishes an emergency management organization and assigns functions consistent with the States Standardized Emergency Management System and the National Incident Management System (City of Arvin, 2019). The proposed Project would not inhibit the ability for local roadways to continue to accommodate emergency response and evacuation activities.

The proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.9g – Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed Project is surrounded by residential land uses and educational land uses and would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires as there are no wildlands in the vicinity. According to CalFire's Fire Hazard Severity Zone Map for Kern County, the Project site is not located within a hazard zone classified as Very High, High or Moderate for wildland fires (Cal Fire, 2007). Additionally, the area surrounding the Project is urbanized and developed with buildings or under agriculture crop production. Construction and operation of the Project is not expected to increase the risk of wildfires on and adjacent to the Project site. The Project will also be required to comply with all applicable standards as required by the City of Arvin and the Kern County Fire Department.

The proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.



Figure 3.4.9-1
Oil / Gas Wells and Pipelines

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.10 - HYDROLOGY AND WATER QUALITY				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☒	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

A water supply memo has been prepared for this Project (QK, 2019) (Appendix E).

Impact #3.4.10a – Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction of the Project would involve excavation, soil stockpiling, mass and fine grading, the installation of supporting drainage facilities, and associated infrastructure. During site grading and construction activities, large areas of bare soil could be exposed to erosive forces for long periods of time. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters.

Additionally, accidental spills or disposal of potentially harmful materials used during construction could possibly wash into and pollute surface water runoff. Materials that could potentially contaminate the construction area, or spill or leak, include lead-based paint flakes, diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. A SWPPP for construction-related activities would include, but not be limited to, the following types of BMPs to minimize the potential for pollution related to material spills:

- Vehicles and equipment will be cleaned;
- Vehicle and equipment fueling and maintenance requirements will be established; and
- A spill containment and clean-up plan will be in place prior to and during construction activities.

In order to reduce potential impacts to water quality during construction activities, Mitigation Measure MM GEO-1 requires the Project proponent to file a Notice of Intent (NOI) to comply with the NPDES General Construction Permit and prepare a SWPPP. The Project SWPPP would include BMPs targeted at minimizing and controlling construction and post-construction runoff and erosion to the "maximum extent practicable." Mitigation Measure MM HYD-1 requires the District to limit grading to the minimum area necessary for construction and operation of the Project in order to reduce the potential for disturbed, bare soil to be washed off site or into the existing sewer system during a rain event. Additionally, as noted in Section 3.4.9, *Hazards and Hazardous Materials*, Mitigation Measure MM HAZ-1 requires that all hazardous wastes be stored and properly managed in accordance with the approved Kern County Waste Management Department Hazardous Waste Exclusion Plan and hazardous materials business plan.

In order to reduce potential impacts to water quality during construction and operation activities, Mitigation Measures MM GEO-1 as well as MM HAZ-1 and MM HYD-1 would be required. With mitigation, the proposed Project would not violate any water quality

standards or waste discharge requirements. Therefore, the Project would have a less than significant impact with incorporation of mitigation.

MITIGATION MEASURE(S)

MM HYD-1: The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.

Implementation of Mitigation Measures MM GEO-1 and MM HAZ-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10b – Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The water purveyor for the Project area is the Arvin Community Services District, supplied by combination of surface water, groundwater, and imported water. The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The water supply memo prepared for this Project estimates the requirement of approximately 35.5 acre-feet (AF) of water per year, compared to an estimated 345 AF per year if the Project area was developed as single-family residences (QK, 2019). The Project would include the infrastructure that would connect with the City's water system; however, the majority of students would be existing Arvin residents and therefore would not significantly increase water usage demands.

The construction of operation of an educational facility on the site was analyzed and anticipated in the preparation of the Arvin General Plan. Mitigation Measure MM HYD-2 requires the District to obtain a water "will serve" letter from Arvin Community Services District.

MITIGATION MEASURE(S)

MM HYD-2: Prior to initiation of grading activities, the District shall obtain a water "will serve" letter from Arvin Community Services District signifying its willingness and ability to provide water for the Project.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(i) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

The rate and amount of surface runoff is determined by multiple factors, including the following: topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed and the amount of precipitation and water that infiltrates to the groundwater. The proposed Project would alter the existing drainage pattern of the site, which would have the potential to result in erosion, siltation, or flooding on- or off-site. The disturbance of soils on-site during construction could cause erosion, resulting in temporary construction impacts. In addition, the placement of permanent structures on-site could affect the long-term drainage of the site. Impacts from construction and operation are discussed below.

As discussed in Impact #3.4.10a above, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant after implementation of an SWPPP (see Mitigation Measure MM GEO-1) and BMPs required by the NPDES. No drainages or other water bodies are present on the Project site, and therefore, the proposed Project would not change the course of any such drainages; however, erosion may occur on-site during rain events or high winds. Mitigation Measure MM HYD-1 requires grading to be restricted to the minimum area necessary for construction of the Project. Additionally, as noted in Section 3.4.9, *Hazards and Hazardous Materials*, Mitigation Measure MM HAZ-1 requires that all hazardous wastes be identified, stored and properly managed in accordance with the approved Kern County Waste Management Department Hazardous Waste Exclusion Plan and hazardous materials business plan.

With mitigation, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site. Therefore, the Project would have a less than significant impact with incorporation of mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM GEO-1, MM HAZ-1 and MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in a substantial increase of the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

See Impact #3.4.10c, above.

AThe Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site, therefore, the Project would have a less-than-significant impact with the incorporation of mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM HAZ-1, MM HYD-1 and MM HYD-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As noted in Impact #3.4.4c, there are no water features, including a river or stream, on or near the Project. Existing drainage pattern of the site and area would be affected by Project development during grading as well as the construction of impervious surfaces such as the proposed building and parking lot on the Project site. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?

As shown by flood maps provided by the Federal Emergency Management Agency (FEMA), the Project is located within a 100-year flood zone, as is most of the City (see Figure 3.4.10-1). The proposed Project site is located within a FEMA Flood Hazard Zone labeled "Zone AO." FEMA defines "AO", as "Areas subject to inundation by one percent annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet" (FEMA , 2019).

The City has adopted a Storm Drain Mater Plan to identify and address local flooding issues within the City by upsizing existing storm drain facilities and extending the existing drainage system upstream (City of Arvin, 2019). As discussed above, the existing drainage pattern of the site and area would be affected by Project development. However, the project will connect to the existing stormwater sewer system, and therefore potential impacts resulting from the impeding or redirection of flood flows would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10d – Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

A seiche is a wave generated by the periodic oscillation of a body of water whose period is a function of the resonant characteristics of the containing basin as controlled by its physical dimensions. These periods generally range from a few minutes to an hour or more. The site is not near any large bodies of water, so seiches are not considered a significant hazard at the site.

Tsunamis are waves generated in oceans from seismic activity. Due to the inland location of the site, tsunamis are not considered a hazard for the site.

Mudflows occur when soils on a slope become partially or fully liquified by the addition of significant amounts of water to the source material. Since the Project site is located on relatively flat land with no nearby slopes, mudflows are not considered a hazard at the site.

The closest dam is Lake Isabella. According to inundation maps, flooding form dam failure would not extend to Arvin (City of Arvin, 2019).

The proposed Project would not expose people or structures to inundation by seiche, tsunami, or mudflow.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10e – Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Arvin Community Services District and Arvin-Edison Water Storage are participants in the Kern Groundwater Authority (KGA). The KGA prepared a draft Groundwater Sustainability Plan (GSP) on August 27, 2019. As discussed in Impact #3.4.10b, the water demand from this Project would not result in a significant impact due to depleted groundwater resources or interference with groundwater recharge. Therefore, the Project would not conflict with any water quality control plan or the implementation of the GSP prepared for the Arvin area and impacts would be less than significant with the incorporation of the aforementioned mitigation.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

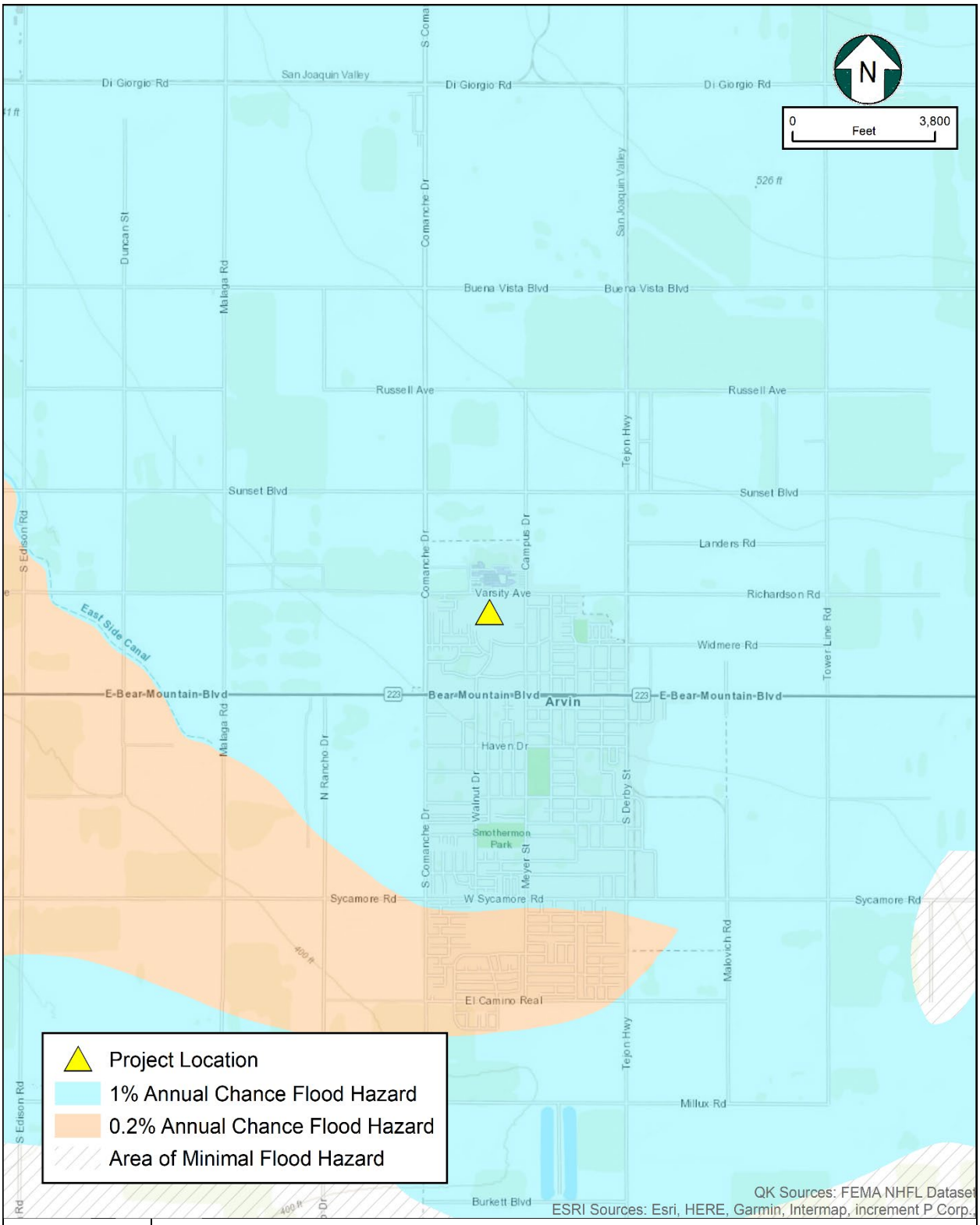


Figure 3.4.10-1
FEMA Floodplains

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.11 - LAND USE AND PLANNING

Would the Project:

a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating a negative environmental effect?	☐	☐	☐	☒

Discussion

Impact #3.4.11a – Would the Project physically divide an established community?

The proposed Project site is presently undeveloped land and is surrounded by residential development to the east and west, and educational facilities to the north and south. The proposed Project would not physically divide an established community. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Project is within the Arvin General Plan, which designates the Project site as General Commercial (C-2) and High Density Residential (R-3). Additionally, the Project site is zoned Limited Multiple Family Dwelling (R-3) and Professional Office (C-O) within a Pedestrian-oriented Mixed-Use Overlay (MUO) zone, which permits public facilities such as a post-secondary educational campus (City of Arvin, 2017). The Project is not anticipated to result in substantial direct or indirect population growth that was not previously anticipated by the Arvin General Plan. The proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not

limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

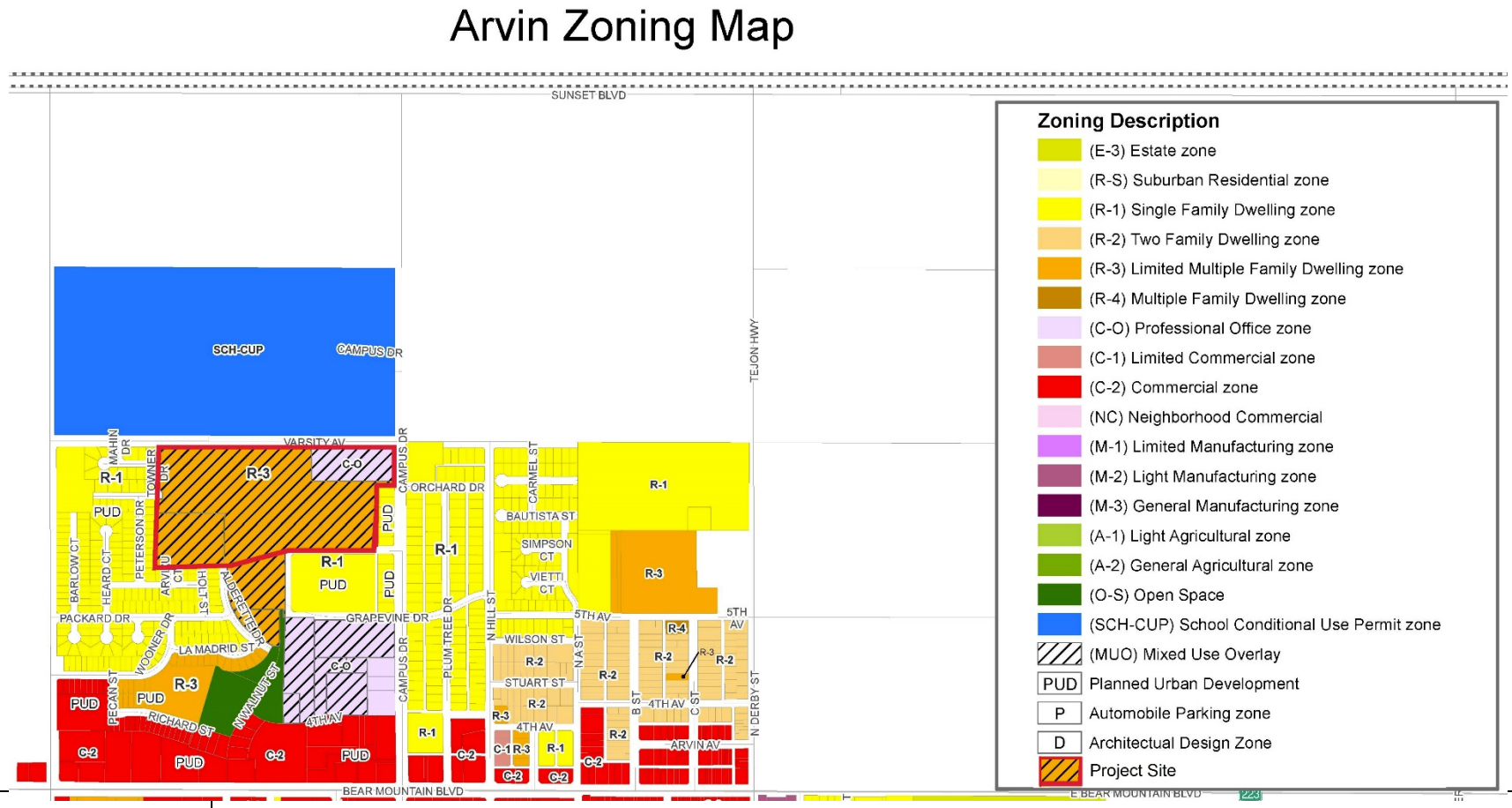


Figure 3.4.11-1
Arvin Zoning Designations

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact

3.4.12 - MINERAL RESOURCES

Would the Project:

a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

As illustrated in Figure 3.4.9-1, the Project site is located in the DOGGR identified Mountain View oilfield and there are three known wells located on the site.

The proposed Project would not restrict the ability of mineral rights' holders in the area to exercise their legal right to access surrounding sites for the exploration and/or extraction of underlying oil research or other natural resources and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The proposed Project is not designated as a mineral recovery area by the Arvin General Plan. The Project would not alter any existing plans that protect mineral resources. As a result, the

proposed Project would not interfere with mining operations and would not result in the loss of land designated for mineral and petroleum.

The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.13 - NOISE					
Would the Project result in:					
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c.	For a Project located within the vicinity an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

The Arvin General Plan has noise policies within the Noise Element of the plan (City of Arvin, 2019). The Noise Element establishes noise level criteria in terms of the Community Noise Equivalent Level (CNEL) metric. The CNEL is the time-weighted energy average noise level used to compare the noisiness of neighborhoods. CNEL is a single number result that is calculated for a complete 24-hour period and usually made up of results taken at shorter intervals such as five minutes or one hour and then averaged over the whole 24 hours. CNEL is the average sound level over a 24-hour period, with a penalty of 5 dB added between 7:00 p.m. and 10:00 p.m. and a penalty of 10 dB added for the nighttime hours of 10:00 p.m. to 7:00 a.m. Construction of the proposed Project would result in a temporary increase of ambient noise levels during the permitted hours of construction. Table 3.4.13-1 identifies noise levels for typical construction equipment.

Table 3.4.13-1
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Large bulldozer	0.089	0.011
Loaded trucks	0.076	0.010
Small bulldozer	0.003	0.0004
Jackhammer	0.035	0.004
Vibratory compactor/roller	0.210	0.026

Source: Kern County Planning Department, 2013.
Notes:
1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.
2 – Calculated using the following formula:
$PPV_{equip} = PPVref \times (25/D)1.5$
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
D = the distance from the equipment to the receiver

The closest Project building would be at least 400 feet from homes located to the east of the school site. The Arvin High School is directly north of the Project, and the Grimmway Academy campus is to the south.

When the Project is constructed, traffic on local roadways would be expected to increase. School-related activities could also result in an increase in ambient noise levels in the immediate Project vicinity.

Nearby existing sensitive uses could be affected by noise and vibration during the construction of the Project. Construction activities will temporarily increase noise levels. However, the Project would comply with Section 9.08 of the Arvin Municipal Code, which identifies the usage of construction equipment as potential sources of public nuisances outside of the hours between 6:00 a.m. and 9:00 p.m. (City of Arvin, 2017). Mitigation Measure MM NSE-1 requires that all stationary construction equipment be designed, located, and directed in a fashion that reduces noise exposure to sensitive receptors.

Activities that could be expected to generate noise include voices from students and staff, alarm systems, vehicles and mechanical systems related to heating, ventilation, and air conditioning (HVAC) systems on school buildings. However, noise levels from school activities would be intermittent and mostly occur during periods when students and staff are arriving or leaving the campus, but noise levels would not exceed the City's 65 dB CNEL standard. School buildings would have ground- or roof-mounted HVAC equipment that would generate noise. Details on the number, size and placement of such units were not available for analysis. Based upon data from similar projects, it is estimated that hourly values from the continuous operation of HVAC systems could be less than 40 dB at the closest noise-sensitive receivers. Even if it is assumed that HVAC systems could operate

continuously, 24 hours per day, HVAC system noise would not approach or exceed the City's 65 dB CNEL standard at the closest residential uses.

As indicated above, the Project's noise impacts are anticipated to generate noise levels below standards established in the Arvin General Plan and comply with local codes and regulations. Implementation of MM NSE-1 would require construction equipment to be located as far away from sensitive receptors to the extent feasible, to reduce temporary construction noise impacts to a less than significant level. Any permanent increase in ambient noise levels in the Project vicinity and temporary or periodic increases in ambient noise levels in the Project vicinity would not be considered significant.

MITIGATION MEASURE(S)

MM NSE-1: During construction, the contractor shall implement the following measures:

1. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive receptors.

2. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.

3. Construction activities shall take place during daylight hours, when feasible.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.13b – Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities in general can have the potential to create groundborne vibrations. However, based on the soil types found in the general Project vicinity, it is unlikely that any blasting or pile-driving would be required in connection with construction of the Project.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations (Federal Highway Administration (FHWA), U.S. Department of Transportation, 2017). In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction

equipment. The typical vibration produced by construction equipment is illustrated in Table 3.4.13-1.

Table 3.4.13-2

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Large bulldozer	0.089	0.011
Loaded trucks	0.076	0.010
Small bulldozer	0.003	0.0004
Jackhammer	0.035	0.004
Vibratory compactor/roller	0.210	0.026

Notes:

1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.

2 – Calculated using the following formula:

$PPV_{equip} = PPVref \times (25/D)1.5$
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines

D = the distance from the equipment to the receiver

As indicated in Table 3.4.13-2, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during Project construction range from 0.003 to 0.644 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity.

Therefore, the potential for groundborne vibrations impacts during the construction of the Project is considered less than signficant. Once operational, the Project would not contain any activities which would create groundborne vibrations. The proposed Project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.13c – For a Project located within the vicinity an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The proposed Project is located approximately 12.5 miles from the Bakersfield Municipal Airport. There would be no impact associated with the Project relating to excessive noise at a public airport.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.14 - POPULATION AND HOUSING				
Would the Project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

This analysis relied upon the Arvin General Plan for evaluating the significance of the Project's impacts to Population and Housing issues outlined in this section.

Impact #3.4.14a – Would the Project Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Development of the Project is in response to the need for expanded higher education school opportunities for residents of the Arvin and Lamont communities. The Arvin General Plan was designed to provide goals and policies to support orderly growth. The provision of public services, such as schools, was one of the main implementation measures listed to secure this growth. The Project is in an area that encourages the development of such educational facilities, and has been planned and anticipated by the City in the General Plan.

The proposed Project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) that was not accounted for in the preparation of the Arvin General Plan (City of Arvin, 2019). Therefore, impacts of the Project would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.14b – Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed Project does not propose to displace any existing housing or people in the Project area nor would implementation of the Project require construction or replacement of housing.

In addition, it is anticipated that construction workers would come from the surrounding area and would not require new housing. The proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.15 - PUBLIC SERVICES					
Would the Project:					
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:					
i.	Fire protection?	☐	☐	☒	☐
ii.	Police protection?	☐	☐	☒	☐
iii.	Schools?	☐	☐	☐	☒
iv.	Parks?	☐	☐	☒	☐
v.	Other public facilities?	☐	☐	☒	☐

Discussion

Impact #3.4.15a(i) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services - Fire Protection?

The existing Kern County Fire Department Station 54 would provide fire suppression and emergency medical services at the Project site. Station 54 is located about 1,200 feet south of the Project site at 301 Campus Drive in Arvin, CA.

An approved water supply system capable of supplying required fire flow for fire protection purposes is to be provided to all portions of the school campus where buildings are to be located. The establishment of gallons-per-minute requirements for fire flow shall be based on the Guide for Determination of Required Fire Flow, published by the State Insurance Service Office and County of Kern's adopted Fire Code.

Fire hydrants would also be located and installed per the County of Kern standards. The District would install the required infrastructure to meet water supply demands for municipal fire protection services. These design standards coupled with existing fire protection infrastructure would provide for proper fire suppression services on site. Further, by meeting these standards and incorporating needed design features in the Project design, no additional fire protection services would be required.

The majority of students would be existing Arvin residents already utilizing public services. The proposed Project would not result in an increase in the local population. The construction of the Project is not anticipated to directly require the employment of additional fire fighters or law enforcement officers. The Arvin General Plan zoning designation of the Project site allows for the construction of a post-secondary educational facility. The students enrolled in the college would most probably be from Arvin or the surrounding area. Therefore, the school's public services needs have already been accounted for in projecting future public service needs for the City and County, including police and fire protection services. It is anticipated that existing and future public facilities and equipment would be able to maintain the current level of service.

Additionally, the growth that would result from the Project is incremental and therefore would not significantly increase the need for such services beyond the baseline condition.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(ii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Police Protection?

See Impact #3.4.15a(1).

The Arvin Police Department, located at 200 Campus Drive, is the agency responsible for law enforcement within the City of Arvin. The department is made up of 28 sworn and non-sworn fulltime employees, four reserve officers, explorer post and a Police Activities League.

As discussed above, the Project site is zoned to accommodate the construction of a school and has been anticipated by the Arvin General Plan, including its effects to police protection services. Therefore, the Project would not increase the need for such services beyond the baseline condition.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(iii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Schools?

The Project would construct and operate a new college school site would provide local students with the opportunity for post-secondary education within close proximity to their homes and work. The Project is not anticipated to result in the need for additional schools in the area. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

Impact #3.4.15a(iv) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Parks?

No parks are located within the vicinity of the Project site. The nearest park is located approximately 1,000 feet south of the Project site. The Project is not anticipated to result in a significantly greater usage of the parks in the Project vicinity. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(v) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Other Public Facilities?

The Project would not induce the appreciable use of other public facilities such as libraries, courts, and other Arvin or Kern County services. The majority of students would be existing Arvin residents already utilizing public services. The proposed Project would not result in an increase in the local population or substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause a significant environmental impact, in order to maintain acceptable service ratios for any of the public services. Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.16 - RECREATION				
Would the Project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

Impact #3.4.16a – Would the Project Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed Project would not increase the use of existing neighborhood and regional parks. The closest public park is Las Palmas Park, which is approximately 1,000 feet south of the Project site. The majority of students would be existing Arvin residents already utilizing public parks. The proposed Project would not result in an increase in the local population and the majority of students enrolled in the college would most probably be from Arvin or the surrounding area. Additionally, the growth that would result from the Project is incremental and therefore would not significantly increase the need for such services beyond the baseline condition.

The proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.16b – Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

See Impact #3.4.15a, above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.17 - TRANSPORTATION					
Would the Project:					
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b.	Conflict or be inconsistent with CQA Guidelines Section 15064.3, subdivision (b)?	☐	☒	☐	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d.	Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

A Traffic Study was prepared for this Project (Ruettgers & Schuler, 2019) (Appendix F). The Traffic Study was prepared using trip generation and design hour volumes calculated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition as well as data provided in the Project description.

The following traffic scenarios were analyzed in the Traffic Study:

- Existing Conditions (2019);
- Existing plus Project (2019);
- Opening Year (2021);
- Opening Year plus Project (2021);
- Future Cumulative (2040); and
- Future Conditions plus Project (2040).

Impact #3.4.17a – Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The existing roadways providing the main circulation in the vicinity of the Project include the following:

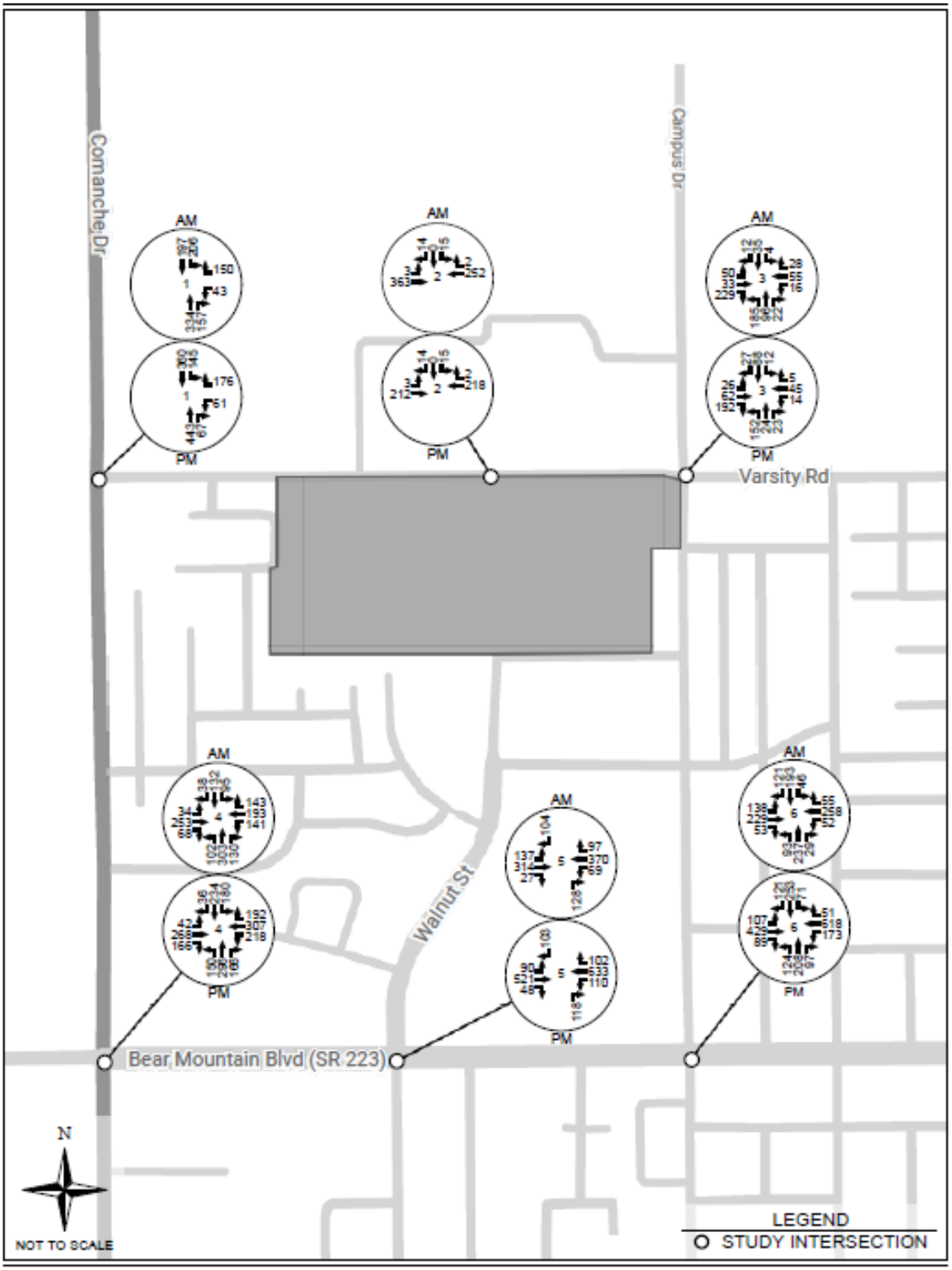
Bear Mountain Boulevard (State Route [SR] 223) is an east-west principal arterial that operates as a four-lane divided roadway through the City of Arvin and narrows to two lanes outside of Arvin. State Route 223 extends east from Interstate 5 (I-5) to SR 58 where it terminates. It provides access to the City of Arvin and is a truck route that connects the three primary corridors in the area, I- 5, SR 58 and SR 99.

Campus Drive/Meyer Street is a fully improved north-south collector that exists as a four-lane facility between Bear Mountain Boulevard and Varsity Road. Comanche Drive is north-south minor arterial that exists as a two-lane facility. Varsity Avenue is an east-west collector that operates as a two-lane facility west of North Comanche Drive. Walnut Drive is a north-south collector with curb and gutter that exists from Sycamore Road to Nectarine Court and provides access to residential land uses in northern Arvin.

Existing and Future Traffic

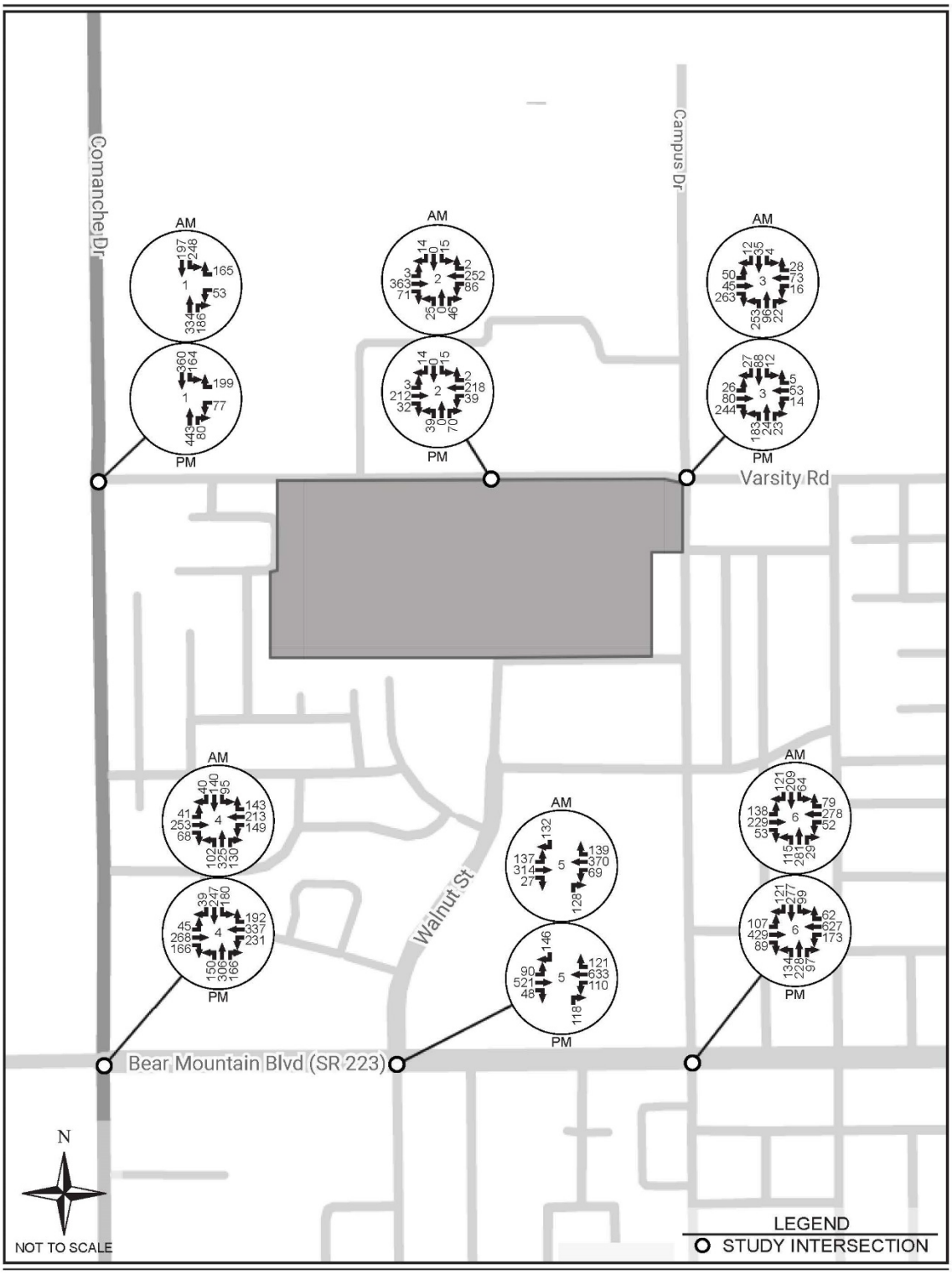
Existing peak hour turn movement volumes were field measured in August 2019 at the study intersections and are shown in Figure 5 of Appendix F. Existing plus Project peak hour volumes are shown in Figure 6 of Appendix F.

Annual growth rates of 0.5 percent to 6.35 percent were applied to existing traffic volumes to estimate future traffic volumes for the years 2021 (opening year) and 2040. These growth rates were estimated based on a review of KernCOG traffic model data. Opening year peak hour, opening year plus Project, future peak hour and peak hour plus Project volumes are shown in Figures 3.4-17-1 through 3.4.17-4, respectively.



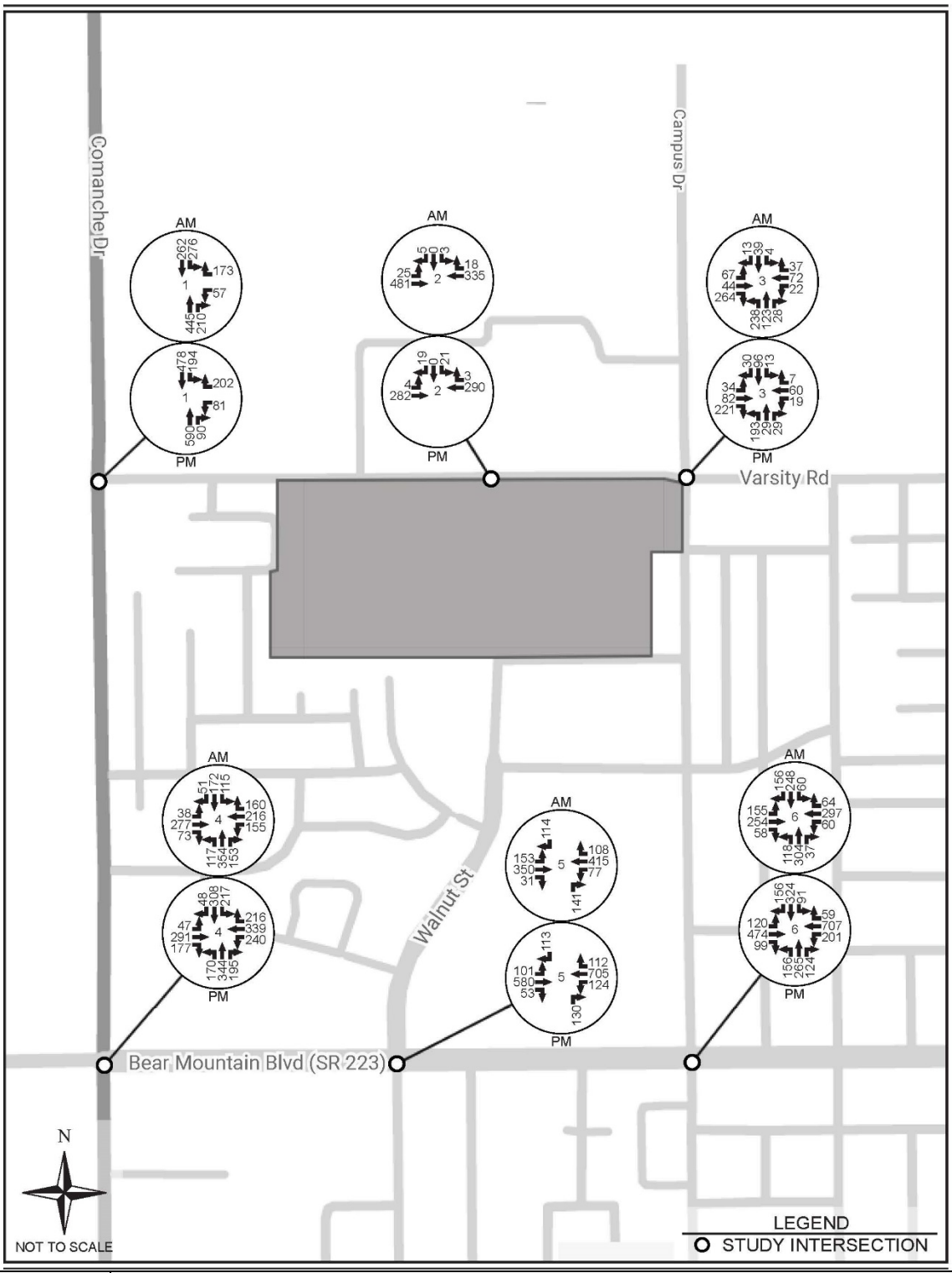
Source: Appendix F.

Figure 3.4.17-1
2021 Peak Hour Traffic Volumes



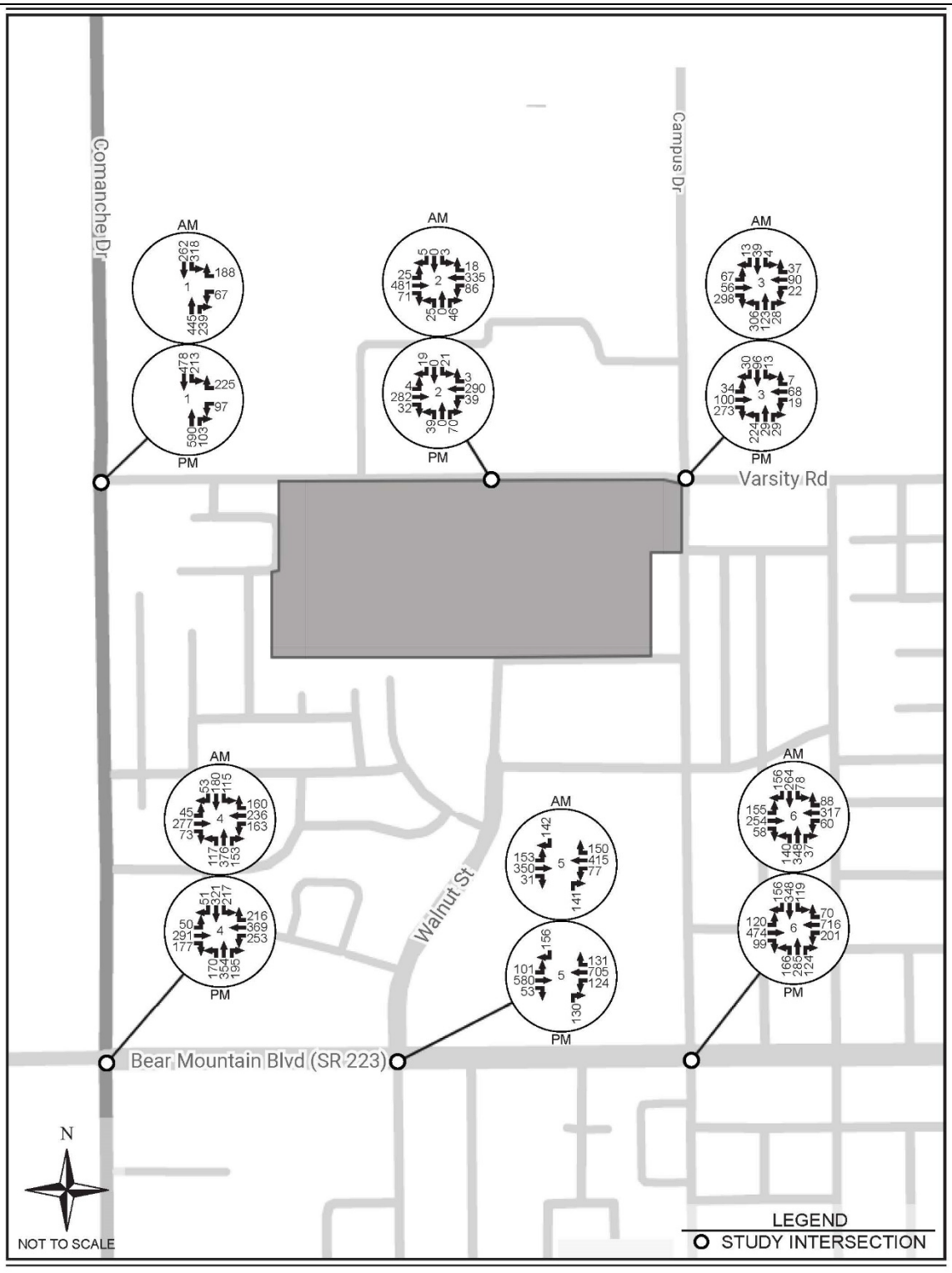
Source: Appendix F.

Figure 3.4.17-2
2021 Peak Hour Plus Project Traffic Volumes



Source: Appendix F.

Figure 3.4.17-3
2040 Peak Hour Traffic Volumes



Source: Appendix F.

Figure 3.4.17-4
2040 Plus Project Peak Hour Traffic Volumes

Levels of Service

Criteria for intersection level of service (LOS) are shown in the Tables 3.4.17-1 and 3.4.17-2 below. Level of service for the study intersections is presented in Tables 3.4.17-3 through 3.4.17-7. According to the City of Arvin's Circulation Element, the level of service goal for the roadways within the scope of this study is "D".

Table 3.4.17-1
Level of Service Criteria – Unsignalized Intersections

Average Control Delay (sec/veh)	Level of Service	Expected Delay to Minor Street Traffic
≤10	A	Little or no delay
10 and ≤15	B	Short traffic delays
15 and ≤25	C	Average traffic delays
25 and ≤35	D	Long traffic delays
35 and ≤50	E	Very long traffic delays
>50	F	Extreme delays

Table 3.4.17-2
Level of Service Criteria Signalized Intersections

Volume/Capacity Control Delay (sec/veh) Level of Service	Volume/Capacity Control Delay (sec/veh) Level of Service	Volume/Capacity Control Delay (sec/veh) Level of Service
0.60	≤10	A
0.61-0.70	10 and ≤20	B
0.71-0.80	20 and ≤35	C
0.81-0.90	35 and ≤55	D
0.91-1.00	55 and ≤80	E
1.00	>80	F

Table 3.4.17-3
AM Intersection Level of Service

#	Intersection	Control Type	2019	2019+ Project	2021	2021+ Project	2040	2040+ Project	2040+ Project w/Mitigation1
1	Comance Rd & Varsity Rd	WB	C	D	C	E (36.4)	F (118.3)	F (272.4)	C
2	Project Entrance & Varsity Rd	AWSC	B	B	B	B	B	C	-
3	Campus Dr & Varsity Rd	AWSC	B	B	B	B	C	C	-
4	Comanche Rd & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	C	C	-
5	N. Walnut St & Bear Mountain Blvd (SR 223)	NB SB	B	B	B	B	B	B	-
6	Campus Dr/Meyer St & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	C	C	-

NOTE: (#) = Delay in Seconds

[1]See Table 7 of Appendix F for mitigation details.

[2] Mitigation due to PM Peak Hour traffic

Table 3.4.17-4
PM Intersection Level of Service

#	Intersection	Control Type	2019	2019+ Project	2021	2021+ Project	2040	2040+ Project	2040+ Project w/Mitigation[1]
1	Comance Rd & Varsity Rd	WB	D	F (55.9)	E (39.7)	F (74.1)	F (<300)	F (<300)	C
2	Project Entrance & Varsity Rd	AWSC	A	A	A	B	B	B	-
3	Campus Dr & Varsity Rd	AWSC	B	B	B	B	B	C	-
4	Comanche Rd & Bear Mountain Blvd (SR 223)	Signal	C	C	D	D	D	D	-
5	N. Walnut St & Bear Mountain Blvd (SR 223)	NB SB	B	B	B	B	B	B	-
6	Campus Dr/Meyer St & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	D	D	-

NOTE: (#) = Delay in Seconds

[1]See Table 7 of Appendix F for mitigation details.

Traffic Signal Warrant Analysis

Peak hour signal warrants were evaluated for each of the unsignalized intersections within the study based on the California Manual on Uniform Traffic Control Devices (MUTCD). Peak hour signal warrants assess delay to traffic on the minor street approaches when entering or crossing a major street.

Table 3.4.17-5
AM Traffic Signal Warrants – Existing Scenario

		2019			2019+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	864	190	YES	935	215	YES
2	Project Entrance at Varsity Rd	628	6	NO	785	71	NO
3	Campus Dr at Varsity Rd	403	292	NO	467	360	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	973	127	YES	1015	131	NO

Table 3.4.17-6
PM Traffic Signal Warrants – Exisiting Scenario

		2019			2019+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	968	232	YES	1000	271	YES
2	Project Entrance at Varsity Rd	423	29	NO	494	109	NO
3	Campus Dr at Varsity Rd	337	179	NO	415	210	NO
5	N Walnut St at Bear Mountain Blvd (SR 223)	1379	117	YES	1398	145	YES

Table 3.4.17-7
AM Traffic Signal Warrants – Future Scenario

#	Intersection	2021 Major Street Total Approach Vol	2021 Minor Street High Approach Vol	2021 Warrant Met	2021+Project Major Street Total Approach Vol	2021+Project Minor Street High Approach Vol	2021+Project Warrant Met	2040 Major Street Total Approach Vol	2040 Minor Street High Approach Vol	2040 Warrant Met	2040+Project Major Street Total Approach Vol	2040+Project Minor Street High Approach Vol	2040+Project Warrant Met
1	Comanche Rd at Varsity Rd	902	193	YES	973	218	YES	1201	230	YES	1272	255	YES
2	Project Entrance at Varsity Rd	620	29	NO	777	71	NO	859	8	NO	1016	71	NO
3	Campus Dr at Varsity Rd	411	303	NO	475	371	YES	506	389	YES	570	457	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	1014	128	YES	1056	132	YES	1134	141	YES	1176	142	YES

Table 3.4.17-8
PM Traffic Signal Warrants – Future Scenario

#	Intersection	2021 Major Street Total Approach Vol	2021 Minor Street High Approach Vol	2021 Warrant Met	2021+Project Major Street Total Approach Vol	2021+Project Minor Street High Approach Vol	2021+Project Warrant Met	2040 Major Street Total Approach Vol	2040 Minor Street High Approach Vol	2040 Warrant Met	2040+Project Major Street Total Approach Vol	2040+Project Minor Street High Approach Vol	2040+Project Warrant Met
1	Comanche Rd at Varsity Rd	1016	237	YES	1048	276	YES	1353	283	YES	1385	322	YES
2	Project Entrance at Varsity Rd	435	29	NO	506	109	NO	579	40	NO	650	109	NO
3	Campus Dr at Varsity Rd	344	199	NO	422	230	NO	423	251	NO	501	282	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	1504	118	YES	1523	146	YES	1675	130	YES	1694	156	YES

Roadway Analysis

The volume-to-capacity ratios shown in Table 3.4.17-9 were calculated for roadways with published ADT information and future projected traffic as shown in Table 3.4.17-10.

A volume-to-capacity ratio (v/c) of greater than 0.90 corresponds to a LOS of E, as defined in the Highway Capacity Manual and is shown in 3.4.7-10. Mitigation is required where Project traffic reduces the LOS to below an acceptable level, or where the pre-existing condition of the roadway is below an acceptable level of service and degrades below the pre-existing LOS with the addition of the Project.

Table 3.4.17-9
Roadway ADT and Capacity

Street	2019[1]	Project ADT	Cum ADT	2021 ADT[2]	2021+ Project[2]	2040 ADT[2]	2040+ Project[2]	Existing Capacity
Varsity Rd: Comanche Dr to Project Entrance	2571[2]	702	0[3]	2649	3351	3515	4217	20000
Varsity Rd: Project Entrance to Campus Dr	2571[2]	1266	0[3]	2649	3915	3515	4781	20000
Bear Mountain Rd (SR 223): Comanche Dr to Walnut St	12146[2]	425	1013	12294	12719	13791	14216	40000
Bear Mountain Rd (SR 223): Walnut to Campus Dr	12146[2]	188	1681	12294	12482	13791	13979	40000
Comanche Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	8741[2]	287	429	9014	9301	12502	12789	15000
Campus Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	3685[2]	940	227	3784	4724	5100	6040	30000

[1]2019 data not available. Data grown out from previous available year.
[2]Includes cumulative traffic.
[3]Project entrance does not include existing traffic.

Table 3.4.17-10
Roadway Level of Service

Street	v/c(Ex) 2019	v/c 2019+Proj	v/c 2021	v/c 2021+Proj	v/c 2040	v/c 2040+Proj
Varsity Rd: Comanche Dr to Project Entrance	0.13	0.16	0.13	0.17	0.18	0.21
Varsity Rd: Project Entrance to Campus Dr	0.13	0.19	0.13	0.20	0.18	0.24
Bear Mountain Rd (SR 223): Comanche Dr to Walnut St	0.30	0.31	0.31	0.32	0.34	0.36
Bear Mountain Rd (SR 223): Walnut to Campus Dr	0.30	0.31	0.31	0.31	0.34	0.35
Comanche Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	0.58	0.60	0.60	0.62	0.83	0.85
Campus Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	0.12	0.15	0.13	0.16	0.17	0.20

NOTE: Cumulative traffic from other projects included in all future volumes.

Vehicle Miles Traveled (VMT) Evaluation

In accordance with the California Environmental Quality Act (CEQA), an evaluation of the average vehicle miles traveled (VMT) for the Project's traffic was conducted.

VMT data was obtained from the Kern Council of Governments (KernCOG) in order to establish a baseline for daily vehicle miles traveled in the Arvin area. KernCOG's data is estimated based on Select Zone Analysis conducted for the region for establishing traffic models of existing and future land development projects. Based on household and employment populations in the Arvin area, as well as travel patterns throughout the region, KernCOG data has established the regional average VMT per trip to be 29.38 miles.

In order to establish the anticipated VMT profile for the proposed community college, an investigation into the student, faculty and staff trips was conducted. The primary factor involved in this evaluation is the location of the Project site in relation to the surrounding population centers.

Based on the information gathered, 70 percent of the students will be traveling from within Arvin city limits while 30 percent of students are anticipated to be traveling from surrounding cities. It is anticipated that 30 percent of faculty and staff will be traveling from within Arvin city limits and 70 City of faculty and staff are anticipated to be traveling from the outside of the City of Arvin.

The average trip length for students traveling to the community college was determined to be approximately 3.28 miles. The average trip length for faculty and staff was determined to be approximately 15 miles. The combined average trip length for all students, faculty and staff resulted in an average trip length of 4.03 miles.

Based on CEQA Guideline Section 15064.3 subdivision (b), the Project would create a less-than significant transportation impact, because the Project's VMT is less than the regional average. As previously mentioned, the regional average VMT established by KernCOG is 29.38 miles, and the average VMT of the proposed community college is 4.03 miles. The Project's average VMT is anticipated to bring down the regional average and will not cause a significant transportation impact (Ruettgers & Schuler, 2019).

Pedestrian Evaluation

The proposed Project entrance that intersects with Varsity Road currently exists as a three-way stop-controlled intersection with driveway access to Arvin High School. This intersection will be the primary pedestrian route between the high school and proposed community college. The intersection currently has adequate pedestrian facilities including crosswalk striping and signage. It is recommended that enhanced pedestrian signs and/or striping be reviewed during final Project design and applied as necessary.

CONCLUSIONS

Intersection and roadway improvements needed by the year 2040 to maintain or improve the operational level of service of the street system in the vicinity of the Project is shown in Tables 3.4.17-11.

Table 3.4.17-11
Future Intersection Improvements and Local Mitigation

#	Intersection	Total Improvements Required by 2040	Percent Share
1	Comanche Rd & Varsity Rd	Add Signal	20.3%

Based on the City of Arvin's standards for determining whether Project traffic has a significant impact on intersections and roadways, the mitigation measure identified here are anticipated to be needed in order to reduce the impacts for the listed facilities to less-than-significant levels in the year 2040.

MITIGATION MEASURE(S)

MM TRA-1: The District shall consult with Arvin City Engineering Division regarding required roadway improvements. The District shall pay fair share costs of 20.3 percent for a signal at the intersection of Comanche Road and Varsity Road to Arvin City Engineering Division prior to Project commencement.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.17b – Would the Project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

See Impact #3.4.17a, above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measure MM TRA-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project would not introduce new curves and/or hazardous intersections into the Project vicinity. No new design or features would be introduced that would result in transportation-related hazards or safety concerns. During construction at the proposed Project site, construction-related delivery trucks would be present. However, these trucks would be traveling along the existing and proposed local roadways and would not interfere with access surrounding the site. Coupled with this, once construction is completed, trucks would

cease to access the site with the exception of periodic deliveries and operational maintenance. The proposed Project would not result in an increase in hazards due to a design feature or incompatible use.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.17d – Would the Project result in inadequate emergency access?

The Project will comply with local and State requirements regarding access and egress to the site, specifically related to emergency first responders. The proposed Project would have to provide adequate unobstructed space for fire trucks to turn around. The proposed Project site would have adequate internal circulation capacity including entrance and exit routes to provide adequate unobstructed space for fire trucks and other emergency vehicles to gain access and to turn around.

As described above, the minimal increase of Project-related traffic would not cause a significant increase in congestion and would not reduce the existing LOS on area roads, which could indirectly affect emergency access. The Project is not expected to require closures of public roads, which could inhibit access by emergency vehicles. The proposed Project would not result in inadequate emergency access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.18 - TRIBAL CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

These questions were addressed in the discussion presented in Section 3.4.5 - *Cultural Resources.*

See discussion for Impacts #3.4.5a and #3.4.5b.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.18a(ii) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

See discussion for Impacts #3.4.5a and #3.4.5b.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.19 - UTILITIES AND SERVICE SYSTEMS				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☒	☐	☐
c. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

This analysis relied upon review of applicable requirements of the RWQCB- Central Valley as provided on their web site, City of Arvin community services online resources, and the Arvin General Plan (City of Arvin, 2019).

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

The proposed Project's wastewater and sewer treatment needs would ultimately be serviced by the Arvin Community Services District (CSD). The Arvin CSD has indicated the presence

of an existing sewer connection on the Project site that will be used to service the Project. The City's facilities operate according to the Arvin General Plan's goals, policies, and implementation measures. These policies are implemented under approval of the City Public Works Department and comply with the requirements of the applicable RWQCB. The Project would include the infrastructure that would connect with the City's system; however, the majority of students would be existing Arvin residents and therefore would not increase wastewater demands.

The Pacific Gas and Electric Company (PG&E) provides electricity to the City. The existing trunk and transmission facilities are adequate to meet present and Projected demand in the community (City of Arvin, 2019). The Project will connect to the existing PG&E transmission lines for electrical power. Telecommunication requirements for the Project are typical of this type of land use and would not require any expansion or construction of new telecommunication facilities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.19b – Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

As discussed in Impact #3.4.10b, the water demand for this Project estimates the requirement of approximately 35.5 AF of water per year, compared to an estimated 345 AF per year if the Project area was developed as single-family residences. The Project would include the infrastructure that would connect with the City's system; however, the majority of students would be existing Arvin residents and therefore would not significantly increase water demands.

Additionally, Mitigation Measure MM HYD-2 requires the District to obtain a "will serve" letter from Arvin Community Services District, the water purveyor for the Project. As demonstrated, the proposed Project will have adequate available water supply. Therefore, with implementation of Mitigation Measure MM HYD-2 the Project would have a less-than-significant impact.

MITIGATION MEASURE(S)

Implementation of MM HYD-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

See #3.4.19a and b.

The proposed Project would result in the construction of new wastewater infrastructure to connect to the existing City services in the area. However, the Project would obtain the necessary permitting and would create the necessary plans in order to comply with wastewater infrastructure standards. Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.19d – Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Implementation of the proposed Project would result in the generation of solid waste on the Project site, which would increase the demand for solid waste disposal. Solid waste removed from the site would be transported to the Bena Landfill located approximately eight miles northeast of the proposed Project site. The Bena landfill is permitted for a maximum tonnage of 4,500 tons per day disposal capacity of the Bena landfill at 4,500 tons/day with the remaining capacity of 32,808,260 cubic yards (CalRecycle, 2013). Therefore, the Bena Landfill has sufficient capacity to accommodate the proposed Project.

The Project, in compliance with federal, State, and local statutes and regulations related to solid waste, would dispose of all waste generated on-site at an approved solid waste facility (Bena Landfill). The Project does not, and would not conflict with federal, State, or local regulations related to solid waste. The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs in compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, the Project would have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.19e – Would the Project comply with federal, State, and local statutes and regulations related to solid waste?

See discussion for Impact #3.4.19d.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.20 - WILDFIRE				
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

Impact #3.4.20a – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

See Impact #3.4.9f and g.

The proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. The construction of the Project would not impair implementation of the Kern County Emergency Operations Plan or other applicable emergency response plan or evacuation plan. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20b – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?

As discussed above, and in Impact #4.3.9g, the proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. Additionally, the proposed Project site is flat and does not pose significant risk of exposure of Project occupants to wildfire. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20c – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

See Impact #3.4.9f-g, Impact 3.4.20a-b

As discussed above, the proposed Project site is not located in or near State responsibility areas or lands classified as very high hazard severity zones. Additionally, the Project would not require the installation or maintenance of infrastructure that would exacerbate fire risk or result in environmental impacts. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20d – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

See Impact #3.4.9f-g

MITIGATION MEASURE(S)

No mitigation needed.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.21 - MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☐	☒	☐	☐
c. Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

Impact #3.4.21a – Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. With mitigation, the proposed Project would not have the potential to

degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, the Project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-8 MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

Impact #3.4.21b - Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

As described in the impact analyses in Sections 3.14.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed Project would be reduced to a less-than-significant level following incorporation of the mitigation measures listed in Section 6, *Mitigation and Reporting Plan*. Projects completed in the past have also implemented mitigation as necessary. Accordingly, the proposed Project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. With mitigation, the proposed Project would not have impacts that are individually limited, but cumulatively considerable. Therefore, the Project would have a less than cumulatively considerable impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AES-1, MM AQ-1, MM BIO-1 through MM BIO-8, MM CUL-1 and MM CUL-2, MM GEO-1 through MM GEO-3, MM HAZ-1 and MM HAZ-2, MM HYD-1 and MM HYD-2, MM NSE-1, and MM TRA-1.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

Impact #3.4.21c - Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

All of the Project's impacts, both direct and indirect, that are attributable to the Project were identified and mitigated. As shown in Section 6, *Mitigation and Reporting Plan*, the District has agreed to implement mitigation substantially reducing or eliminating impacts from the

Project. Therefore, the proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed Project are identified as having no impact, less than significant impact, or less than significant impact with mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AES-1, MM AQ-1, MM BIO-1 through MM BIO-8, MM CUL-1 and MM CUL-2, MM GEO-1 through MM GEO-3, MM HAZ-1 and MM HAZ-2, MM HYD-1 and MM HYD-2, MM NSE-1, and MM TRA-1.

LEVEL OF SIGNIFICANCE

The Project would have a ***less-than-significant impact with mitigation incorporated***.

SECTION 4 - LIST OF PREPARERS

4.1 - Lead Agency

- Kern Community College District

4.2 - Consultant - QK

- Jaymie Brauer – Project Manager/author
- Christopher Mynk, AICP – QA/QC
- Conor McKay – Lead Author
- Robert Parr – Technical Author (Cultural)
- Dave Dayton – Technical Author (Biological)

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SECTION 6 - MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Mitigation Measure	Implementation	Monitoring
Aesthetics			
3.4.1-d	**MM AES-1:** Security and nighttime lighting installed at the school site shall be designed to reduce potential nuisances from light and/or glare by incorporating shielding of lighting and orienting lighting downward to prevent direct uplighting. Lighting used for any nighttime events shall be turned off by 11:00pm. All lights in excess of 150 watts shall be directed toward the Project site and away from adjacent properties. All light fixtures shall be designed with appropriate reflectors, hoods and side shields to direct the angle of incidence to reflect light downward.	KCCD/Project Architect/ Project Contractor	Project Inspector
Air Quality			
3.4.3-c	**MM AQ-1:** Prior to ground disturbance activities, the Project proponent shall prepare a Dust Control Plan in accordance with SJVAPCD's Rule 8021 section 6.3 that identifies the fugitive dust sources at the construction site and describes all dust control measures to be implemented before, during, and after any dust generating activity.	KCCD/Project Contractor	Project Inspector
Biological Resources			
3.4.4-a	**MM BIO-1:** Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no more than 30 calendar days prior to the onset of construction. The clearance survey shall include walking transects to identify presence of San Joaquin kit fox, American badger, Swainson's hawk, burrowing owl, nesting birds and other special status species or signs of, and sensitive natural	KCCD/Project Contractor	Project Inspector

communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project site and the 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but MM BIO-3 shall be implemented.		
MM BIO-2: If dens/burrows that could support the San Joaquin kit fox or American badger are discovered during the pre-activity surveys conducted under MM BIO-1, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity Potential Den – 50 feet Atypical Den – 50 feet (includes pipes and other man-made structures) Known Den – 100 Feet Natal/Pupping Den – 500 feet	KCCD/Project Contractor	Project Inspector
MM BIO-3: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011). a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed		

at least once a week from the construction or Project site.

b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the Project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.
d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or

otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project areas shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working

days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.

i. All sightings of the San Joaquin kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.

j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414- 6600.

k. If burrowing owls are found to occupy the Project site and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the nonbreeding season, before breeding behavior is exhibited, and after the burrow is confirmed empty through non-invasive methods (surveillance). Replacement or occupied burrows shall consist of artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1). Ongoing surveillance of the Project site during construction

activities shall occur at a rate sufficient to detect Burrowing owl, if they return.

MM BIO-4: If construction is planned outside the nesting period for raptors (other than the western burrowing owl) and migratory birds (February 15 to August 31), no mitigation shall be required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests shall be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500- foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity shall occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can cease.

MM BIO-5: If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure shall need not be applied. If no Swainson's hawk nests are found, no further action is required.

If construction is planned during the nesting season, a preconstruction survey shall be conducted by a qualified biologist to evaluate the site and a 0.5-mile buffer around the site for active Swainson's hawk nests. If potential Swainson's hawk nests or nesting substrates occur within 0.5 mile of the Project site, then those nests or substrates must be monitored for Swainson's hawk nesting activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. Monitoring shall be conducted according to the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The protocol recommends that ten visits be made to each nest or nesting site: one during January 1-March 20 to identify potential nest sites, three during March 20-April 5, three during April 5-April 20, and three during June 10-July 30. To meet the minimum level of protection for the species, surveys shall be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. During the nesting period, active Swainson's hawk nests shall be avoided by 0.5 mile unless this avoidance buffer is reduced through consultation with the CDFW and/or USFWS. If an active Swainson's hawk nest is located within 500 feet of the Project or within the Project site, the Project proponent shall contact CDFW for guidance.

MM BIO-6: If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

MM BIO-7: A qualified biologist shall conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey shall be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing

owl burrows are observed outside of the breeding season (September 1 through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone shall be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. In addition, impacts to occupied burrowing owl burrows shall be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through noninvasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

MM BIO-8: Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired

	workers, all construction workers at the Project site shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist. The Construction Worker Environmental Awareness Training and Education Program shall be presented by the biologist and shall include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of "take" under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site shall also be provided to construction personnel. The program shall include: • An acknowledgement form signed by each worker indicating that environmental training has been completed. • A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be maintain on site for the duration of construction activities.		
Cultural Resources			
3.4.5-a	**MM CUL-1:** If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the	KCCD/Project Contractor	Project Inspector

	immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.		
3.4.5-c	**MM CUL-2:** If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.	KCCD/Project Contractor	Project Inspector
Geology and Soils			

3.4.7-b	**MM GEO-1:** Prior to construction, the District shall submit an approved copy of: 1) the approved Storm Water Pollution Prevention Plan (SWPPP) and 2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following: • Stockpiling and disposing of demolition debris, concrete, and soil properly; • Protecting existing storm drain inlets and stabilizing disturbed areas; • Implementing erosion controls; • Properly managing construction materials; and • Managing waste, aggressively controlling litter, and implementing sediment controls The SWPPP shall describe the best management practices (BMPs) that will be incorporated to reduce the potential for soil erosion and loss of topsoil. The BMPs could include soil stabilizers and silt fencing as well as other measures.	KCCD/Project Contractor	Project Inspector
3.4.7-c	**MM GEO-2:** Prior to commencement of grading, a site-specific design-level geotechnical report shall be prepared by a registered engineering geologist or soils engineer. The report shall provide a hydrocompaction assessment and protection recommendations and grading recommendations.	KCCD/Project Contractor	Project Inspector

3.4.7-f	**MM GEO-3:** During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or other appropriate facility regarding any discoveries of paleontological resources. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.	

Hazards and Hazardous Materials

3.4.9-a	**MM HAZ-1:** Prior to operation of the Project, the Project proponent shall prepare a hazardous materials business plan that identifies the new location of the new community college campus and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The Project proponent shall provide the hazardous materials business plan to all contractors working on the Project and shall ensure that one copy is available at the Project site at all times. **MM HAZ-2:** In the event that other abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, all work shall cease and the California Department of Conservation, Division of Oil, Gas and Geothermal Resources shall be contacted for requirements and approvals. The California Department of Conservation, Division of Oil, Gas and Geothermal Resources may determine that remedial plugging operations may be required.	KCCD/Project Contractor	Project Inspector
Hydrology and Water Quality			
3.4.10-a	**MM HYD-1:** The District shall limit grading to the minimum area necessary for construction and operation of the Project. Final grading plans shall include best management practices to limit on-site and off-site erosion.		
3.4.10-b	**MM HYD-2:** Prior to initiation of grading activities, the District shall obtain a water "will serve" letter from Arvin Community Services District signifying its willingness and ability to provide water for the Project.		
Noise			

3.4.13-a	**MM NSE-1:** During construction, the contractor shall implement the following measures: 1. All stationary construction equipment on the Project site shall be located so that noise emitting objects or equipment faces away from any potential sensitive receptors. 2. The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers. 3. Construction activities shall take place during daylight hours, when feasible.	KCCD/Project Contractor	Project Inspector
Transportation			
3.4.17-a	**MM TRA-1:** The District shall consult with Arvin City Engineering Division regarding required roadway improvements. The District shall pay fair share costs of 20.3 percent for a signal at the intersection of Comanche Road and Varsity Road to Arvin City Engineering Division prior to Project commencement.	KCCD/Project Contractor	Project Inspector

APPENDIX A
AIR QUALITY IMPACT ANALYSIS/GREENHOUSE GASES ANALYSIS

ASBESTOS REPORT

AIR QUALITY IMPACT ANALYSIS

Kern Community College District
Arvin Education Center Project
Arvin, California

Prepared For:

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October 2019
(Revised November 2019)

Project 190505.0172

Insight Environmental Consultants | Trinity Consultants

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1. EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc., a Trinity Consultants Company, has completed an Air Quality Impact Analysis (AQIA) for the modernization, remodel, and expansion of the Kern Community College District Arvin Campus. The Arvin Educational Center Project (Project) would be located adjacent to and south of the existing Arvin High School campus at the southwest corner of Varsity Road and Campus Drive in Arvin, California. The Project will allow expansion of classroom and educational facilities for Arvin High School as well as enhance college courses to be offered at the location and will include a 27,000 Square Foot General Education Building and up to twelve modular classrooms.

The proposed Project's construction would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile sources (vehicle activity from students, parents, and employees), energy sources (natural gas usage), and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Table 4-4** presents the Project's operations emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. With the application of various mitigation measures, the Project's GHG emissions would be reduced by more than the 29% reduction target for GHGs. Based on the foregoing conclusions, the Project is considered to have *less than significant* air quality impacts on the San Joaquin Valley Air Basin.

Cumulative impacts were also evaluated. A list of tentative development projects provided by the City of Arvin Planning Department identified tentative projects within a six-mile radius of the proposed Project. Evaluation of the cumulative emissions supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's increment does not exceed significance thresholds. Additionally, compliance with the SJVAPCD's Air Quality Attainment Plan (AQAP) is presumably required by all projects located within the SJVAPCD's jurisdiction. Because projects included in the cumulative analysis presumably comply with the requirements of one or both of these plans, the Project's incremental contribution to a cumulative effect is considered *less than cumulatively considerable* (CEQA Guidelines Section 15064(h)(3); SJVAPCD 2015).

1.1. PURPOSE

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the Kern County Planning and Community Development Department's (KCPD) Air Quality Preparation Guidelines (KCPD 2006), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2019).

1.2. GENERAL PROJECT DESCRIPTION

The Kern Community College District Arvin Education Center Project is the modernization, remodel, and expansion of the College District's Arvin Campus. The Arvin Educational Center Project (Project) would be located adjacent to and south of the existing Arvin High School campus at the southwest corner of Varsity Road and Campus Drive in Arvin, California. The Project will allow expansion of classroom and educational facilities for Arvin High School as well as enhance college courses to be offered at the location and will include a 27,000 Square Foot General Education Building and up to twelve modular classrooms, all of which could accommodate up to 500 students and 10 employees.

There is no specific development or phasing start date, however a 27-month construction schedule is estimated; therefore, most of the defaults in the CalEEMod emissions model were applied to estimate a construction schedule. **Figure 2-1** depicts the regional location and **Figure 2-2** depicts an aerial view of the Project location.

Figure 2-1. Regional Location

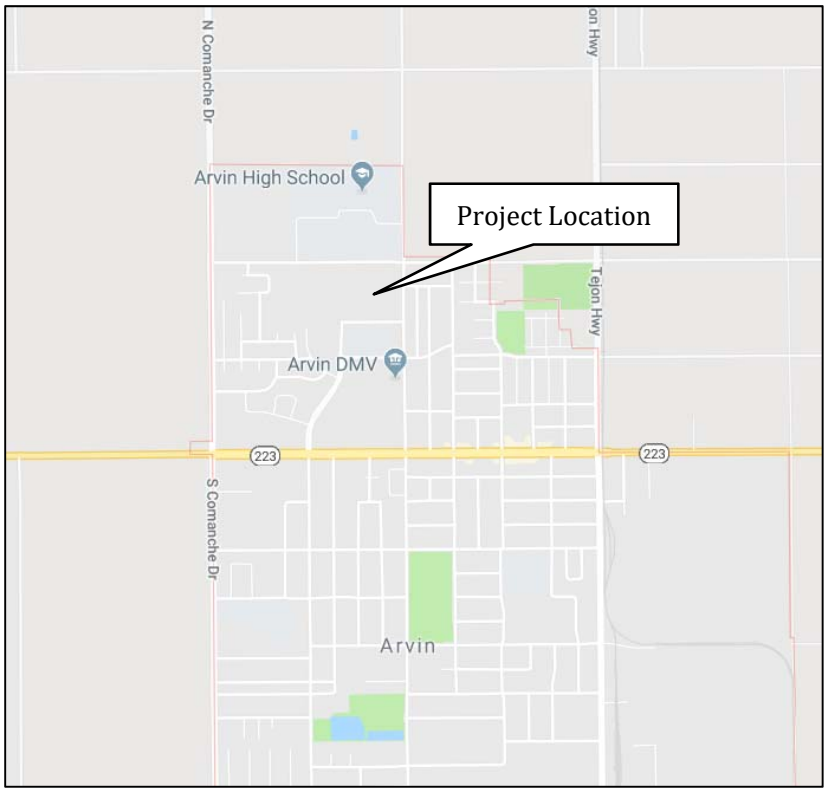


Figure 2-2. Project Location



Figure 2-3 depicts the Project's Master Plan providing detailed location of the proposed structures, parking areas and Land Use Designations.

Figure 2-3. Project Master Plan

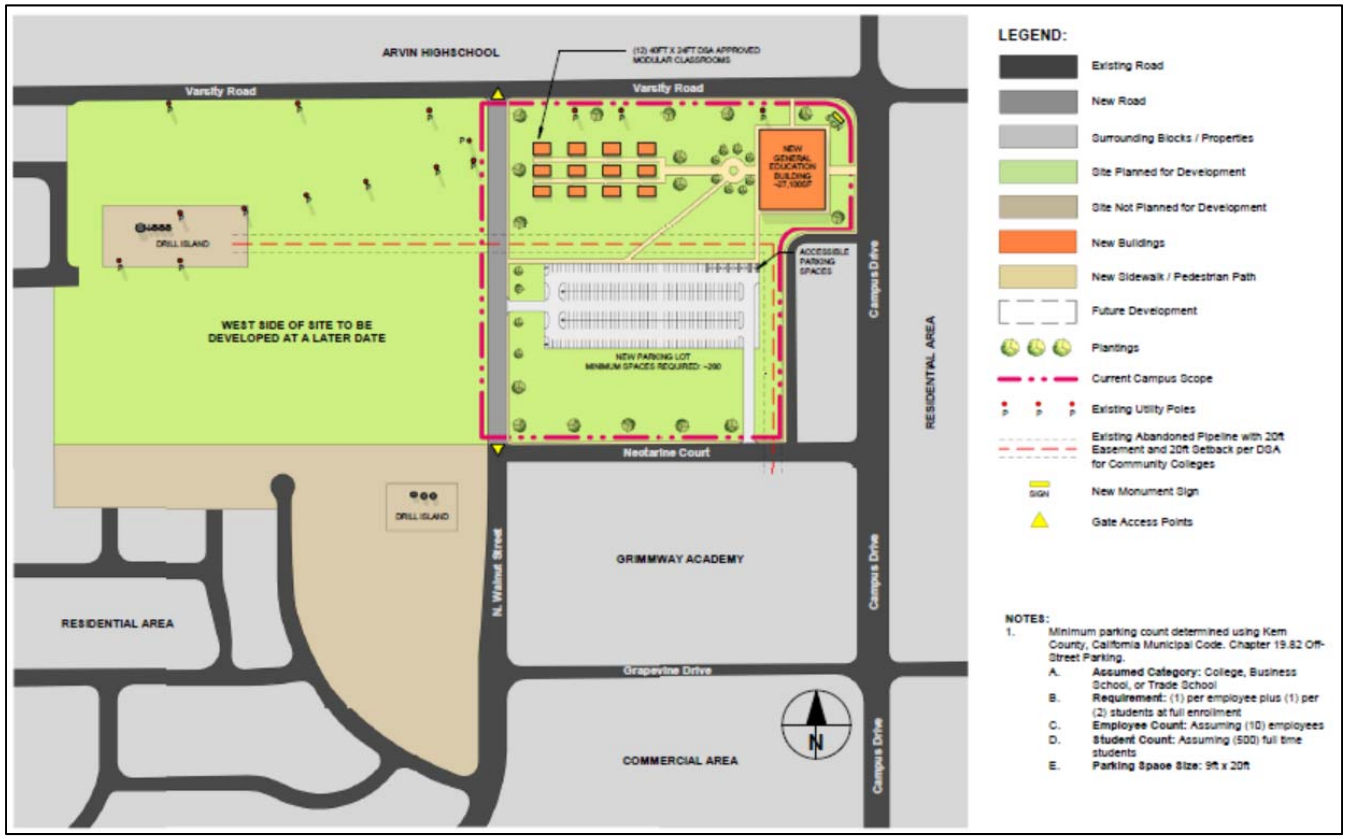
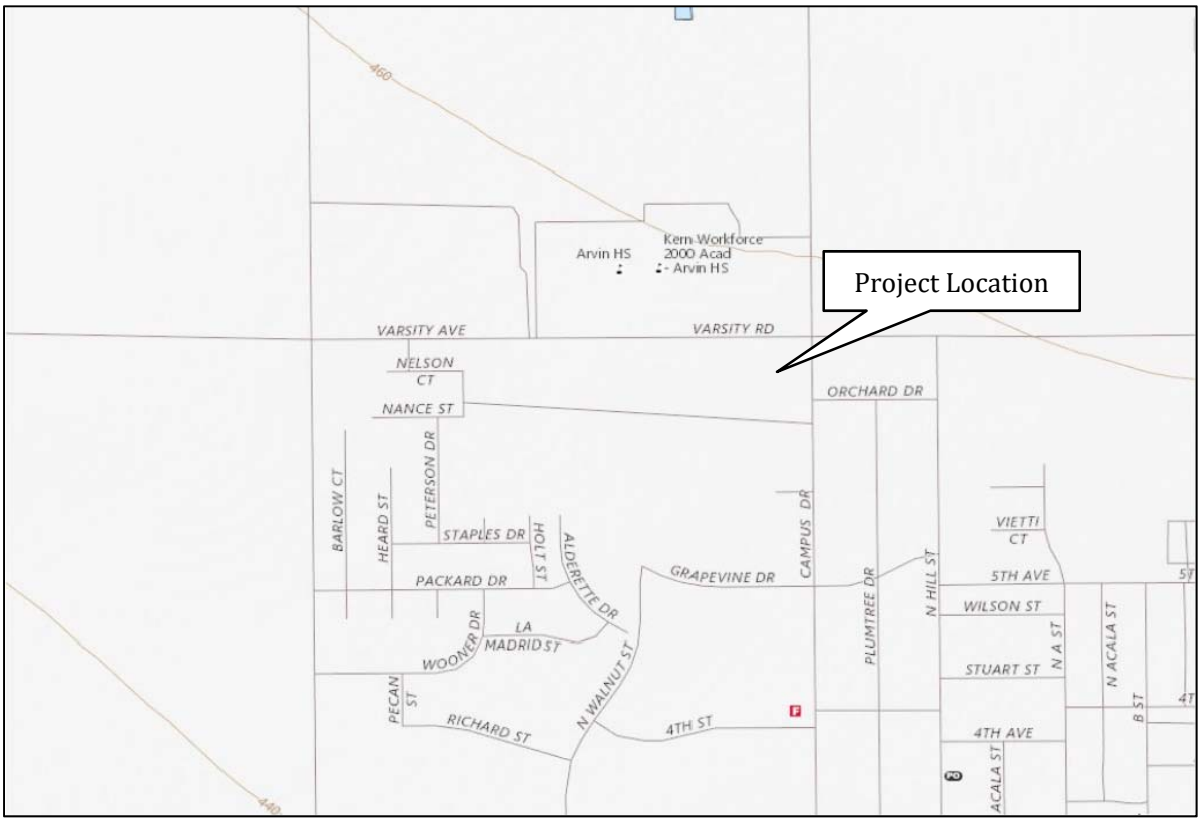


Figure 2-4 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2019). The Project site is located at an elevation of approximately 455 feet above mean sea level and is surrounded by residential, educational, and agricultural land uses.

Figure 2-4. Project Site Topography



Source: USGS 2019

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene), and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kern County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB), the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are “unclassified,” in “attainment” or in “non-attainment” for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1. AIR QUALITY STANDARDS

The Project area is located within Kern County’s portion of the San Joaquin Valley Air Basin (SJVAB or Basin). Kern County is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. **Table 3-1** provides the NAAQS and CAAQS.

Table 3-1. Federal & California Standards

		NAAQS	CAAQS
Pollutant	**Averaging Time**	**Concentration**	
O_3	8-Hour	0.070 ppm (137 µg/m³) [a]	0.070 ppm (137 µg/m³)
	1-Hour		0.09 ppm (180 µg/m³)
CO	8-Hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)
	1-Hour	35 ppm (40 mg/m³)	20 ppm (23 mg/m³)
NO_2	Annual Average	53 ppb (100 µg/m³)	0.030 ppm (57 µg/m³)
	1-Hour	100 ppb (188.68 µg/m³)	0.18 ppm (339 µg/m³)
SO_2	3-Hour	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1-Hour	75 ppb (196 µg/m³)	0.25 ppm (655 µg/m³)
Particulate Matter (PM10)	Annual Arithmetic Mean		20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
Fine Particulate Matter (PM2.5)	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
	24-Hour	35 µg/m³	
Sulfates	24-Hour		25 µg/m³
Pb [d]	Rolling Three-Month Average	0.15 µg/m³	
	30 Day Average		1.5 µg/m³
H_2S	1-Hour		0.03 ppm (42 µg/m³)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[b]
ppm = parts per million ppb = parts per billion		mg/m³ = milligrams per cubic meter	µg/m ³= micrograms per cubic meter

Source: CARB 2016

a On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kern County portion of the SJVAB has been classified as nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

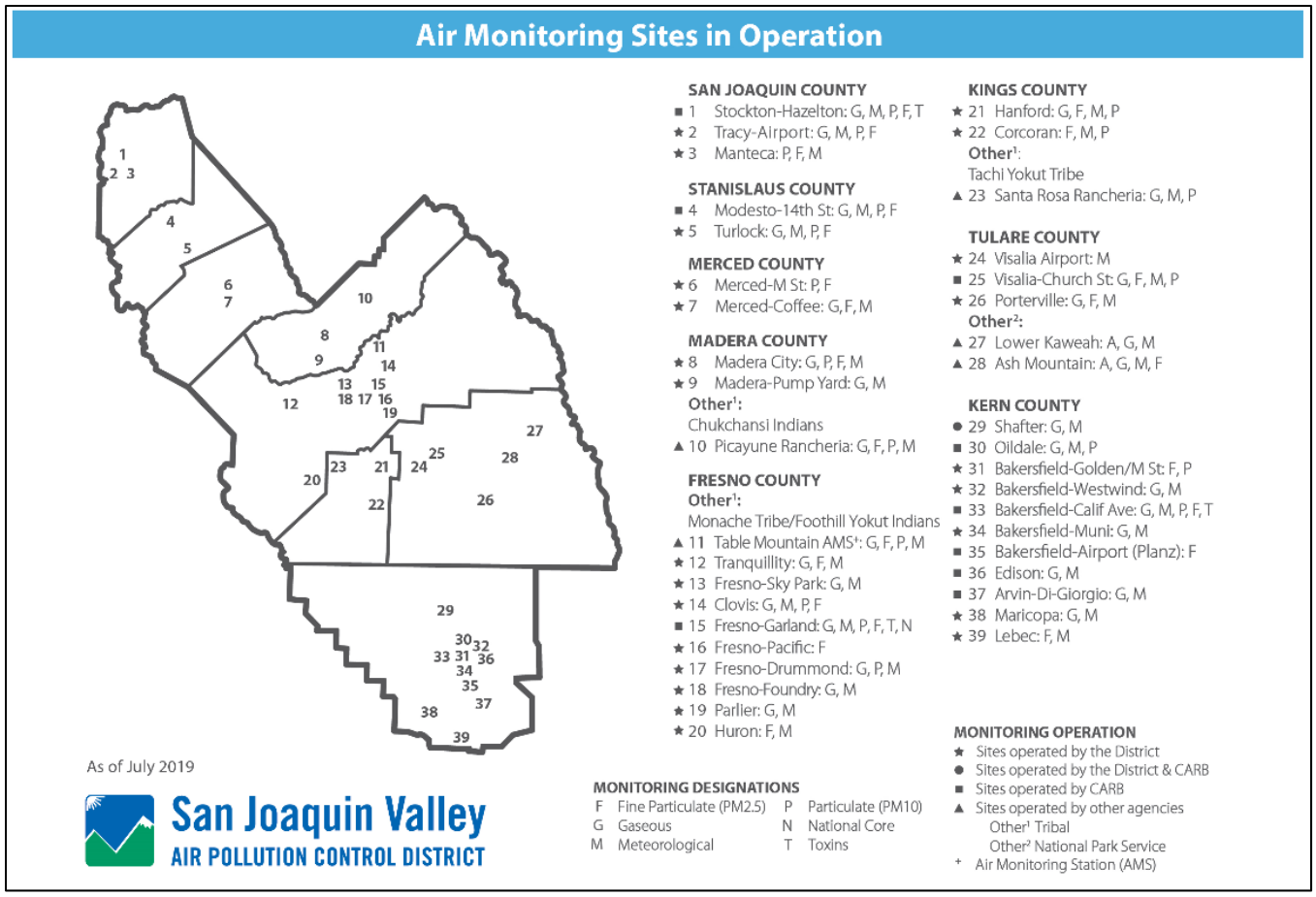
Table 3-2. SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
O_3, 1-hour	No Federal Standard[f]	Nonattainment/Severe
O_3, 8-hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2019a
Note:
a See 40 CFR Part 81
b See CCR Title 17 Sections 60200-60210
c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).
e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
f Effective June 15, 2005, the EPA revoked the federal 1-hour O3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 nonattainment areas continue to apply to the SJVAB.

The SJVAPCD, along with CARB, operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in **Figure 3-1**.

Figure 3-1. SJVAPCD Monitoring Netowrk



Source: SJVAPCD 2019b

3.2. EXISTING AIR QUALITY

For the purposes of background data and this air quality analysis, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb. Information is provided for the Arvin-Di Giorgio, Bakersfield-5558 California Avenue, Bakersfield-Golden State Highway, Bakersfield-Municipal Airport, Bakersfield-410 E. Planz Rd., and Edison monitoring stations for 2016 through 2018. No data is available for H_2S, Vinyl Chloride or other toxic air contaminants in Kern County.

Table 3-3. Existing Air Quality Monitoring Data in Project Area

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2015	2016	2017	2015	2016	2017
O_3 – 1-hour CAAQS (0.09 ppm)						
Arvin – Di Giorgio	0.108	0.107	0.113	21	13	15
Bakersfield – Municipal Airport	0.102	0.118	0.111	8	9	9
Edison	0.109	0.112	0.120	14	12	27
O_3 – 8-hour CAAQS (0.07 ppm)						
Arvin – Di Giorgio	0.092	0.089	0.101	82	81	69
Bakersfield – Municipal Airport	0.093	0.101	0.098	66	57	59
Edison	0.090	0.099	0.102	68	76	87
O_3 – 8-hour NAAQS (0.070 ppm)						
Arvin – Di Giorgio	0.091	0.088	0.100	78	73	65
Bakersfield – Municipal Airport	0.093	0.101	0.098	63	55	54
Edison	0.090	0.098	0.101	64	74	82
PM_{10} – 24-hour CAAQS (50 µg/m³)						
Bakersfield-5558 California Ave.	92.2	143.6	142.0	21	16	13
Bakersfield – Golden State Hwy	91.6	165.1	159.0	26	24	27
PM_{10} – 24-hour NAAQS (150 µg/m³)						
Bakersfield-5558 California Ave.	90.9	138.0	136.1	0	0	0
Bakersfield – Golden State Hwy	91.6	158.2	155.2	0	1	1
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m³)						
Bakersfield – 410 E Planz Rd.	51.4	80.1	100.9	7	10	9
Bakersfield – Golden State Highway	53.9	74.3	99.1	7	9	11
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Bakersfield – Municipal Airport	0.058	0.062	0.057	0	0	0
Edison	0.045	0.044	0.042	0	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Bakersfield – Municipal Airport	0.058	0.063	0.057	0	0	0
Edison	0.046	0.045	0.042	0	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³)						
Bakersfield - 5558 California Ave	19.8	12.6	*	*	*	*

Source: CARB 2019a
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.

The following is a description of criteria air pollutants, typical sources and health effects and the recently documented pollutant levels in the project vicinity.

3.2.1. Ozone (O_3)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O_3. High levels of O_3 cause eye irritation and can impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage. O_3 is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions involving hydrocarbons and nitrogen oxides (NOx). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Bakersfield area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS for the 2016 through 2018 period.

3.2.2. Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate, which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $PM_{2.5}$. The project area is classified as attainment for PM_{10} and non-attainment for $PM_{2.5}$ for NAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of PM_{10} and $PM_{2.5}$ in Kern County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. In the respiratory tract, very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2016 through 2018. **Table 3-3** shows that $PM_{2.5}$ NAAQS were exceeded from 2016 through 2018. Similar levels can be expected to occur in the vicinity of the project site.

3.2.3. Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the San Joaquin valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor

vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

Table 3-3 reports no CO data is available for the three-year period from 2016 through 2018; historically Bakersfield data for CO has been below the CAAQS and NAAQS.

3.2.4. Nitrogen Dioxide (NO_2) and Hydrocarbons

Kern County has been designated as an attainment area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's NOx emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

Table 3-3 shows that the Federal and State NO_2 standards have not been exceeded at the Edison or the Bakersfield area-monitoring stations over the three-year period of 2016 through 2018. Hydrocarbons are not currently monitored.

3.2.5. Sulfur Dioxide (SO_2)

Kern County has been designated as an attainment area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SOx can also react to produce sulfates that reduce visibility and sunlight.

Table 3-3 shows no data has been reported over the three-year period in Kern County.

3.2.6. Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Bakersfield are well below the ambient standard and are expected to continue to decline; the data reported in **Table 3-3** only shows the highest concentration as the number of days exceeding standards are not reported. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.3. CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (^{o}F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Bakersfield monitoring station. This data is provided in **Table 3-4 – Bakersfield Weather Data**, which contains average precipitation data recorded at the Bakersfield monitoring station. Over the 17-year period from January of 1999 through June of 2016 (the most recent data available), the average annual precipitation was 5.70 inches.

Table 3-4. Bakersfield Weather Data

Period of Record Monthly Climate Summary for the Period 01/01/1999 to 6/09/2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Maximum Temp (F)	57.3	63.3	68.5	73.7	84.2	91.3	97.4	96.1	91.1	78.8	65.9	58.9	77.2
Avg. Minimum Temp (F)	36.8	39.0	43.2	47.5	54.8	61.1	68.5	66.7	62.0	52.6	42.8	37.0	51.0
Average Total Precipitation (in.)	1.16	1.15	0.82	0.74	0.21	0.01	0.01	0.00	0.05	0.30	0.41	0.85	5.70
Average Snowfall (in.)	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
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 99.7% Min. Temp.: 96.2% Precipitation: 100% Snowfall: 99.8% Snow Depth: 99.4%													
Source: Western Regional Climate Center, 2019.													

3.4. CLIMATE CHANGE AND GREENHOUSE GASES

3.4.1. Global Climate Change

"Global climate change" refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policy makers to "global warming" because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe "most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2017). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary result of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO2 equivalents" (CO_2e).

Natural sources of CO_2 include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO_2 each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation, cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO_2 from human activities. Consequently, GHGs are building up in the atmosphere (Enviropedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH_4 emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2016). Emissions from the top five emitting countries and the European Union accounted for approximately 55% of total global GHG emissions in 2014. The United States was the number two producer of GHG emissions behind China. The primary GHG emitted by human activities was CO_2, representing approximately 76% of total global GHG emissions (U.S. EPA, 2019).

In 2017, the United States emitted approximately 6.5 million metric tons of CO2e. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 57% of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2017, total United States GHG emissions rose approximately 1.3% (U.S. EPA, 2019).

Worldwide, energy-related CO_2 emissions are expected to increase at an average rate of 0.6% annually between 2018 and 2050, compared with the average growth rate of 1.8% per year from 1990 to 2018. Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow

above the world average at a rate of approximately 1% annually between 2018 and 2050, and surpass emissions of industrialized countries by 2025 (U.S. EIA, 2019).

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000 through 2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

In 2017, emissions from statewide emitting activities were 424 million metric tons of CO_2 equivalent (MMT CO_2e), which is 5 MMT CO_2e lower than 2016 levels. 2017 emissions have decreased by 14% since peak levels in 2004 and are 7 MMT CO_2e below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 tonnes per person to 10.7 tonnes per person in 2017, a 24% decrease (CARB 2019b).

CARB estimates that transportation was the source of approximately 40% of California's GHG emissions in 2017, followed by electricity generation at 15%. Other sources of GHG emissions were industrial sources at 21%, residential plus commercial activities at 10%, and agriculture at 8% (CARB 2019b).

CARB has projected the estimated statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Electricity Standard (30 MMT CO_2e total), will be 509 MMT of CO_2e (CARB, 2014). GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 20% of total CO_2e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO_2e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 6%, residential and commercial activities at 10%, agriculture at 7%, and recycling and waste at 2%.

3.4.2. Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100 could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit) (IPCC, 2013). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by

mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area, as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3. Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O_3 in the

stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand, and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court's most recent CEQA decision on the Newhall Ranch development case, *Center for Biological v. California Department of Fish and Wildlife* (November 30, 2015, Case No. 217763), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less that significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans, or could apply specific numerical thresholds developed by some local agencies.

The City of Arvin, the Lead CEQA agency for this Project, has not developed specific thresholds for GHG. As discussed in Section 4.1, Significance Criteria, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). A Best Performance Standards threshold has not been established. Therefore, the 29% reduction from BAU is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4.1. SIGNIFICANCE CRITERIA

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1. Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4-1**.

Table 4-1. SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr
NOx	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr
SOx	27 tons/yr	27 tons/yr
PM_{10}	15 tons/yr	15 tons/yr
$PM_{2.5}$	15 tons/yr	15 tons/yr
Source: SJVAPCD 2015		

4.1.2. Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3. Thresholds for Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources" (SJVAPCD 2015).

Table 4-2 presents the thresholds of significance uses with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4-2. Measures of Significance - Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 10 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
		Chronic: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
Source: SJVAPCD 2015		

4.1.4. Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009); which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

4.2. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's GAMAQI. The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using a 27 month construction schedule and defaults for construction equipment for the demolition of a 2,200 square foot existing structure and the development of a 27,100 square foot junior college on 14 gross acres.
- Long-term (Operations) – Long term emissions were also estimated in CalEEMod using model defaults for operations of a 27,100 square foot junior college. While there are two units by which the Project can be modeled in CalEEMod, either by building square footage or by number of students, comparison modeling for this Project showed that modeling based on building square footage produced more conservative operational emissions estimates and was, therefore, the method of choice.

4.2.1. Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.

The Project applicant did not provide a list of specific construction equipment; the construction emissions were therefore based on the default CalEEMod equipment list accordingly for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in January of 2020. Based on estimates from the KCCD, the Project construction is estimated to last 27 months and Project operations are estimated to begin during year 2022. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, hours per day and horsepower. Demolition-related hauling trips were based on demolition of a 2,200 square foot structure, haul truck capacity of 20 cubic yards, 40 total truckloads required (i.e. 80 total round haul trips), and an average haul trip length of 24.25 miles.

SJVAPCD's required measures for all projects were also applied:

- Water exposed areas 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

Table 4-3. Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated						
2020	0.49	4.72	3.46	0.01	0.75	0.40
2021	0.41	3.81	3.23	0.01	0.49	0.22
2022	0.34	0.25	0.32	0.001	0.03	0.01
Maximum Annual Emission	**0.49**	**4.72**	**3.46**	**0.01**	**0.75**	**0.40**
Mitigated						
2020	0.49	4.72	3.46	0.01	0.56	0.31
2021	0.41	3.81	3.23	0.01	0.49	0.22
2022	0.34	0.25	0.32	0.001	0.03	0.01
Maximum Annual Emission	**0.49**	**4.72**	**3.46**	**0.01**	**0.56**	**0.31**
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded For a Single Year After Mitigation?	No	No	No	No	No	No
Source: Insight Environmental Consultants 2019						

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during any given year and would therefore be *less than significant*.

4.2.2. Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area and energy sources. Long-term emissions would consist of the following components.

4.2.2.1. Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the Project site.

PM_{10} on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM10 Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

4.2.2.2. Exhaust Emissions

Project-related transportation activities from employees, students and parents would generate mobile source ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of residents and visitors. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

4.2.2.3. Projected Emissions

The proposed Project is expected to have long-term air quality impacts as shown in **Table 4-4**. The output from the CalEEMod runs are available in **Appendix B**. Mitigation measures implemented within CalEEMod include:

- Improve Destination Accessibility (3 miles to shopping center);
- Improve Pedestrian Network (Project site and connecting off-site); and
- 3% Electric Lawnmower, Leaf blower, and Chainsaw.

Table 4-4. Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOX	CO	SOX	PM10	PM2.5
Unmitigated Operational Emissions	0.34	0.63	1.78	0.01	0.56	0.16
Mitigated Operational Emissions	0.33	0.57	1.56	0.01	0.47	0.13
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No
Source: Insight Environmental Consultants 2019						

In additional to the mitigation measures listed above, the emissions model for this Project incorporated the SJVAPCD's "Residential Fleet Mix," which has been approved by the SJVAPCD for use in school projects since school projects reflect similar reductions in heavy duty vehicle travel and coinciding increases in light duty vehicle travel. Although this fleet mix application is primarily intended for use in K-12 schools, the nature of this Project, being a hybrid school for accommodating junior college as well as high school students, allows for a common-sense application of the residential fleet mix.

As shown in **Table 4-4**, operations-related emissions, as calculated by CalEEMod (See **Appendix B**), would be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a *less than significant impact* during Project operations.

4.3. POTENTIAL IMPACTS ON SENSITIVE RECEPTORS

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. The nearest residential sensitive receptor to the proposed Project site is 0.01 miles east of the Project. The twelve known non-residential sensitive receptors within 2 miles of the Project site are listed below in **Table 4-5**.

Table 4-5. Sensitive Receptors Located < 2 Miles from Project

Receptor	Type of Facility	Distance from Project in Miles	Direction from Project
Grimmway Academy	K-8 Public Charter	0.10	S
Arvin High School	9-12 Public	0.12	N
Evergreen Arvin Healthcare	Nursing Home	0.19	S
Haven Drive Middle School	7-8 Public	0.77	SE
Bear Mountain Elementary School	PK-6 Public	0.85	SW
Arvin State Preschool	Preschool	0.85	SW
Milagro MSHS	Daycare	0.87	SE
Sierra Vista Elementary School	PK-6 Public	0.97	SE
Arvin Senior Center	Nursing Home	1.07	SW
Primeros Pasos Head Start	Daycare	1.07	SW
Rojas Family Child Care	Daycare	1.76	SE
El Camino Real Elementary School	PK-6 Public	1.95	S

4.4. POTENTIAL IMPACTS TO VISIBILITY TO NEARBY AREAS

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project's PM10 emissions increase is predicted to be less than the PSD threshold levels, an impact at any Class 1 area or military/airspace operation within 100 kilometers of the Project (including San Rafael Wilderness, Domeland Wilderness, Edwards Air Force Base, China Lake Naval Weapons Station, and the entire R-2508 Airspace Complex) is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM10 emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 area or military/airspace operation.

4.5. POTENTIAL IMPACTS FROM CARBON MONOXIDE

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or
2. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6. PREDICTED HEALTH RISK IMPACTS

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

The proposed Project would not result in an increase in operational emissions of Hazardous Air Pollutants (HAPs) because there will be no increase in heavy duty truck travel or school bus usage associated with the Project; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is not required.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant*.

4.7. ODOR IMPACTS AND MITIGATION

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

The GAMAQI also states, "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), along with a reasonable distance from the source within which, the degree of odors could possibly be significant. [Table 6] can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because the Project is a school site and the anticipated activities for the Project site are not listed in Table 6 of the GAMAQI as a source that would create objectionable odors, the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the Project emission estimates indicate that the proposed Project would not be expected to adversely impact surrounding receptors. As such, the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

4.8. IMPACTS TO AMBIENT AIR QUALITY

An ambient air quality analysis was performed to determine if the proposed Project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The basis for the analysis is dispersion modeling and the Project's long-term air quality impacts shown in **Table 4-4**.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour, and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. SJVAPCD-approved, AERMET-processed UStar meteorological datasets for calendar years 2010 through 2014 was input to AERMOD (SJVAPCD 2016). This was the most recent available dataset available at the time the modeling runs were conducted. All of the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for this project, which differs from the urban setting used in the CalEEMod model. The CalEEMod selection criteria is based on trip distances to the project site while the AERMOD selection criteria is based on the majority of the land use surrounding the facility. The majority of the land surrounding the project site is considered "rural" under the Auer land use classification method (Auer 1978).

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long term significance thresholds for CO.

The majority of mobile emissions predicted by CalEEMod will occur beyond the project boundary because of vehicle trips. In order to determine the on-site vehicle emissions, an estimated on-site trip distance was determined by calculating the average trip distance through the parking lot using the proposed Project site plan. The on-site estimated trip distance for the Project was determined to be 0.22 miles. The on-site estimated trip distance was then divided by the average trip length used in CalEEMod, 7.44 miles, in order to determine the on-site to off-site mobile emissions ratio, 2.96%. The total mobile emissions calculated by CalEEMod for the Project were then reduced by 97.04% to estimate the mobile on-site emissions used for ambient air quality modeling.

A fence-line coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fence-line spacing and three receptor tiers. The first tier had 25-meter tier spacing extending a distance of 100 meters with initial receptors starting 25 meters from the facility boundary. The second tier had 50-meter tier spacing extending a distance of 150 meters. The third tier had 100-meter tier spacing extending a distance of 250 meters. Elevated terrain options were employed even though there is not complex terrain in the Project area.

For each pollutant and averaging period modeled, a "total" concentration was estimated by adding the maximum measured background air concentration to the maximum predicted Project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations.

The results of the air dispersion modeling, presented in **Table 4-6**, demonstrate that the maximum impacts attributable to the Project, when considered in addition to the existing background concentrations, are below the

applicable ambient air quality standard for NOx, SOx and CO. The electronic AERMOD output files are provided in **Appendix E**.

Table 4-6. Predicted Ambient Air Quality Impacts

Pollutant	Averaging Period	Background (µg/m³)	Project (µg/m³)	Project + Background (µg/m³)	NAAQS (µg/m³)	CAAQS (µg/m³)
NO_2	1-hour	115.72	5.30	121.02	188.68	339
	Annual	21.98	0.25	22.23	100	57
SO_2	1-hour	21.7	0.04	21.74	196	655
	3-hour	19.5	0.02	19.55	1,300	---
	24-hour	6.49	0.01	6.50	365	105
	Annual	1.75	0.002	1.75	---	---
CO	1-hour	2840	10.6	2850.62	40,000	23,000
	8-hour	2340	4.55	2344.55	10,000	10,000
PM_{10}	24-hour	144	0.55	144.55	150	50
	Annual	78.1	0.10	78.22	---	20
$PM_{2.5}$	24-hour	86.1	0.17	86.27	35	---
	Annual	16.3	0.04	16.34	12	12

Pre-Project concentrations of PM_{10} and $PM_{2.5}$ exceed their respective ambient air quality standards. PM_{10} and $PM_{2.5}$ are evaluated in accordance with the SJVAPCD recommended significant impact level (SIL) for fugitive PM_{10} and $PM_{2.5}$ emissions. It is the SJVAPCD's policy to use significant impact levels to determine whether a proposed new or modified source will cause or contribute significantly to an AAQS violation. If a project's maximum impacts are below the District SIL, the project is judged to not cause or contribute significantly to an AAQS or PSD increment violation. A comparison of the proposed impact from the Project to the District SIL values is provided in **Table 4-7.**

Table 4-7. Comparison of Maximum Modeled Project Impact with Significance Thresholds

Pollutant	Averaging Period	Predicted Concentration (µg/m³)	SIL (µg/m³)
PM_{10}	24-hour	0.55	10.4
	Annual	0.10	2.08
$PM_{2.5}$	24-hour	0.17	2.5
	Annual	0.04	0.63

Because the Project's modelled PM_{10} and $PM_{2.5}$ are below the SJVAPCD's significance levels for 24-hour and annual concentrations, the Project's contribution to potential violations of ambient air quality standards would be *less-than-significant*.

4.9. IMPACTS TO GREENHOUSE GASES AND CLIMATE CHANGE

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2). These emissions are summarized in **Table 4-8**. In order for the Project to conform with the goals of AB32, at least a 29% reduction of GHG emissions from Business-as-Usual (BAU) must be achieved by 2020. The mitigated emissions were calculated using updated emission factors from CalEEMod. The unmitigated and mitigated GHG emissions are summarized in **Table 4-9**.

Table 4-8. Estimated Annual GHG Emissions (MT/Year)

Source	CO_2	CH_4	N_2O	CO_2e
Construction Emissions				
2020 Construction Emissions	813.6	0.1339	0.000	816.9
2021 Construction Emissions	902.8	0.1062	0.000	905.4
2022 Construction Emissions	56.5	0.0118	0.000	56.8
Mitigated Operational Emissions				
Area Emissions	0.005	0.000	0.000	0.006
Energy Emissions	132.6	0.005	0.002	133.2
Mobile Emissions	479.0	0.027	0.000	479.7
Waste Emissions	7.151	0.423	0.000	17.72
Water Emissions	4.631	0.044	0.001	6.035
Total Project Operational Emissions	623.4	0.498	0.003	636.6
Annualized Construction Emissions[1]	59.10	0.008	0.000	59.30
Project Emissions	**682.5**	**0.506**	**0.003**	**695.9**

*Note: 0.00 could represent <0.00

1 Per South Coast AQMD's Methodology

Table 4-9. Comparison of Unmitigated and Mitigated GHG Emissions (MT/Year)

	Project Unmitigated	Project Mitigated (2020)
CO2e Emissions	899.5	636.6
Percent Reduction		29.23%

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. The Project will reduce GHG emissions by 29.23%; thus, it will meet the required 29% reduction to meet the AB32 goals (**Table 4-9**); therefore, the Project would have less than significant GHG impacts.

4.9.1. Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether the Project individually would have a significant impact on global warming or climate change, the Project would potentially contribute to cumulative GHG emissions in California as well as related health effects. The Project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32 which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO2 contribution may be considered cumulatively considerable. This

determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-10. Select CARB GHG Emission Reduction Strategies

Strategy	Description of Strategy
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling.
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The Project will achieve the required 29% reduction needed to conform with AB32 goals, as demonstrated in **Table 4-9**. Therefore, the Project's contribution to cumulative global climate change impacts would *not be cumulatively considerable*.

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3) a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015)

The GAMAQI also states, "*If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant.*" (SJVAPCD 2015). Based on the analysis conducted for this Project, it is individually *less than significant*. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NOx) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM_{10} if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors.

5.1. CUMULATIVE REGIONAL AIR QUALITY IMPACTS

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory[1]. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards (SJVAPCD 2007). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

[1] SJVAPCD Emissions for Aggregated Stationary, Area-Wide, Mobile, and Natural Sources

Table 5-1. Comparative Analysis Based on SJV Air Basin 2015 Inventory - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Kern County - 2015	22,484	20,842	33,872	511	13,688	3,833
SJVAB - 2015	112,931	96,105	199,509	2,738	95,667	21,681
Proposed Project	0.33	0.57	1.56	0.01	0.47	0.13
Proposed Project's % of Kern	0.001%	0.003%	0.005%	0.002%	0.003%	0.003%
Proposed Project's % of SJVAB	0.000%	0.001%	0.001%	0.000%	0.000%	0.001%
Note: This is the latest inventory available as of June 2019 Source: CARB 2019c						

As shown in **Table 5-1** the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through **5-4** provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kern County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kern County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kern County and the entire SJVAB.

Table 5-2. Emission Inventory SJVAB 2020 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	108,113	74,205	162,425	2,847	96,652	21,535
Percent Stationary Sources	30.82%	14.07%	6.22%	83.33%	5.63%	14.75%
Percent Area-Wide Sources	51.59%	3.89%	11.96%	3.85%	89.43%	70.85%
Percent Mobile Sources	17.56%	82.05%	81.82%	12.82%	4.95%	14.41%
Total Stationary Source Emissions	33,325	10,439	10,111	2,373	5,439	3,176
Total Area-Wide Source Emissions	55,772	2,884	19,418	110	86,432	15,257
Total Mobile Source Emissions	18,980	60,882	132,897	365	4,782	3,102.5
Source: CARB 2019c Note: Total may not add due to rounding						

Table 5-3. Emission Inventory SJVAB - Kern County Portion 2020 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	21,535	15,878	27,339	511	13,651	3,723
Percent Stationary Sources	52.03%	18.39%	14.82%	78.57%	11.76%	32.35%
Percent Area-Wide Sources	33.73%	2.76%	6.94%	0.00%	82.62%	55.88%
Percent Mobile Sources	14.24%	78.62%	78.24%	14.29%	5.88%	11.76%
Total Stationary Source Emissions	11,206	2,920	4,052	402	1,606	1,205
Total Area-Wide Source Emissions	7,264	438	1898	0	11,279	2,081
Total Mobile Source Emissions	3,066	12,483	21,389	73	803	438
Source: CARB 2019c Note: Total may not add due to rounding						

Table 5-4. 2020 Emissions Projections - Proposed Project, Kern County, and San Joaquin Valley Air Basin

	ROG	NOx	PM_{10}
Proposed Project	0.33	0.57	1.56
Kern County	21,535	15,878	27,339
SJVAB	108,113	74,205	162,425
Proposed Project Percent of Kern County	0.002%	0.004%	0.006%
Proposed Project Percent of SJVAB	0.000%	0.001%	0.001%
Kern County Percent of SJVAB	19.92%	21.40%	16.83%
Source: CARB 2019c			

As shown above, the proposed Project would pose an inconsequential impact on regional O_3 and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would *not be considered cumulatively considerable* in its contribution to regional O_3 and PM_{10} impacts.

5.2. CUMULATIVE LOCAL AIR QUALITY IMPACTS

A review of the City of Arvin tentative projects indicates that there are five (5) other planned developments found within a six-mile radius of the Project.

The listings provided below in **Tables 5-5** and **5-6** is only a geographical reference to demonstrate the construction activity in the Project vicinity. *The number or size of these projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD or the City of Arvin Planning Department.*

Table 5-5. Cumulative Construction Projects

Six-Mile Radius Projects	Pollutant (tons/year)[1]					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Kern County						
Total Cumulative Six-Mile Projects	14.82	23.11	24.18	0.08	6.14	2.28
This Project	1.24	8.78	7.01	0.02	1.08	0.54
Total Cumulative Projects	16.06	31.89	31.19	0.1	7.22	2.82
1. These emissions are overestimated and include all years of construction, not just a single year, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.						

Table 5-6. Cumulative Operational Projects

Six-Mile Radius Projects	Pollutant (tons/year)[1]					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Kern County						
Total Cumulative Six-Mile Projects	12.86	82.81	62.51	0.31	15.40	4.43
This Project	0.33	0.57	1.56	0.01	0.47	0.13
Total Cumulative Projects	13.19	83.38	64.07	0.32	15.87	4.56
1. These emissions are overestimated, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.						

As details regarding the potential emissions from the various cumulative projects were not readily available through the City of Arvin Planning Department, the emissions estimates presented were modeled using the CalEEMod computer model to predict cumulative impacts (see Appendix C for output results) unless otherwise noted. Emissions for the construction and operational phases of each project were based on total number of lots

or square footage for maximum project build-out as noted by the City of Arvin. No mitigation measures were applied to any of the projects as it is not known which, if any, would be required or which may be voluntarily proposed by each developer or required by code or regulation. Additionally, no cumulative significance thresholds are shown since no cumulative thresholds have been established by the SJVAPCD, CARB, or other regulatory authority. These projects represent all known and reasonably foreseeable projects in the area. As these projects either are currently under construction or, at a minimum, approved by the City of Arvin Planning Departments for consistency with applicable regulation, for the purposes of this analysis, it is assumed that they are in conformance with the regional AQAP. Because the proposed Project would generate less than significant Project-related operational impacts to criteria air pollutants, the Project's contribution to cumulative air quality impacts would not be cumulatively significant.

5.3. CUMULATIVE HAZARDOUS AIR POLLUTANTS

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards.*" Because the Project would not be a significant source of HAPS, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

5.4. CUMULATIVE CARBON MONOXIDE (CO) – MOBILE SOURCES

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Kern County are controlled through policies and provisions of the SJVAPCD and the Kern County General Plan (KCPD 2009). In order to demonstrate that a proposed project would not cause further air quality degradation in either the SJVAPCD's plan to improve air quality within the air basin or the federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1. REQUIRED EVALUATION GUIDELINES

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed.* The SJVAPCD has implemented the current, modified AQAP as approved by CARB.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP.* The proposed Project land use type was not anticipated in the current growth assumptions. Therefore, growth assumptions in the Kern County General Plans will be modified with the approval of the proposed Project.
3. *The project must contain in its design all reasonably available and feasible air quality control measures.* The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed Project will be updated in the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds;
2. That the primary source of emissions from the Project will be motor vehicles that are licensed through the State of California and whose emissions are already incorporated into CARB's San Joaquin Valley Emissions Inventory.

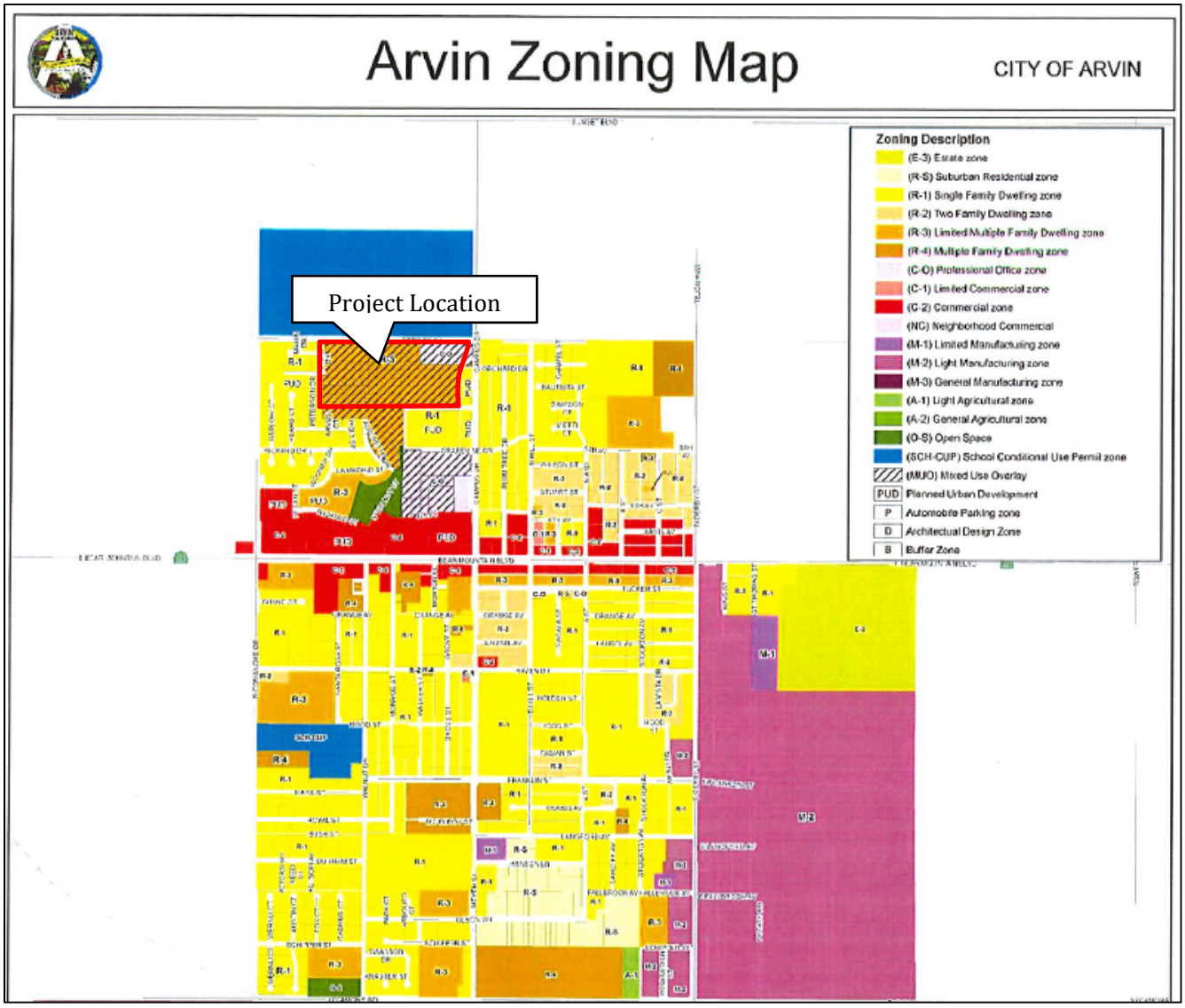
Based on these factors, the Project appears to be *consistent with the AQAP*.

6.2. CONSISTENCY WITH THE KERN COUNTY COUNCIL OF GOVERNMENT'S REGIONAL CONFORMITY ANALYSIS

The Kern Council of Governments (Kern COG) Regional Conformity Analysis (Kern COG 2018) Determination demonstrates that the regional transportation expenditure plans (Destination 2042 Regional Transportation Plan and Federal Transportation Improvement Program) in the Kern County portion of the San Joaquin Valley air quality attainment areas would not hinder the efforts set out in CARB's SIP for each area's non-attainment pollutants (CO, O_3 and PM_{10}). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the County of Kern and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current City of Arvin Zoning, the Project site is designated as "R-3: Limited Multiple Family Dwelling" and "MUO: Mixed Use Overlay" (see **Figure 6-1**).

Figure 6-1. City of Arvin Zoning



Item 2 under Section 3 – Model Maintenance Procedure, of the Kern COG Regional Transportation Modeling Policy and Procedure Manual states "*Land Use Data – General Plan land capacity data or "Build -out capacity" is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments*."

Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does require a GPA and zone change, the existing growth forecast will be modified to reflect these changes. In order to determine whether the forecasted growth for the Project area is sufficient to account for the projected increases in employment, an analysis based on Kern COG regional forecast was conducted.

The adopted growth forecast for the project site is distributed to Traffic Analysis Zones (TAZ) (see **Figure 6-2**). In order to evaluate the impacts to the proposed Project area, a one-mile radius analysis was conducted that included TAZs 521, 522, 523, 524, 525, 526, 527, 528, 690, and 792. This places the Project site at the center of

the analysis area and provides a conservative evaluation of the TAZ data. Kern COG has predicted an increase in growth in population (1%), an increase in growth in housing (3%) and an increase in employment (1%) between 2017 and 2020. Employment forecast for the TAZ analysis area appears to be sufficient to account for 100% of the planned employment growth attributed to the proposed Project. In order to be considered "consistent" and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. From 2017 through 2020, 23 new jobs are forecast to be added to the analysis area.

Figure 6-2. TAZ Analysis Map

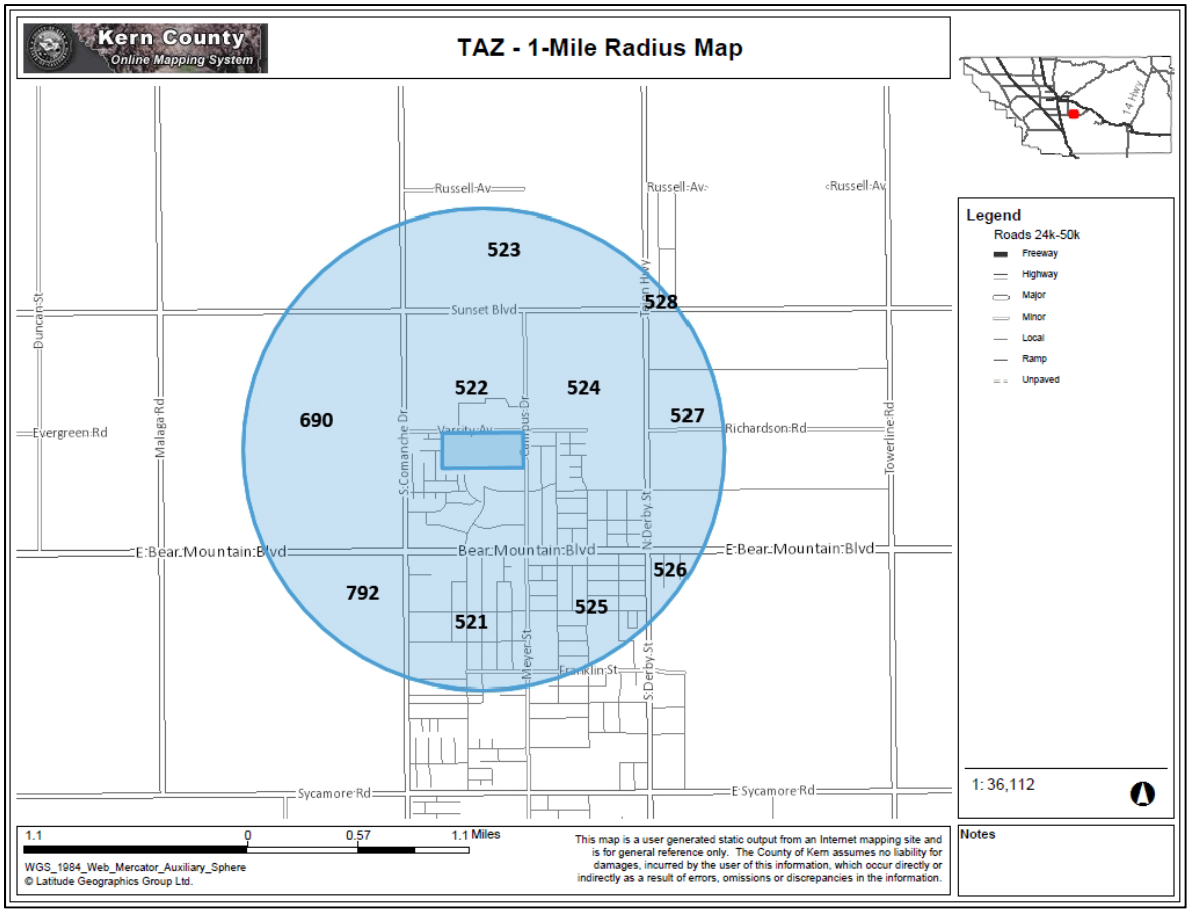


Table 6-1 provides the projected growth rates for the TAZ analysis area.

Table 6-1. TAZ Analysis Area Projected Growth Analysis[2]

Years:	2015	2020	2030
Population	15,672	15,889	16,486
Households	3,792	3,915	4,150
Employment	2,784	2,807	2,889

Table 6-2 provides the percent increase/decrease for the analysis area population, households, and employment.

[2] Kern Council of Governments Regional Conformity Analysis Data, 2008

Table 6-2. Percent Increase/Decrease on TAZ Analysis Area

Years	Percent Increase / Decrease		
	Population	Households	Employment
2017*	0	0	0
2020	1	3	1
2030	5	9	4

*Baseline year of 2017 was valued at "0" to measure net percent increase/decrease.

7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be less than significant, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the Project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval.

7.1. SJVAPCD REQUIRED PM_{10} REDUCTION MEASURES

As the Project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2. RECOMMENDED MEASURES TO REDUCE EQUIPMENT EXHAUST

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O_3 alerts. First stage O_3 alerts are declared when the O_3 level exceeds 0.20 ppm (1-hour average).

7.3. OTHER MEASURES TO REDUCE PROJECT IMPACTS

The following measures are recommended to further reduce the potential for long-term emissions from the Project. These measures are required as a matter of regulatory compliance:

- The Project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
  - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated and *were found to be less than significant* before and after mitigation.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts would be mitigated and *were found to be less than significant* before and after mitigation.

The proposed Project, in conjunction with other past, present and foreseeable future projects, would result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would be mitigated, are below thresholds of significance, and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project, in conjunction with other past, present and foreseeable future projects, would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts will be mitigated to the extent feasible and are considered *less than significant*.

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APPENDIX A: EXISTING AIR QUALITY MONITORING DATA

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Arvin-Di Giorgio

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 1	0.108	Aug 29	0.107	Jul 30	0.113
Second High:	Aug 12	0.107	Sep 2	0.105	Aug 8	0.113
Third High:	Jul 29	0.106	Aug 28	0.103	Aug 7	0.111
Fourth High:	Jun 29	0.105	Oct 24	0.102	Aug 1	0.110
California:						
# Days Above the Standard:		21		13		15
California Designation Value:		0.11		0.11		0.11
Expected Peak Day Concentration:		0.110		0.111		0.110
National:						
# Days Above the Standard:		*0*		*0*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
1-Year Estimated Expected Number of Exceedance Days:		*0.0*		*0.0*		*0.0*
Nat'l Standard Design Value:		*0.109*		*0.108*		*0.110*
Year Coverage:		99		97		93

Notes:

Hourly ozone measurements and related statistics are available at Arvin-Di Giorgio between 2009 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Bakersfield-Municipal Airport

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jun 28	0.102	Sep 2	0.118	Aug 1	0.111
Second High:	Jun 29	0.100	Aug 29	0.105	Jul 30	0.106
Third High:	Aug 4	0.100	Aug 25	0.103	Jul 31	0.105
Fourth High:	Aug 13	0.099	Sep 1	0.101	Aug 8	0.103
California:						
# Days Above the Standard:	8		9		9	
California Designation Value:	0.11		0.11		0.11	
Expected Peak Day Concentration:	0.112		0.113		0.106	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.112*		*0.114*		*0.105*	
Year Coverage:	97		96		97	

Notes:

Hourly ozone measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Edison

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jun 30	0.109	Sep 1	0.112	Aug 1	0.120
Second High:	Jul 29	0.107	Sep 2	0.112	Aug 8	0.115
Third High:	Jul 21	0.103	Aug 28	0.104	Jul 31	0.114
Fourth High:	Aug 13	0.103	Aug 29	0.104	Aug 7	0.110
California:						
# Days Above the Standard:	14		12		27	
California Designation Value:	0.11		0.11		0.11	
Expected Peak Day Concentration:	0.110		0.109		0.112	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.107*		*0.112*		*0.112*	
Year Coverage:	99		97		100	

Notes:

Hourly ozone measurements and related statistics are available at Edison between 1981 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Arvin-Di Giorgio

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 29	0.091	Aug 28	0.088	Aug 8	0.100
Second High:	Jul 1	0.090	Aug 29	0.088	Aug 9	0.099
Third High:	Aug 29	0.089	Sep 1	0.087	Aug 7	0.095
Fourth High:	Jul 28	0.087	Sep 2	0.086	Aug 10	0.095
California Std (0.070 ppm):						
First High:	Jul 29	0.092	Aug 29	0.089	Aug 8	0.101
Second High:	Jul 1	0.090	Aug 28	0.088	Aug 9	0.100
Third High:	Aug 29	0.089	Sep 1	0.088	Aug 7	0.096
Fourth High:	Aug 12	0.088	May 23	0.086	Aug 10	0.096
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		78		73		65
Nat'l Standard Design Value:		0.087		0.086		0.089
National Year Coverage:		99		96		93
California Std (0.070 ppm):						
# Days Above the Standard:		82		81		69
California Designation Value:		0.092		0.092		0.096
Expected Peak Day Concentration:		0.096		0.096		0.098
California Year Coverage:		99		94		92

Notes:

- Eight-hour ozone averages and related statistics are available at Arvin-Di Giorgio between 2009 and 2018. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Bakersfield-Municipal Airport

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Aug 13	0.093	Sep 2	0.101	Jul 31	0.098
Second High:	Jul 29	0.088	Sep 1	0.091	Aug 8	0.094
Third High:	Aug 4	0.088	Aug 28	0.088	Aug 9	0.094
Fourth High:	Aug 12	0.088	Jul 10	0.086	Aug 1	0.090
California Std (0.070 ppm):						
First High:	Aug 13	0.093	Sep 2	0.101	Jul 31	0.098
Second High:	Jul 29	0.089	Sep 1	0.092	Aug 8	0.095
Third High:	Aug 4	0.089	Aug 28	0.088	Aug 9	0.095
Fourth High:	Aug 12	0.088	Aug 1	0.087	Aug 1	0.090
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		63		55		54
Nat'l Standard Design Value:		0.090		0.090		0.088
National Year Coverage:		97		96		97
California Std (0.070 ppm):						
# Days Above the Standard:		66		57		59
California Designation Value:		0.098		0.101		0.095
Expected Peak Day Concentration:		0.101		0.101		0.096
California Year Coverage:		96		95		84

Notes:

- Eight-hour ozone averages and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2018. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Edison

iADAM

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 29	0.090	Sep 2	0.098	Jul 31	0.101
Second High:	Jul 1	0.088	Sep 1	0.094	Aug 8	0.101
Third High:	Jul 26	0.086	Aug 28	0.089	Aug 9	0.099
Fourth High:	Jul 27	0.086	Oct 25	0.085	Aug 1	0.096
California Std (0.070 ppm):						
First High:	Jul 29	0.090	Sep 2	0.099	Aug 8	0.102
Second High:	Jul 1	0.089	Sep 1	0.095	Jul 31	0.101
Third High:	Jul 26	0.087	Aug 28	0.090	Aug 9	0.100
Fourth High:	Jul 27	0.087	Jul 23	0.085	Aug 1	0.096
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		64		74		82
Nat'l Standard Design Value:		0.087		0.087		0.089
National Year Coverage:		100		98		100
California Std (0.070 ppm):						
# Days Above the Standard:		68		76		87
California Designation Value:		0.093		0.095		0.096
Expected Peak Day Concentration:		0.096		0.095		0.098
California Year Coverage:		99		97		98

Notes:

- Eight-hour ozone averages and related statistics are available at Edison between 1981 and 2018. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Bakersfield-5558 California Avenue

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Feb 12	90.9	Dec 15	138.0	Jan 2	136.1
Second High:	Sep 9	79.9	Dec 9	106.7	Nov 16	116.4
Third High:	Nov 8	79.5	Dec 27	94.9	Aug 6	75.0
Fourth High:	Oct 22	71.4	Oct 17	90.9	Feb 1	73.8
California:						
First High:	Feb 12	92.2	Dec 15	143.6	Jan 2	142.0
Second High:	Nov 8	80.6	Dec 9	112.1	Nov 16	119.8
Third High:	Sep 9	78.1	Dec 27	99.5	Feb 1	76.1
Fourth High:	Dec 20	72.2	Oct 17	90.9	Aug 6	73.1
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		*		0.0		0.0
Annual Average:		*41.2*		*42.6*		*42.1*
3-Year Average:		*46*		*43*		*42*
California:						
Estimated # Days > 24-Hour Std:		121.4		98.7		*
Measured # Days > 24-Hour Std:		21		16		13
Annual Average:		40.9		42.6		*
3-Year Maximum Annual Average:		44		44		43
Year Coverage:		97		98		95

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Bakersfield-Golden State Highway

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 21	91.6	Dec 15	158.2	Nov 16	155.2
Second High:	Nov 8	88.2	Dec 9	109.6	Jan 2	144.2
Third High:	Sep 9	87.9	Dec 27	101.4	Sep 5	99.3
Fourth High:	Sep 21	86.8	Oct 16	98.3	Oct 23	99.0
California:						
First High:	Oct 21	91.6	Dec 15	165.1	Nov 16	159.0
Second High:	Nov 8	89.2	Dec 9	115.4	Jan 2	150.6
Third High:	Nov 14	87.8	Dec 27	106.5	Oct 23	98.5
Fourth High:	Sep 9	85.7	Oct 16	100.3	Sep 5	96.1
National:						
Estimated # Days > 24-Hour Std:		0.0		6.1		6.6
Measured # Days > 24-Hour Std:		0		1		1
3-Yr Avg Est # Days > 24-Hr Std:		*		*		4.0
Annual Average:		*47.5*		*48.3*		*53.0*
3-Year Average:		*		*48*		*50*
California:						
Estimated # Days > 24-Hour Std:		157.9		145.5		163.0
Measured # Days > 24-Hour Std:		26		24		27
Annual Average:		47.3		48.4		53.0
3-Year Maximum Annual Average:		47		48		53
Year Coverage:		100		100		97

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-Golden State Highway between 1994 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

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Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Bakersfield-410 E Planz Road

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Dec 29	51.4	Dec 30	80.1	Jan 2	100.9
Second High:	Jan 1	50.7	Dec 15	73.6	Nov 16	60.8
Third High:	Dec 20	47.7	Dec 12	69.7	Feb 4	56.6
Fourth High:	Nov 8	44.5	Dec 24	69.7	Feb 1	52.8
California:						
First High:	Dec 29	51.4	Dec 30	80.1	Jan 2	100.9
Second High:	Jan 1	50.7	Dec 15	73.6	Nov 16	60.8
Third High:	Dec 20	47.7	Dec 12	69.7	Feb 4	56.6
Fourth High:	Nov 8	44.5	Dec 24	69.7	Feb 1	52.8
National:						
Estimated # Days > 24-Hour Std:	*		32.2		*	
Measured # Days > 24-Hour Std:	7		10		9	
24-Hour Standard Design Value:	61		59		60	
24-Hour Standard 98th Percentile:	50.7		69.7		60.8	
2006 Annual Std Design Value:	18.4		17.3		17.8	
2013 Annual Std Design Value:	18.4		17.3		17.8	
Annual Average:	15.8		18.2		19.3	
California:						
Annual Std Designation Value:	18		18		*	
Annual Average:	*		*		*	
Year Coverage:	86		86		79	

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-410 E Planz Road between 2000 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Bakersfield-Golden State Highway

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Dec 20	53.9	Dec 15	74.3	Jan 2	99.1
Second High:	Dec 29	52.7	Dec 30	74.1	Nov 19	95.3
Third High:	Jan 1	51.4	Dec 12	71.3	Nov 16	60.9
Fourth High:	Feb 6	48.8	Dec 24	68.6	Feb 4	54.9
California:						
First High:	Dec 20	53.9	Dec 15	74.3	Jan 2	99.1
Second High:	Dec 29	52.7	Dec 30	74.1	Nov 19	95.3
Third High:	Jan 1	51.4	Dec 12	71.3	Nov 16	60.9
Fourth High:	Feb 6	48.8	Dec 24	68.6	Feb 4	54.9
National:						
Estimated # Days > 24-Hour Std:		21.8		29.7		33.8
Measured # Days > 24-Hour Std:		7		9		11
24-Hour Standard Design Value:		70		58		61
24-Hour Standard 98th Percentile:		51.4		71.3		60.9
2006 Annual Std Design Value:		*		15.9		16.4
2013 Annual Std Design Value:		16.5		15.9		16.4
Annual Average:		14.8		16.1		18.0
California:						
Annual Std Designation Value:		17		17		18
Annual Average:		14.8		16.2		18.1
Year Coverage:		96		88		99

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-Golden State Highway between 1999 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Bakersfield-Municipal Airport

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 14	58.1	Oct 16	62.5	Aug 23	57.1
Second High:	Sep 8	56.1	Dec 11	60.4	Sep 23	56.0
Third High:	Oct 22	50.2	Dec 15	59.3	Oct 20	55.7
Fourth High:	Nov 7	49.4	Dec 12	56.4	Nov 20	53.2
California:						
First High:	Nov 14	58	Oct 16	62	Aug 23	57
Second High:	Sep 8	56	Dec 11	60	Sep 23	56
Third High:	Oct 22	50	Dec 15	59	Oct 20	55
Fourth High:	Nov 7	49	Dec 12	56	Nov 19	53
National:						
1-Hour Standard Design Value:		48		48		49
1-Hour Standard 98th Percentile:		45.2		52.9		49.4
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		11		13		11
California:						
1-Hour Std Designation Value:		60		60		60
Expected Peak Day Concentration:		62		59		60
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		13		12		12
Annual Average:		11		12		11
Year Coverage:		99		95		90

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Edison

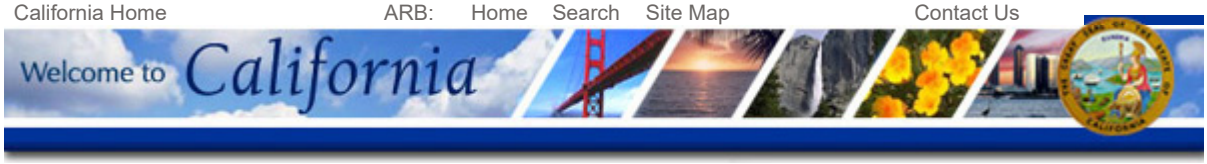
iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Sep 30	45.7	Sep 18	44.9	Nov 19	42.0
Second High:	Jun 21	36.5	Oct 24	33.2	Aug 15	36.6
Third High:	Aug 26	32.4	Dec 12	28.5	Nov 20	33.1
Fourth High:	Jan 12	30.5	Dec 14	28.2	Jul 9	32.9
California:						
First High:	Sep 30	45	Sep 18	44	Nov 19	42
Second High:	Jun 21	36	Oct 24	33	Aug 15	36
Third High:	Aug 26	32	Dec 12	28	Nov 20	33
Fourth High:	Jan 12	30	Dec 14	28	Jul 9	32
National:						
1-Hour Standard Design Value:		30		29		28
1-Hour Standard 98th Percentile:		26.8		26.5		30.9
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		6		5		7
California:						
1-Hour Std Designation Value:		40		40		40
Expected Peak Day Concentration:		38		37		37
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		6		6		6
Annual Average:		6		5		*
Year Coverage:		95		98		85

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Edison between 1988 and 2018.
Some years in this range may not be represented.
All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.



Air Resources Board

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Annual Toxics Summary

Bakersfield-5558 California Avenue

Lead

nanograms per cubic meter

iADAM FAQs

Read About New Estimated Risk

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2017	----------	0.65	3.5	*	7.5	12.6	2.60	29	1.3	*
2016	----------	0.65	4.3	*	6.9	19.8	3.57	33	1.3	*
2015	----------	0.65	3.2	3.34	7.6	9.5	2.50	33	1.3	0.1
2014	----------	0.85	3.6	*	8.8	14	3.78	16	1.7	*
2013	----------	0.5	2.9	*	5.3	6.7	1.71	21	1.0	*
2012	----------	1.7	3.4	4.02	8.2	14	2.74	32	1.5	0.1
2011	----------	0.75	4.0	*	9.1	11	2.90	20	1.5	*
2010	----------	0.75	2.5	*	5.7	8.2	2.07	18	1.5	*
2009	----------	1.5	4.5	5.27	11.2	14	3.22	29	1.5	0.2
2008	----------	*	*	*	*	*	*	0	*	*
2007	----------	0.75	7.1	*	11.7	13	3.23	24	1.5	*
2006	----------	*	*	*	*	*	*	0	*	*
2005	----------	*	*	*	*	*	*	0	*	*
2004	----------	*	*	*	*	*	*	0	*	*
2003	----------	4.0	*	*	*	7.0	1.64	5	3.0	*
2002	----------	1.5	7.0	6.78	10	17	3.34	36	3.0	0.2
2001	----------	2	5.0	5.83	9.2	26	4.41	39	4.0	0.2
2000	----------	2	5.0	5.92	14.1	22	4.76	40	4.0	0.2
1999	----------	2	5.0	5.70	11.2	25	4.55	39	4.0	0.2
1998	----------	2	7.0	9.43	14	78	11.8	42	4.0	0.3
1997	----------	2	7.0	7.92	14	20	4.40	34	4.0	0.3
1996	----------	2	7.0	7.69	14.5	35	6.10	36	4.0	0.3
1995	----------	2	8.0	8.68	15.1	21	5.14	30	4.0	0.3
1994	----------	2	10	*	16	39	7.11	25	4.0	*
1993	----------	*	*	*	*	*	*	0	*	*
1992	----------	*	*	*	*	*	*	0	*	*
1991	----------	*	*	*	*	*	*	0	*	*
1990	----------	*	*	*	*	*	*	0	*	*
1989	----------	*	*	*	*	*	*	0	*	*

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Toxics Statistics Home

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

Data Descriptions Page

APPENDIX B: PROJECT EMISSION CALCULATIONS

Arvin Educational Center

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	27.10	1000sqft	0.62	27,100.00	0
Other Non-Asphalt Surfaces	11.17	Acre	11.17	486,565.20	0
Parking Lot	260.00	Space	2.34	104,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**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 -

Construction Phase - 1/1/20 - 3/31/22. All phase dates determined using construction schedule calculator based on CalEEMod default total days for each phase.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Fleet Mix - SJVAPCD residential fleet mix for operational year 2022 (District has accepted this fleet mix for Rule 9510 application for K-12 schools, but is also more applicable to this project under a common sense approach)

Demolition -

Trips and VMT - Per demo estimates received 10-24-19

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	29.00
tblConstructionPhase	NumDays	300.00	440.00
tblConstructionPhase	NumDays	30.00	44.00
tblConstructionPhase	NumDays	20.00	29.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	20.00	29.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.48	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	5.9280e-003	9.0000e-004
tblFleetMix	MCY	5.8390e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	8.1600e-004	1.8000e-003
tblFleetMix	MHD	0.02	8.6000e-003
tblFleetMix	OBUS	1.6200e-003	0.00
tblFleetMix	SBUS	9.3100e-004	7.0000e-004
tblFleetMix	UBUS	1.6640e-003	4.4000e-003
tblGrading	AcresOfGrading	110.00	75.00
tblTripsAndVMT	HaulingTripLength	20.00	24.25
tblTripsAndVMT	HaulingTripNumber	10.00	80.00

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	0.4867	4.7223	3.4591	9.0500e-003	0.5563	0.1929	0.7492	0.2189	0.1799	0.3988	0.0000	813.5564	813.5564	0.1339	0.0000	816.9037
2021	0.4111	3.8060	3.2315	9.9600e-003	0.3603	0.1308	0.4912	0.0977	0.1230	0.2208	0.0000	902.7545	902.7545	0.1062	0.0000	905.4085
2022	0.3440	0.2504	0.3182	6.4000e-004	0.0147	0.0116	0.0263	3.9500e-003	0.0108	0.0148	0.0000	56.4852	56.4852	0.0118	0.0000	56.7795
Maximum	**0.4867**	**4.7223**	**3.4591**	**9.9600e-003**	**0.5563**	**0.1929**	**0.7492**	**0.2189**	**0.1799**	**0.3988**	**0.0000**	**902.7545**	**902.7545**	**0.1339**	**0.0000**	**905.4085**

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	0.4867	4.7223	3.4591	9.0500e-003	0.3679	0.1929	0.5608	0.1263	0.1799	0.3062	0.0000	813.5560	813.5560	0.1339	0.0000	816.9032
2021	0.4111	3.8060	3.2315	9.9600e-003	0.3603	0.1308	0.4912	0.0977	0.1230	0.2208	0.0000	902.7542	902.7542	0.1062	0.0000	905.4082
2022	0.3440	0.2504	0.3182	6.4000e-004	0.0147	0.0116	0.0263	3.9500e-003	0.0108	0.0148	0.0000	56.4852	56.4852	0.0118	0.0000	56.7795
Maximum	**0.4867**	**4.7223**	**3.4591**	**9.9600e-003**	**0.3679**	**0.1929**	**0.5608**	**0.1263**	**0.1799**	**0.3062**	**0.0000**	**902.7542**	**902.7542**	**0.1339**	**0.0000**	**905.4082**

Arvin Educational Center - Kern-San Joaquin County, Annual

	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**	**20.23**	**0.00**	**14.87**	**28.88**	**0.00**	**14.59**	**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	**1-1-2020**	**3-31-2020**	1.4662	1.4662
2	**4-1-2020**	**6-30-2020**	1.3708	1.3708
3	**7-1-2020**	**9-30-2020**	1.1718	1.1718
4	**10-1-2020**	**12-31-2020**	1.1771	1.1771
5	**1-1-2021**	**3-31-2021**	1.0405	1.0405
6	**4-1-2021**	**6-30-2021**	1.0486	1.0486
7	**7-1-2021**	**9-30-2021**	1.0601	1.0601
8	**10-1-2021**	**12-31-2021**	1.0636	1.0636
9	**1-1-2022**	**3-31-2022**	0.6000	0.6000
		Highest	1.4662	1.4662

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	0.1754	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	1.0000e-005	0.0000	5.6800e-003
Energy	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	132.5667	132.5667	5.1600e-003	1.5300e-003	133.1508
Mobile	0.1584	0.5963	1.7504	6.1700e-003	0.5571	5.1900e-003	0.5623	0.1490	4.8400e-003	0.1539	0.0000	566.5180	566.5180	0.0300	0.0000	567.2681
Waste						0.0000	0.0000		0.0000	0.0000	7.1514	0.0000	7.1514	0.4226	0.0000	17.7172
Water						0.0000	0.0000		0.0000	0.0000	0.4217	4.2092	4.6309	0.0435	1.0600e-003	6.0350
Total	**0.3371**	**0.6256**	**1.7778**	**6.3500e-003**	**0.5571**	**7.4300e-003**	**0.5646**	**0.1490**	**7.0800e-003**	**0.1561**	**7.5731**	**703.2992**	**710.8723**	**0.5013**	**2.5900e-003**	**724.1768**

2.2 Overall Operational

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	0.1754	2.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6000e-003
Energy	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	132.5667	132.5667	5.1600e-003	1.5300e-003	133.1508
Mobile	0.1512	0.5451	1.5296	5.2200e-003	0.4641	4.4400e-003	0.4685	0.1241	4.1400e-003	0.1283	0.0000	479.0332	479.0332	0.0267	0.0000	479.7000
Waste						0.0000	0.0000		0.0000	0.0000	7.1514	0.0000	7.1514	0.4226	0.0000	17.7172
Water						0.0000	0.0000		0.0000	0.0000	0.4217	4.2092	4.6309	0.0435	1.0600e-003	6.0350
Total	**0.3298**	**0.5745**	**1.5570**	**5.4000e-003**	**0.4641**	**6.6800e-003**	**0.4708**	**0.1241**	**6.3800e-003**	**0.1305**	**7.5731**	**615.8144**	**623.3875**	**0.4980**	**2.5900e-003**	**636.6086**

	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	**2.15**	**8.18**	**12.42**	**14.96**	**16.70**	**10.09**	**16.62**	**16.70**	**9.89**	**16.39**	**0.00**	**12.44**	**12.31**	**0.67**	**0.00**	**12.09**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/10/2020	5	29	
2	Site Preparation	Site Preparation	2/11/2020	3/2/2020	5	15	
3	Grading	Grading	3/3/2020	5/1/2020	5	44	
4	Building Construction	Building Construction	5/2/2020	1/7/2022	5	440	
5	Paving	Paving	1/8/2022	2/17/2022	5	29	
6	Architectural Coating	Architectural Coating	2/18/2022	3/30/2022	5	29	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.51

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 40,650; Non-Residential Outdoor: 13,550; Striped Parking Area: 35,434 (Architectural Coating – sqft)

OffRoad Equipment

Arvin Educational Center - Kern-San Joaquin County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	259.00	101.00	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	52.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	80.00	10.80	7.30	24.25	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					1.1000e-003	0.0000	1.1000e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.4814	0.3154	5.6000e-004		0.0241	0.0241		0.0224	0.0224	0.0000	49.2980	49.2980	0.0139	0.0000	49.6459
Total	**0.0480**	**0.4814**	**0.3154**	**5.6000e-004**	**1.1000e-003**	**0.0241**	**0.0252**	**1.7000e-004**	**0.0224**	**0.0225**	**0.0000**	**49.2980**	**49.2980**	**0.0139**	**0.0000**	**49.6459**

3.2 Demolition - 2020

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	3.6000e-004	0.0125	1.8400e-003	4.0000e-005	8.4000e-004	4.0000e-005	8.8000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.6003	3.6003	1.8000e-004	0.0000	3.6047
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	8.4000e-004	5.7000e-004	5.6300e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6072	1.6072	4.0000e-005	0.0000	1.6082
Total	**1.2000e-003**	**0.0130**	**7.4700e-003**	**6.0000e-005**	**2.5900e-003**	**5.0000e-005**	**2.6500e-003**	**7.0000e-004**	**5.0000e-005**	**7.5000e-004**	**0.0000**	**5.2075**	**5.2075**	**2.2000e-004**	**0.0000**	**5.2130**

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					4.3000e-004	0.0000	4.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.4814	0.3154	5.6000e-004		0.0241	0.0241		0.0224	0.0224	0.0000	49.2979	49.2979	0.0139	0.0000	49.6458
Total	**0.0480**	**0.4814**	**0.3154**	**5.6000e-004**	**4.3000e-004**	**0.0241**	**0.0245**	**6.0000e-005**	**0.0224**	**0.0224**	**0.0000**	**49.2979**	**49.2979**	**0.0139**	**0.0000**	**49.6458**

3.2 Demolition - 2020

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	3.6000e-004	0.0125	1.8400e-003	4.0000e-005	8.4000e-004	4.0000e-005	8.8000e-004	2.3000e-004	4.0000e-005	2.7000e-004	0.0000	3.6003	3.6003	1.8000e-004	0.0000	3.6047
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	8.4000e-004	5.7000e-004	5.6300e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6072	1.6072	4.0000e-005	0.0000	1.6082
Total	**1.2000e-003**	**0.0130**	**7.4700e-003**	**6.0000e-005**	**2.5900e-003**	**5.0000e-005**	**2.6500e-003**	**7.0000e-004**	**5.0000e-005**	**7.5000e-004**	**0.0000**	**5.2075**	**5.2075**	**2.2000e-004**	**0.0000**	**5.2130**

3.3 Site Preparation - 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					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.3181	0.1614	2.9000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	25.0730	25.0730	8.1100e-003	0.0000	25.2757
Total	**0.0306**	**0.3181**	**0.1614**	**2.9000e-004**	**0.1355**	**0.0165**	**0.1520**	**0.0745**	**0.0152**	**0.0896**	**0.0000**	**25.0730**	**25.0730**	**8.1100e-003**	**0.0000**	**25.2757**

3.3 Site Preparation - 2020

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	5.2000e-004	3.5000e-004	3.4900e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9976	0.9976	3.0000e-005	0.0000	0.9982
Total	**5.2000e-004**	**3.5000e-004**	**3.4900e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.9976**	**0.9976**	**3.0000e-005**	**0.0000**	**0.9982**

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					0.0528	0.0000	0.0528	0.0291	0.0000	0.0291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0306	0.3181	0.1614	2.9000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	25.0730	25.0730	8.1100e-003	0.0000	25.2757
Total	**0.0306**	**0.3181**	**0.1614**	**2.9000e-004**	**0.0528**	**0.0165**	**0.0693**	**0.0291**	**0.0152**	**0.0442**	**0.0000**	**25.0730**	**25.0730**	**8.1100e-003**	**0.0000**	**25.2757**

3.3 Site Preparation - 2020

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	5.2000e-004	3.5000e-004	3.4900e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9976	0.9976	3.0000e-005	0.0000	0.9982
Total	**5.2000e-004**	**3.5000e-004**	**3.4900e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.9976**	**0.9976**	**3.0000e-005**	**0.0000**	**0.9982**

3.4 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					0.1723	0.0000	0.1723	0.0771	0.0000	0.0771	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0979	1.1044	0.7031	1.3600e-003		0.0478	0.0478		0.0440	0.0440	0.0000	119.8655	119.8655	0.0388	0.0000	120.8346
Total	**0.0979**	**1.1044**	**0.7031**	**1.3600e-003**	**0.1723**	**0.0478**	**0.2201**	**0.0771**	**0.0440**	**0.1211**	**0.0000**	**119.8655**	**119.8655**	**0.0388**	**0.0000**	**120.8346**

3.4 Grading - 2020

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	1.6900e-003	1.1500e-003	0.0114	4.0000e-005	3.5500e-003	3.0000e-005	3.5700e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.2514	3.2514	8.0000e-005	0.0000	3.2535
Total	**1.6900e-003**	**1.1500e-003**	**0.0114**	**4.0000e-005**	**3.5500e-003**	**3.0000e-005**	**3.5700e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.2514**	**3.2514**	**8.0000e-005**	**0.0000**	**3.2535**

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					0.0672	0.0000	0.0672	0.0301	0.0000	0.0301	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0979	1.1043	0.7031	1.3600e-003		0.0478	0.0478		0.0440	0.0440	0.0000	119.8653	119.8653	0.0388	0.0000	120.8345
Total	**0.0979**	**1.1043**	**0.7031**	**1.3600e-003**	**0.0672**	**0.0478**	**0.1150**	**0.0301**	**0.0440**	**0.0741**	**0.0000**	**119.8653**	**119.8653**	**0.0388**	**0.0000**	**120.8345**

3.4 Grading - 2020

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	1.6900e-003	1.1500e-003	0.0114	4.0000e-005	3.5500e-003	3.0000e-005	3.5700e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.2514	3.2514	8.0000e-005	0.0000	3.2535
Total	**1.6900e-003**	**1.1500e-003**	**0.0114**	**4.0000e-005**	**3.5500e-003**	**3.0000e-005**	**3.5700e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.2514**	**3.2514**	**8.0000e-005**	**0.0000**	**3.2535**

3.5 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	0.1844	1.6692	1.4658	2.3400e-003		0.0972	0.0972		0.0914	0.0914	0.0000	201.5007	201.5007	0.0492	0.0000	202.7297
Total	**0.1844**	**1.6692**	**1.4658**	**2.3400e-003**		**0.0972**	**0.0972**		**0.0914**	**0.0914**	**0.0000**	**201.5007**	**201.5007**	**0.0492**	**0.0000**	**202.7297**

3.5 Building Construction - 2020

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	0.0356	1.0760	0.2081	2.5500e-003	0.0587	6.0300e-003	0.0647	0.0169	5.7600e-003	0.0227	0.0000	241.8564	241.8564	0.0193	0.0000	242.3393
Worker	0.0867	0.0586	0.5830	1.8400e-003	0.1816	1.2900e-003	0.1829	0.0482	1.1800e-003	0.0494	0.0000	166.5065	166.5065	4.2900e-003	0.0000	166.6138
Total	**0.1223**	**1.1346**	**0.7911**	**4.3900e-003**	**0.2402**	**7.3200e-003**	**0.2475**	**0.0652**	**6.9400e-003**	**0.0721**	**0.0000**	**408.3629**	**408.3629**	**0.0236**	**0.0000**	**408.9531**

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	0.1844	1.6692	1.4658	2.3400e-003		0.0972	0.0972		0.0914	0.0914	0.0000	201.5005	201.5005	0.0492	0.0000	202.7294
Total	**0.1844**	**1.6692**	**1.4658**	**2.3400e-003**		**0.0972**	**0.0972**		**0.0914**	**0.0914**	**0.0000**	**201.5005**	**201.5005**	**0.0492**	**0.0000**	**202.7294**

3.5 Building Construction - 2020

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	0.0356	1.0760	0.2081	2.5500e-003	0.0587	6.0300e-003	0.0647	0.0169	5.7600e-003	0.0227	0.0000	241.8564	241.8564	0.0193	0.0000	242.3393
Worker	0.0867	0.0586	0.5830	1.8400e-003	0.1816	1.2900e-003	0.1829	0.0482	1.1800e-003	0.0494	0.0000	166.5065	166.5065	4.2900e-003	0.0000	166.6138
Total	**0.1223**	**1.1346**	**0.7911**	**4.3900e-003**	**0.2402**	**7.3200e-003**	**0.2475**	**0.0652**	**6.9400e-003**	**0.0721**	**0.0000**	**408.3629**	**408.3629**	**0.0236**	**0.0000**	**408.9531**

3.5 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**

3.5 Building Construction - 2021

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	0.0433	1.4530	0.2730	3.7900e-003	0.0880	3.8800e-003	0.0919	0.0254	3.7100e-003	0.0291	0.0000	359.4128	359.4128	0.0275	0.0000	360.1003
Worker	0.1198	0.0781	0.7954	2.6700e-003	0.2724	1.8700e-003	0.2742	0.0724	1.7200e-003	0.0741	0.0000	241.0551	241.0551	5.7300e-003	0.0000	241.1984
Total	**0.1631**	**1.5311**	**1.0684**	**6.4600e-003**	**0.3603**	**5.7500e-003**	**0.3661**	**0.0977**	**5.4300e-003**	**0.1032**	**0.0000**	**600.4679**	**600.4679**	**0.0332**	**0.0000**	**601.2987**

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**

3.5 Building Construction - 2021

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	0.0433	1.4530	0.2730	3.7900e-003	0.0880	3.8800e-003	0.0919	0.0254	3.7100e-003	0.0291	0.0000	359.4128	359.4128	0.0275	0.0000	360.1003
Worker	0.1198	0.0781	0.7954	2.6700e-003	0.2724	1.8700e-003	0.2742	0.0724	1.7200e-003	0.0741	0.0000	241.0551	241.0551	5.7300e-003	0.0000	241.1984
Total	**0.1631**	**1.5311**	**1.0684**	**6.4600e-003**	**0.3603**	**5.7500e-003**	**0.3661**	**0.0977**	**5.4300e-003**	**0.1032**	**0.0000**	**600.4679**	**600.4679**	**0.0332**	**0.0000**	**601.2987**

3.5 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	4.2700e-003	0.0390	0.0409	7.0000e-005		2.0200e-003	2.0200e-003		1.9000e-003	1.9000e-003	0.0000	5.7931	5.7931	1.3900e-003	0.0000	5.8278
Total	**4.2700e-003**	**0.0390**	**0.0409**	**7.0000e-005**		**2.0200e-003**	**2.0200e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**5.7931**	**5.7931**	**1.3900e-003**	**0.0000**	**5.8278**

3.5 Building Construction - 2022

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	7.7000e-004	0.0263	4.8500e-003	7.0000e-005	1.6900e-003	6.0000e-005	1.7500e-003	4.9000e-004	6.0000e-005	5.5000e-004	0.0000	6.8228	6.8228	5.1000e-004	0.0000	6.8355
Worker	2.1300e-003	1.3300e-003	0.0139	5.0000e-005	5.2200e-003	3.0000e-005	5.2500e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.4502	4.4502	1.0000e-004	0.0000	4.4526
Total	**2.9000e-003**	**0.0277**	**0.0188**	**1.2000e-004**	**6.9100e-003**	**9.0000e-005**	**7.0000e-003**	**1.8800e-003**	**9.0000e-005**	**1.9700e-003**	**0.0000**	**11.2730**	**11.2730**	**6.1000e-004**	**0.0000**	**11.2881**

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	4.2700e-003	0.0390	0.0409	7.0000e-005		2.0200e-003	2.0200e-003		1.9000e-003	1.9000e-003	0.0000	5.7931	5.7931	1.3900e-003	0.0000	5.8278
Total	**4.2700e-003**	**0.0390**	**0.0409**	**7.0000e-005**		**2.0200e-003**	**2.0200e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**5.7931**	**5.7931**	**1.3900e-003**	**0.0000**	**5.8278**

3.5 Building Construction - 2022

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	7.7000e-004	0.0263	4.8500e-003	7.0000e-005	1.6900e-003	6.0000e-005	1.7500e-003	4.9000e-004	6.0000e-005	5.5000e-004	0.0000	6.8228	6.8228	5.1000e-004	0.0000	6.8355
Worker	2.1300e-003	1.3300e-003	0.0139	5.0000e-005	5.2200e-003	3.0000e-005	5.2500e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.4502	4.4502	1.0000e-004	0.0000	4.4526
Total	**2.9000e-003**	**0.0277**	**0.0188**	**1.2000e-004**	**6.9100e-003**	**9.0000e-005**	**7.0000e-003**	**1.8800e-003**	**9.0000e-005**	**1.9700e-003**	**0.0000**	**11.2730**	**11.2730**	**6.1000e-004**	**0.0000**	**11.2881**

3.6 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	0.0160	0.1613	0.2114	3.3000e-004		8.2300e-003	8.2300e-003		7.5800e-003	7.5800e-003	0.0000	29.0400	29.0400	9.3900e-003	0.0000	29.2748
Paving	3.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0191**	**0.1613**	**0.2114**	**3.3000e-004**		**8.2300e-003**	**8.2300e-003**		**7.5800e-003**	**7.5800e-003**	**0.0000**	**29.0400**	**29.0400**	**9.3900e-003**	**0.0000**	**29.2748**

3.6 Paving - 2022

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	7.1000e-004	4.5000e-004	4.6700e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4948	1.4948	3.0000e-005	0.0000	1.4957
Total	**7.1000e-004**	**4.5000e-004**	**4.6700e-003**	**2.0000e-005**	**1.7500e-003**	**1.0000e-005**	**1.7600e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4948**	**1.4948**	**3.0000e-005**	**0.0000**	**1.4957**

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	0.0160	0.1613	0.2114	3.3000e-004		8.2300e-003	8.2300e-003		7.5800e-003	7.5800e-003	0.0000	29.0399	29.0399	9.3900e-003	0.0000	29.2747
Paving	3.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0191**	**0.1613**	**0.2114**	**3.3000e-004**		**8.2300e-003**	**8.2300e-003**		**7.5800e-003**	**7.5800e-003**	**0.0000**	**29.0399**	**29.0399**	**9.3900e-003**	**0.0000**	**29.2747**

3.6 Paving - 2022

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	7.1000e-004	4.5000e-004	4.6700e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4948	1.4948	3.0000e-005	0.0000	1.4957
Total	**7.1000e-004**	**4.5000e-004**	**4.6700e-003**	**2.0000e-005**	**1.7500e-003**	**1.0000e-005**	**1.7600e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4948**	**1.4948**	**3.0000e-005**	**0.0000**	**1.4957**

3.7 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	0.3116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9700e-003	0.0204	0.0263	4.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	3.7022	3.7022	2.4000e-004	0.0000	3.7082
Total	**0.3146**	**0.0204**	**0.0263**	**4.0000e-005**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**3.7022**	**3.7022**	**2.4000e-004**	**0.0000**	**3.7082**

3.7 Architectural Coating - 2022

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	2.4700e-003	1.5500e-003	0.0162	6.0000e-005	6.0800e-003	4.0000e-005	6.1200e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.1821	5.1821	1.1000e-004	0.0000	5.1850
Total	**2.4700e-003**	**1.5500e-003**	**0.0162**	**6.0000e-005**	**6.0800e-003**	**4.0000e-005**	**6.1200e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.1821**	**5.1821**	**1.1000e-004**	**0.0000**	**5.1850**

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	0.3116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9700e-003	0.0204	0.0263	4.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	3.7022	3.7022	2.4000e-004	0.0000	3.7082
Total	**0.3146**	**0.0204**	**0.0263**	**4.0000e-005**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**3.7022**	**3.7022**	**2.4000e-004**	**0.0000**	**3.7082**

3.7 Architectural Coating - 2022

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	2.4700e-003	1.5500e-003	0.0162	6.0000e-005	6.0800e-003	4.0000e-005	6.1200e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.1821	5.1821	1.1000e-004	0.0000	5.1850
Total	**2.4700e-003**	**1.5500e-003**	**0.0162**	**6.0000e-005**	**6.0800e-003**	**4.0000e-005**	**6.1200e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.1821**	**5.1821**	**1.1000e-004**	**0.0000**	**5.1850**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	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	0.1512	0.5451	1.5296	5.2200e-003	0.4641	4.4400e-003	0.4685	0.1241	4.1400e-003	0.1283	0.0000	479.0332	479.0332	0.0267	0.0000	479.7000
Unmitigated	0.1584	0.5963	1.7504	6.1700e-003	0.5571	5.1900e-003	0.5623	0.1490	4.8400e-003	0.1539	0.0000	566.5180	566.5180	0.0300	0.0000	567.2681

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	744.98	304.33	32.79	1,473,664	1,227,562
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	744.98	304.33	32.79	1,473,664	1,227,562

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
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	92	7	1
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
Junior College (2Yr)	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800
Other Non-Asphalt Surfaces	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Parking Lot	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	100.6210	100.6210	4.5500e-003	9.4000e-004	101.0153
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.6210	100.6210	4.5500e-003	9.4000e-004	101.0153
NaturalGas Mitigated	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
NaturalGas Unmitigated	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355

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					
Junior College (2Yr)	598639	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
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		**3.2300e-003**	**0.0294**	**0.0247**	**1.8000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**31.9457**	**31.9457**	**6.1000e-004**	**5.9000e-004**	**32.1355**

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					
Junior College (2Yr)	598639	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
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		**3.2300e-003**	**0.0294**	**0.0247**	**1.8000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**31.9457**	**31.9457**	**6.1000e-004**	**5.9000e-004**	**32.1355**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	309482	90.0319	4.0700e-003	8.4000e-004	90.3846
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	36400	10.5892	4.8000e-004	1.0000e-004	10.6307
Total		**100.6210**	**4.5500e-003**	**9.4000e-004**	**101.0153**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	309482	90.0319	4.0700e-003	8.4000e-004	90.3846
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	36400	10.5892	4.8000e-004	1.0000e-004	10.6307
Total		**100.6210**	**4.5500e-003**	**9.4000e-004**	**101.0153**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	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	0.1754	2.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6000e-003
Unmitigated	0.1754	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	1.0000e-005	0.0000	5.6800e-003

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	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	1.0000e-005	0.0000	5.6800e-003
Total	**0.1754**	**3.0000e-005**	**2.7500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3300e-003**	**5.3300e-003**	**1.0000e-005**	**0.0000**	**5.6800e-003**

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	0.0312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6000e-003
Total	**0.1754**	**2.0000e-005**	**2.7100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2600e-003**	**5.2600e-003**	**1.0000e-005**	**0.0000**	**5.6000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.6309	0.0435	1.0600e-003	6.0350
Unmitigated	4.6309	0.0435	1.0600e-003	6.0350

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	1.32923 / 2.07905	4.6309	0.0435	1.0600e-003	6.0350
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		**4.6309**	**0.0435**	**1.0600e-003**	**6.0350**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	1.32923 / 2.07905	4.6309	0.0435	1.0600e-003	6.0350
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		**4.6309**	**0.0435**	**1.0600e-003**	**6.0350**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.1514	0.4226	0.0000	17.7172
Unmitigated	7.1514	0.4226	0.0000	17.7172

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	35.23	7.1514	0.4226	0.0000	17.7172
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		**7.1514**	**0.4226**	**0.0000**	**17.7172**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	35.23	7.1514	0.4226	0.0000	17.7172
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		**7.1514**	**0.4226**	**0.0000**	**17.7172**

9.0 Operational Offroad

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

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

Arvin Educational Center (BAU)

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	27.10	1000sqft	0.62	27,100.00	0
Other Non-Asphalt Surfaces	11.17	Acre	11.17	486,565.20	0
Parking Lot	260.00	Space	2.34	104,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2005
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 -

Construction Phase - 1/1/20 - 3/30/22

Fleet Mix - SJVAPCD residential fleet mix for operational year 2013 (earliest recorded residential fleet mix for SJVAPCD)

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.14	0.02
tblFleetMix	LDA	0.39	0.53
tblFleetMix	LDT1	0.06	0.19
tblFleetMix	LDT2	0.15	0.17
tblFleetMix	LHD1	0.05	2.0000e-003
tblFleetMix	LHD2	8.7770e-003	1.1000e-003
tblFleetMix	MCY	6.1030e-003	3.2000e-003
tblFleetMix	MDV	0.17	0.06
tblFleetMix	MH	2.3920e-003	1.6000e-003
tblFleetMix	MHD	0.02	9.7000e-003
tblFleetMix	OBUS	1.2660e-003	0.00
tblFleetMix	SBUS	9.5200e-004	1.2000e-003
tblFleetMix	UBUS	1.2200e-003	4.7000e-003

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					
2005	1.8763	10.9136	9.2965	0.0783	0.5273	0.6000	1.1273	0.1868	0.5948	0.7816	0.0000	986.7491	986.7491	0.2659	0.0000	993.3962
2006	1.1137	3.7476	3.3614	0.0270	0.1159	0.2121	0.3280	0.0314	0.2102	0.2416	0.0000	347.3379	347.3379	0.0959	0.0000	349.7355
Maximum	**1.8763**	**10.9136**	**9.2965**	**0.0783**	**0.5273**	**0.6000**	**1.1273**	**0.1868**	**0.5948**	**0.7816**	**0.0000**	**986.7491**	**986.7491**	**0.2659**	**0.0000**	**993.3962**

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					
2005	1.8763	10.9136	9.2965	0.0783	0.5273	0.6000	1.1273	0.1868	0.5948	0.7816	0.0000	986.7486	986.7486	0.2659	0.0000	993.3958
2006	1.1137	3.7476	3.3614	0.0270	0.1159	0.2121	0.3280	0.0314	0.2102	0.2416	0.0000	347.3378	347.3378	0.0959	0.0000	349.7353
Maximum	**1.8763**	**10.9136**	**9.2965**	**0.0783**	**0.5273**	**0.6000**	**1.1273**	**0.1868**	**0.5948**	**0.7816**	**0.0000**	**986.7486**	**986.7486**	**0.2659**	**0.0000**	**993.3958**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	1-1-2005	3-31-2005	3.3170	3.3170
2	4-1-2005	6-30-2005	3.1226	3.1226
3	7-1-2005	9-30-2005	3.1570	3.1570
4	10-1-2005	12-31-2005	3.1995	3.1995
5	1-1-2006	3-31-2006	3.1299	3.1299
6	4-1-2006	6-30-2006	1.7075	1.7075
		Highest	3.3170	3.3170

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	0.1882	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003
Energy	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	132.5667	132.5667	5.1600e-003	1.5300e-003	133.1508
Mobile	0.9159	2.7734	10.9363	0.0191	0.5593	0.0567	0.6160	0.1499	0.0539	0.2038	0.0000	738.8354	738.8354	0.1521	0.0000	742.6382
Waste						0.0000	0.0000		0.0000	0.0000	7.1514	0.0000	7.1514	0.4226	0.0000	17.7172
Water						0.0000	0.0000		0.0000	0.0000	0.4217	4.2092	4.6309	0.0435	1.0600e-003	6.0350
Total	**1.1073**	**2.8028**	**10.9644**	**0.0193**	**0.5593**	**0.0590**	**0.6182**	**0.1499**	**0.0561**	**0.2060**	**7.5731**	**875.6167**	**883.1898**	**0.6234**	**2.5900e-003**	**899.5472**

2.2 Overall Operational

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	0.1882	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003
Energy	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	132.5667	132.5667	5.1600e-003	1.5300e-003	133.1508
Mobile	0.9159	2.7734	10.9363	0.0191	0.5593	0.0567	0.6160	0.1499	0.0539	0.2038	0.0000	738.8354	738.8354	0.1521	0.0000	742.6382
Waste						0.0000	0.0000		0.0000	0.0000	7.1514	0.0000	7.1514	0.4226	0.0000	17.7172
Water						0.0000	0.0000		0.0000	0.0000	0.4217	4.2092	4.6309	0.0435	1.0600e-003	6.0350
Total	**1.1073**	**2.8028**	**10.9644**	**0.0193**	**0.5593**	**0.0590**	**0.6182**	**0.1499**	**0.0561**	**0.2060**	**7.5731**	**875.6167**	**883.1898**	**0.6234**	**2.5900e-003**	**899.5472**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2005	1/14/2005	5	10	
2	Grading	Grading	1/15/2005	2/25/2005	5	30	
3	Building Construction	Building Construction	2/26/2005	4/21/2006	5	300	
4	Paving	Paving	4/22/2006	5/19/2006	5	20	
5	Architectural Coating	Architectural Coating	5/20/2006	6/16/2006	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 13.51

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 40,650; Non-Residential Outdoor: 13,550; Striped Parking Area: 35,434 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
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

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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	259.00	101.00	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	52.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2005

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0467	0.3496	0.1316	2.2500e-003		0.0216	0.0216		0.0216	0.0216	0.0000	20.0023	20.0023	3.8000e-003	0.0000	20.0974
Total	**0.0467**	**0.3496**	**0.1316**	**2.2500e-003**	**0.0903**	**0.0216**	**0.1119**	**0.0497**	**0.0216**	**0.0712**	**0.0000**	**20.0023**	**20.0023**	**3.8000e-003**	**0.0000**	**20.0974**

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	1.4300e-003	1.4200e-003	0.0135	1.0000e-005	7.3000e-004	2.0000e-005	7.4000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	0.8236	0.8236	1.0000e-004	0.0000	0.8262
Total	**1.4300e-003**	**1.4200e-003**	**0.0135**	**1.0000e-005**	**7.3000e-004**	**2.0000e-005**	**7.4000e-004**	**1.9000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**0.8236**	**0.8236**	**1.0000e-004**	**0.0000**	**0.8262**

3.2 Site Preparation - 2005

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0467	0.3496	0.1316	2.2500e-003		0.0216	0.0216		0.0216	0.0216	0.0000	20.0023	20.0023	3.8000e-003	0.0000	20.0974
Total	**0.0467**	**0.3496**	**0.1316**	**2.2500e-003**	**0.0903**	**0.0216**	**0.1119**	**0.0497**	**0.0216**	**0.0712**	**0.0000**	**20.0023**	**20.0023**	**3.8000e-003**	**0.0000**	**20.0974**

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	1.4300e-003	1.4200e-003	0.0135	1.0000e-005	7.3000e-004	2.0000e-005	7.4000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	0.8236	0.8236	1.0000e-004	0.0000	0.8262
Total	**1.4300e-003**	**1.4200e-003**	**0.0135**	**1.0000e-005**	**7.3000e-004**	**2.0000e-005**	**7.4000e-004**	**1.9000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**0.8236**	**0.8236**	**1.0000e-004**	**0.0000**	**0.8262**

3.3 Grading - 2005

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1807	1.5445	0.6913	0.0103		0.0785	0.0785		0.0785	0.0785	0.0000	98.1544	98.1544	0.0147	0.0000	98.5224
Total	**0.1807**	**1.5445**	**0.6913**	**0.0103**	**0.1301**	**0.0785**	**0.2086**	**0.0540**	**0.0785**	**0.1325**	**0.0000**	**98.1544**	**98.1544**	**0.0147**	**0.0000**	**98.5224**

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	4.7800e-003	4.7400e-003	0.0451	3.0000e-005	2.4200e-003	6.0000e-005	2.4800e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.7453	2.7453	3.5000e-004	0.0000	2.7540
Total	**4.7800e-003**	**4.7400e-003**	**0.0451**	**3.0000e-005**	**2.4200e-003**	**6.0000e-005**	**2.4800e-003**	**6.4000e-004**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**2.7453**	**2.7453**	**3.5000e-004**	**0.0000**	**2.7540**

3.3 Grading - 2005

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1807	1.5445	0.6913	0.0103		0.0785	0.0785		0.0785	0.0785	0.0000	98.1543	98.1543	0.0147	0.0000	98.5223
Total	**0.1807**	**1.5445**	**0.6913**	**0.0103**	**0.1301**	**0.0785**	**0.2086**	**0.0540**	**0.0785**	**0.1325**	**0.0000**	**98.1543**	**98.1543**	**0.0147**	**0.0000**	**98.5223**

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	4.7800e-003	4.7400e-003	0.0451	3.0000e-005	2.4200e-003	6.0000e-005	2.4800e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.7453	2.7453	3.5000e-004	0.0000	2.7540
Total	**4.7800e-003**	**4.7400e-003**	**0.0451**	**3.0000e-005**	**2.4200e-003**	**6.0000e-005**	**2.4800e-003**	**6.4000e-004**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**2.7453**	**2.7453**	**3.5000e-004**	**0.0000**	**2.7540**

3.4 Building Construction - 2005

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	0.8267	4.5590	2.2427	0.0335		0.3828	0.3828		0.3828	0.3828	0.0000	289.1471	289.1471	0.0675	0.0000	290.8340
Total	**0.8267**	**4.5590**	**2.2427**	**0.0335**		**0.3828**	**0.3828**		**0.3828**	**0.3828**	**0.0000**	**289.1471**	**289.1471**	**0.0675**	**0.0000**	**290.8340**

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	0.3621	4.0041	1.8931	0.0294	0.0742	0.1113	0.1854	0.0214	0.1064	0.1278	0.0000	315.1665	315.1665	0.1463	0.0000	318.8229
Worker	0.4540	0.4503	4.2792	2.9500e-003	0.2296	5.8100e-003	0.2354	0.0610	5.3900e-003	0.0664	0.0000	260.7100	260.7100	0.0332	0.0000	261.5394
Total	**0.8160**	**4.4544**	**6.1723**	**0.0323**	**0.3037**	**0.1171**	**0.4208**	**0.0824**	**0.1118**	**0.1942**	**0.0000**	**575.8764**	**575.8764**	**0.1794**	**0.0000**	**580.3623**

3.4 Building Construction - 2005

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	0.8267	4.5589	2.2427	0.0335		0.3828	0.3828		0.3828	0.3828	0.0000	289.1468	289.1468	0.0675	0.0000	290.8336
Total	**0.8267**	**4.5589**	**2.2427**	**0.0335**		**0.3828**	**0.3828**		**0.3828**	**0.3828**	**0.0000**	**289.1468**	**289.1468**	**0.0675**	**0.0000**	**290.8336**

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	0.3621	4.0041	1.8931	0.0294	0.0742	0.1113	0.1854	0.0214	0.1064	0.1278	0.0000	315.1665	315.1665	0.1463	0.0000	318.8229
Worker	0.4540	0.4503	4.2792	2.9500e-003	0.2296	5.8100e-003	0.2354	0.0610	5.3900e-003	0.0664	0.0000	260.7100	260.7100	0.0332	0.0000	261.5394
Total	**0.8160**	**4.4544**	**6.1723**	**0.0323**	**0.3037**	**0.1171**	**0.4208**	**0.0824**	**0.1118**	**0.1942**	**0.0000**	**575.8764**	**575.8764**	**0.1794**	**0.0000**	**580.3623**

3.4 Building Construction - 2006

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	0.3006	1.6578	0.8155	0.0122		0.1392	0.1392		0.1392	0.1392	0.0000	105.1444	105.1444	0.0245	0.0000	105.7578
Total	**0.3006**	**1.6578**	**0.8155**	**0.0122**		**0.1392**	**0.1392**		**0.1392**	**0.1392**	**0.0000**	**105.1444**	**105.1444**	**0.0245**	**0.0000**	**105.7578**

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	0.1317	1.4561	0.6884	0.0107	0.0270	0.0405	0.0674	7.7800e-003	0.0387	0.0465	0.0000	114.6060	114.6060	0.0532	0.0000	115.9356
Worker	0.1651	0.1637	1.5561	1.0700e-003	0.0835	2.1100e-003	0.0856	0.0222	1.9600e-003	0.0241	0.0000	94.8036	94.8036	0.0121	0.0000	95.1052
Total	**0.2967**	**1.6198**	**2.2445**	**0.0118**	**0.1105**	**0.0426**	**0.1530**	**0.0300**	**0.0407**	**0.0706**	**0.0000**	**209.4096**	**209.4096**	**0.0652**	**0.0000**	**211.0408**

3.4 Building Construction - 2006

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	0.3006	1.6578	0.8155	0.0122		0.1392	0.1392		0.1392	0.1392	0.0000	105.1443	105.1443	0.0245	0.0000	105.7577
Total	**0.3006**	**1.6578**	**0.8155**	**0.0122**		**0.1392**	**0.1392**		**0.1392**	**0.1392**	**0.0000**	**105.1443**	**105.1443**	**0.0245**	**0.0000**	**105.7577**

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	0.1317	1.4561	0.6884	0.0107	0.0270	0.0405	0.0674	7.7800e-003	0.0387	0.0465	0.0000	114.6060	114.6060	0.0532	0.0000	115.9356
Worker	0.1651	0.1637	1.5561	1.0700e-003	0.0835	2.1100e-003	0.0856	0.0222	1.9600e-003	0.0241	0.0000	94.8036	94.8036	0.0121	0.0000	95.1052
Total	**0.2967**	**1.6198**	**2.2445**	**0.0118**	**0.1105**	**0.0426**	**0.1530**	**0.0300**	**0.0407**	**0.0706**	**0.0000**	**209.4096**	**209.4096**	**0.0652**	**0.0000**	**211.0408**

3.5 Paving - 2006

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	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2176
Paving	3.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0610**	**0.4167**	**0.1800**	**2.7000e-003**		**0.0264**	**0.0264**		**0.0264**	**0.0264**	**0.0000**	**24.0995**	**24.0995**	**4.7200e-003**	**0.0000**	**24.2176**

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	2.3900e-003	2.3700e-003	0.0225	2.0000e-005	1.2100e-003	3.0000e-005	1.2400e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.3726	1.3726	1.7000e-004	0.0000	1.3770
Total	**2.3900e-003**	**2.3700e-003**	**0.0225**	**2.0000e-005**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**3.2000e-004**	**3.0000e-005**	**3.5000e-004**	**0.0000**	**1.3726**	**1.3726**	**1.7000e-004**	**0.0000**	**1.3770**

3.5 Paving - 2006

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	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2175
Paving	3.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0610**	**0.4167**	**0.1800**	**2.7000e-003**		**0.0264**	**0.0264**		**0.0264**	**0.0264**	**0.0000**	**24.0995**	**24.0995**	**4.7200e-003**	**0.0000**	**24.2175**

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	2.3900e-003	2.3700e-003	0.0225	2.0000e-005	1.2100e-003	3.0000e-005	1.2400e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.3726	1.3726	1.7000e-004	0.0000	1.3770
Total	**2.3900e-003**	**2.3700e-003**	**0.0225**	**2.0000e-005**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**3.2000e-004**	**3.0000e-005**	**3.5000e-004**	**0.0000**	**1.3726**	**1.3726**	**1.7000e-004**	**0.0000**	**1.3770**

3.6 Architectural Coating - 2006

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	0.4372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5200e-003	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686
Total	**0.4447**	**0.0428**	**0.0208**	**3.0000e-004**		**3.8400e-003**	**3.8400e-003**		**3.8400e-003**	**3.8400e-003**	**0.0000**	**2.5533**	**2.5533**	**6.2000e-004**	**0.0000**	**2.5686**

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	8.2900e-003	8.2200e-003	0.0781	5.0000e-005	4.1900e-003	1.1000e-004	4.3000e-003	1.1100e-003	1.0000e-004	1.2100e-003	0.0000	4.7585	4.7585	6.1000e-004	0.0000	4.7736
Total	**8.2900e-003**	**8.2200e-003**	**0.0781**	**5.0000e-005**	**4.1900e-003**	**1.1000e-004**	**4.3000e-003**	**1.1100e-003**	**1.0000e-004**	**1.2100e-003**	**0.0000**	**4.7585**	**4.7585**	**6.1000e-004**	**0.0000**	**4.7736**

3.6 Architectural Coating - 2006

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	0.4372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5200e-003	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686
Total	**0.4447**	**0.0428**	**0.0208**	**3.0000e-004**		**3.8400e-003**	**3.8400e-003**		**3.8400e-003**	**3.8400e-003**	**0.0000**	**2.5533**	**2.5533**	**6.2000e-004**	**0.0000**	**2.5686**

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	8.2900e-003	8.2200e-003	0.0781	5.0000e-005	4.1900e-003	1.1000e-004	4.3000e-003	1.1100e-003	1.0000e-004	1.2100e-003	0.0000	4.7585	4.7585	6.1000e-004	0.0000	4.7736
Total	**8.2900e-003**	**8.2200e-003**	**0.0781**	**5.0000e-005**	**4.1900e-003**	**1.1000e-004**	**4.3000e-003**	**1.1100e-003**	**1.0000e-004**	**1.2100e-003**	**0.0000**	**4.7585**	**4.7585**	**6.1000e-004**	**0.0000**	**4.7736**

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	0.9159	2.7734	10.9363	0.0191	0.5593	0.0567	0.6160	0.1499	0.0539	0.2038	0.0000	738.8354	738.8354	0.1521	0.0000	742.6382
Unmitigated	0.9159	2.7734	10.9363	0.0191	0.5593	0.0567	0.6160	0.1499	0.0539	0.2038	0.0000	738.8354	738.8354	0.1521	0.0000	742.6382

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	744.98	304.33	32.79	1,473,664	1,473,664
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	744.98	304.33	32.79	1,473,664	1,473,664

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
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	92	7	1
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
Junior College (2Yr)	0.532200	0.190100	0.167100	0.062800	0.002000	0.001100	0.009700	0.024300	0.000000	0.004700	0.003200	0.001200	0.001600
Other Non-Asphalt Surfaces	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Parking Lot	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	100.6210	100.6210	4.5500e-003	9.4000e-004	101.0153
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.6210	100.6210	4.5500e-003	9.4000e-004	101.0153
NaturalGas Mitigated	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
NaturalGas Unmitigated	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355

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					
Junior College (2Yr)	598639	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
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		**3.2300e-003**	**0.0294**	**0.0247**	**1.8000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**31.9457**	**31.9457**	**6.1000e-004**	**5.9000e-004**	**32.1355**

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					
Junior College (2Yr)	598639	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9457	31.9457	6.1000e-004	5.9000e-004	32.1355
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		**3.2300e-003**	**0.0294**	**0.0247**	**1.8000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**31.9457**	**31.9457**	**6.1000e-004**	**5.9000e-004**	**32.1355**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	309482	90.0319	4.0700e-003	8.4000e-004	90.3846
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	36400	10.5892	4.8000e-004	1.0000e-004	10.6307
Total		**100.6210**	**4.5500e-003**	**9.4000e-004**	**101.0153**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	309482	90.0319	4.0700e-003	8.4000e-004	90.3846
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	36400	10.5892	4.8000e-004	1.0000e-004	10.6307
Total		**100.6210**	**4.5500e-003**	**9.4000e-004**	**101.0153**

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	0.1882	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003
Unmitigated	0.1882	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003

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	0.0437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.5000e-004	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003
Total	**0.1882**	**4.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3300e-003**	**5.3300e-003**	**2.0000e-005**	**0.0000**	**5.9500e-003**

6.2 Area by SubCategory

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	0.0437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.5000e-004	4.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3300e-003	5.3300e-003	2.0000e-005	0.0000	5.9500e-003
Total	**0.1882**	**4.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3300e-003**	**5.3300e-003**	**2.0000e-005**	**0.0000**	**5.9500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.6309	0.0435	1.0600e-003	6.0350
Unmitigated	4.6309	0.0435	1.0600e-003	6.0350

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	1.32923 / 2.07905	4.6309	0.0435	1.0600e-003	6.0350
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		**4.6309**	**0.0435**	**1.0600e-003**	**6.0350**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	1.32923 / 2.07905	4.6309	0.0435	1.0600e-003	6.0350
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		**4.6309**	**0.0435**	**1.0600e-003**	**6.0350**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.1514	0.4226	0.0000	17.7172
Unmitigated	7.1514	0.4226	0.0000	17.7172

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	35.23	7.1514	0.4226	0.0000	17.7172
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		**7.1514**	**0.4226**	**0.0000**	**17.7172**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	35.23	7.1514	0.4226	0.0000	17.7172
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		**7.1514**	**0.4226**	**0.0000**	**17.7172**

9.0 Operational Offroad

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

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

APPENDIX C: CUMULATIVE PROJECTS EMISSION CALCULATIONS

Arvin AQIA Cumulative Impacts

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	1,000.00	Dwelling Unit	40.33	1,000,000.00	2860
Regional Shopping Center	232.18	1000sqft	21.32	232,175.00	0
General Light Industry	74.71	1000sqft	6.86	74,705.00	0
Other Non-Asphalt Surfaces	2.29	Acre	2.29	99,752.40	0
High Turnover (Sit Down Restaurant)	11.11	1000sqft	1.02	11,108.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2021
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 - Per "Ariston" MND, approx. 40.33 acres = MF Residential & 21.32 acres = General Commercial. Sq. Ft. estimated as 25% of total acreage, & DU estimated by highly conservative avg. of 25 DU/acre.

Construction Phase -

Arvin AQIA Cumulative Impacts - Kern-San Joaquin County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	9/2/2025	5/27/2025
tblConstructionPhase	PhaseEndDate	2/4/2025	10/29/2024
tblConstructionPhase	PhaseEndDate	11/3/2020	7/28/2020
tblConstructionPhase	PhaseEndDate	5/20/2025	2/11/2025
tblConstructionPhase	PhaseEndDate	6/2/2020	2/25/2020
tblConstructionPhase	PhaseStartDate	5/21/2025	2/12/2025
tblConstructionPhase	PhaseStartDate	11/4/2020	7/29/2020
tblConstructionPhase	PhaseStartDate	6/3/2020	2/26/2020
tblConstructionPhase	PhaseStartDate	2/5/2025	10/30/2024
tblConstructionPhase	PhaseStartDate	4/8/2020	1/1/2020
tblLandUse	LotAcreage	62.50	40.33
tblLandUse	LotAcreage	5.33	21.32
tblLandUse	LotAcreage	1.71	6.86
tblLandUse	LotAcreage	0.26	1.02
tblWoodstoves	NumberCatalytic	40.33	0.00
tblWoodstoves	NumberNoncatalytic	40.33	0.00

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	0.6783	6.0146	4.6647	0.0126	1.3090	0.2357	1.5447	0.5230	0.2183	0.7413	0.0000	1,137.5953	1,137.5953	0.1813	0.0000	1,142.1281
2021	0.7263	5.0555	5.3140	0.0191	1.0694	0.1381	1.2075	0.2876	0.1298	0.4174	0.0000	1,736.6148	1,736.6148	0.1399	0.0000	1,740.1116
2022	0.6636	4.6350	4.9979	0.0186	1.0653	0.1171	1.1824	0.2865	0.1101	0.3966	0.0000	1,695.0744	1,695.0744	0.1348	0.0000	1,698.4455
2023	0.6000	3.8903	4.7027	0.0181	1.0653	0.0987	1.1640	0.2865	0.0928	0.3792	0.0000	1,650.6924	1,650.6924	0.1181	0.0000	1,653.6455
2024	0.4935	3.3294	4.0971	0.0153	0.8919	0.0834	0.9753	0.2398	0.0782	0.3180	0.0000	1,397.2620	1,397.2620	0.1120	0.0000	1,400.0611
2025	11.6558	0.1819	0.3999	9.1000e-004	0.0544	8.5500e-003	0.0629	0.0145	8.0200e-003	0.0225	0.0000	80.8519	80.8519	0.0110	0.0000	81.1262
Maximum	**11.6558**	**6.0146**	**5.3140**	**0.0191**	**1.3090**	**0.2357**	**1.5447**	**0.5230**	**0.2183**	**0.7413**	**0.0000**	**1,736.6148**	**1,736.6148**	**0.1813**	**0.0000**	**1,740.1116**

2.1 Overall Construction

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	0.6783	6.0146	4.6647	0.0126	1.3090	0.2357	1.5447	0.5230	0.2183	0.7413	0.0000	1,137.5948	1,137.5948	0.1813	0.0000	1,142.1275
2021	0.7263	5.0555	5.3140	0.0191	1.0694	0.1381	1.2075	0.2876	0.1298	0.4174	0.0000	1,736.6145	1,736.6145	0.1399	0.0000	1,740.1113
2022	0.6636	4.6350	4.9979	0.0186	1.0653	0.1171	1.1824	0.2865	0.1101	0.3966	0.0000	1,695.0740	1,695.0740	0.1348	0.0000	1,698.4451
2023	0.6000	3.8903	4.7027	0.0181	1.0653	0.0987	1.1640	0.2865	0.0928	0.3792	0.0000	1,650.6921	1,650.6921	0.1181	0.0000	1,653.6451
2024	0.4935	3.3294	4.0971	0.0153	0.8919	0.0834	0.9753	0.2398	0.0782	0.3180	0.0000	1,397.2616	1,397.2616	0.1120	0.0000	1,400.0608
2025	11.6558	0.1819	0.3999	9.1000e-004	0.0544	8.5500e-003	0.0629	0.0145	8.0200e-003	0.0225	0.0000	80.8518	80.8518	0.0110	0.0000	81.1262
Maximum	**11.6558**	**6.0146**	**5.3140**	**0.0191**	**1.3090**	**0.2357**	**1.5447**	**0.5230**	**0.2183**	**0.7413**	**0.0000**	**1,736.6145**	**1,736.6145**	**0.1813**	**0.0000**	**1,740.1113**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	**1-1-2020**	**3-31-2020**	1.6172	1.6172
2	**4-1-2020**	**6-30-2020**	1.7805	1.7805
3	**7-1-2020**	**9-30-2020**	1.6698	1.6698
4	**10-1-2020**	**12-31-2020**	1.6223	1.6223
5	**1-1-2021**	**3-31-2021**	1.4324	1.4324

Arvin AQIA Cumulative Impacts - Kern-San Joaquin County, Annual

6	**4-1-2021**	**6-30-2021**	1.4421	1.4421
7	**7-1-2021**	**9-30-2021**	1.4580	1.4580
8	**10-1-2021**	**12-31-2021**	1.4642	1.4642
9	**1-1-2022**	**3-31-2022**	1.3175	1.3175
10	**4-1-2022**	**6-30-2022**	1.3271	1.3271
11	**7-1-2022**	**9-30-2022**	1.3417	1.3417
12	**10-1-2022**	**12-31-2022**	1.3468	1.3468
13	**1-1-2023**	**3-31-2023**	1.1175	1.1175
14	**4-1-2023**	**6-30-2023**	1.1275	1.1275
15	**7-1-2023**	**9-30-2023**	1.1399	1.1399
16	**10-1-2023**	**12-31-2023**	1.1424	1.1424
17	**1-1-2024**	**3-31-2024**	1.0806	1.0806
18	**4-1-2024**	**6-30-2024**	1.0783	1.0783
19	**7-1-2024**	**9-30-2024**	1.0901	1.0901
20	**10-1-2024**	**12-31-2024**	0.5825	0.5825
21	**1-1-2025**	**3-31-2025**	5.4903	5.4903
22	**4-1-2025**	**6-30-2025**	6.3493	6.3493
		Highest	6.3493	6.3493

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	6.5851	0.4600	7.6034	2.7800e-003		0.0713	0.0713		0.0713	0.0713	0.0000	445.3419	445.3419	0.0201	7.9400e-003	448.2105
Energy	0.1106	0.9642	0.5399	6.0300e-003		0.0764	0.0764		0.0764	0.0764	0.0000	3,291.3849	3,291.3849	0.1203	0.0406	3,306.4977
Mobile	6.1625	81.3814	54.3714	0.3009	14.9999	0.2555	15.2554	4.0369	0.2416	4.2785	0.0000	28,054.0177	28,054.0177	2.3543	0.0000	28,112.8740
Waste						0.0000	0.0000		0.0000	0.0000	188.5035	0.0000	188.5035	11.1402	0.0000	467.0094
Water						0.0000	0.0000		0.0000	0.0000	32.6768	214.9069	247.5837	3.3659	0.0813	355.9470
Total	**12.8583**	**82.8055**	**62.5147**	**0.3097**	**14.9999**	**0.4032**	**15.4031**	**4.0369**	**0.3893**	**4.4262**	**221.1803**	**32,005.6514**	**32,226.8317**	**17.0008**	**0.1298**	**32,690.5387**

2.2 Overall Operational

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	6.5851	0.4600	7.6034	2.7800e-003		0.0713	0.0713		0.0713	0.0713	0.0000	445.3419	445.3419	0.0201	7.9400e-003	448.2105
Energy	0.1106	0.9642	0.5399	6.0300e-003		0.0764	0.0764		0.0764	0.0764	0.0000	3,291.3849	3,291.3849	0.1203	0.0406	3,306.4977
Mobile	6.1625	81.3814	54.3714	0.3009	14.9999	0.2555	15.2554	4.0369	0.2416	4.2785	0.0000	28,054.0177	28,054.0177	2.3543	0.0000	28,112.8740
Waste						0.0000	0.0000		0.0000	0.0000	188.5035	0.0000	188.5035	11.1402	0.0000	467.0094
Water						0.0000	0.0000		0.0000	0.0000	32.6768	214.9069	247.5837	3.3659	0.0813	355.9470
Total	**12.8583**	**82.8055**	**62.5147**	**0.3097**	**14.9999**	**0.4032**	**15.4031**	**4.0369**	**0.3893**	**4.4262**	**221.1803**	**32,005.6514**	**32,226.8317**	**17.0008**	**0.1298**	**32,690.5387**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Arvin AQIA Cumulative Impacts - Kern-San Joaquin County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2020	2/25/2020	5	40	
2	Grading	Grading	2/26/2020	7/28/2020	5	110	
3	Building Construction	Building Construction	7/29/2020	10/29/2024	5	1110	
4	Paving	Paving	10/30/2024	2/11/2025	5	75	
5	Architectural Coating	Architectural Coating	2/12/2025	5/27/2025	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 2.29

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 476,982; Non-Residential Outdoor: 158,994; Striped Parking Area: 5,985 (Architectural Coating – sqft)

OffRoad Equipment

Arvin AQIA Cumulative Impacts - Kern-San Joaquin County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	872.00	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	174.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					0.3613	0.0000	0.3613	0.1986	0.0000	0.1986	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0815	0.8484	0.4303	7.6000e-004		0.0440	0.0440		0.0404	0.0404	0.0000	66.8614	66.8614	0.0216	0.0000	67.4020
Total	**0.0815**	**0.8484**	**0.4303**	**7.6000e-004**	**0.3613**	**0.0440**	**0.4053**	**0.1986**	**0.0404**	**0.2390**	**0.0000**	**66.8614**	**66.8614**	**0.0216**	**0.0000**	**67.4020**

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	1.3900e-003	9.4000e-004	9.3100e-003	3.0000e-005	2.9000e-003	2.0000e-005	2.9200e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.6602	2.6602	7.0000e-005	0.0000	2.6619
Total	**1.3900e-003**	**9.4000e-004**	**9.3100e-003**	**3.0000e-005**	**2.9000e-003**	**2.0000e-005**	**2.9200e-003**	**7.7000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.6602**	**2.6602**	**7.0000e-005**	**0.0000**	**2.6619**

3.2 Site Preparation - 2020

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					0.3613	0.0000	0.3613	0.1986	0.0000	0.1986	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0815	0.8484	0.4303	7.6000e-004		0.0440	0.0440		0.0404	0.0404	0.0000	66.8613	66.8613	0.0216	0.0000	67.4019
Total	**0.0815**	**0.8484**	**0.4303**	**7.6000e-004**	**0.3613**	**0.0440**	**0.4053**	**0.1986**	**0.0404**	**0.2390**	**0.0000**	**66.8613**	**66.8613**	**0.0216**	**0.0000**	**67.4019**

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	1.3900e-003	9.4000e-004	9.3100e-003	3.0000e-005	2.9000e-003	2.0000e-005	2.9200e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.6602	2.6602	7.0000e-005	0.0000	2.6619
Total	**1.3900e-003**	**9.4000e-004**	**9.3100e-003**	**3.0000e-005**	**2.9000e-003**	**2.0000e-005**	**2.9200e-003**	**7.7000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.6602**	**2.6602**	**7.0000e-005**	**0.0000**	**2.6619**

3.3 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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2448	2.7609	1.7577	3.4100e-003		0.1196	0.1196		0.1100	0.1100	0.0000	299.6636	299.6636	0.0969	0.0000	302.0865
Total	**0.2448**	**2.7609**	**1.7577**	**3.4100e-003**	**0.4770**	**0.1196**	**0.5966**	**0.1978**	**0.1100**	**0.3078**	**0.0000**	**299.6636**	**299.6636**	**0.0969**	**0.0000**	**302.0865**

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	4.2300e-003	2.8600e-003	0.0285	9.0000e-005	8.8600e-003	6.0000e-005	8.9300e-003	2.3500e-003	6.0000e-005	2.4100e-003	0.0000	8.1284	8.1284	2.1000e-004	0.0000	8.1336
Total	**4.2300e-003**	**2.8600e-003**	**0.0285**	**9.0000e-005**	**8.8600e-003**	**6.0000e-005**	**8.9300e-003**	**2.3500e-003**	**6.0000e-005**	**2.4100e-003**	**0.0000**	**8.1284**	**8.1284**	**2.1000e-004**	**0.0000**	**8.1336**

3.3 Grading - 2020

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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2448	2.7609	1.7577	3.4100e-003		0.1196	0.1196		0.1100	0.1100	0.0000	299.6633	299.6633	0.0969	0.0000	302.0862
Total	**0.2448**	**2.7609**	**1.7577**	**3.4100e-003**	**0.4770**	**0.1196**	**0.5966**	**0.1978**	**0.1100**	**0.3078**	**0.0000**	**299.6633**	**299.6633**	**0.0969**	**0.0000**	**302.0862**

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	4.2300e-003	2.8600e-003	0.0285	9.0000e-005	8.8600e-003	6.0000e-005	8.9300e-003	2.3500e-003	6.0000e-005	2.4100e-003	0.0000	8.1284	8.1284	2.1000e-004	0.0000	8.1336
Total	**4.2300e-003**	**2.8600e-003**	**0.0285**	**9.0000e-005**	**8.8600e-003**	**6.0000e-005**	**8.9300e-003**	**2.3500e-003**	**6.0000e-005**	**2.4100e-003**	**0.0000**	**8.1284**	**8.1284**	**2.1000e-004**	**0.0000**	**8.1336**

3.4 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	0.1187	1.0744	0.9435	1.5100e-003		0.0626	0.0626		0.0588	0.0588	0.0000	129.7016	129.7016	0.0316	0.0000	130.4927
Total	**0.1187**	**1.0744**	**0.9435**	**1.5100e-003**		**0.0626**	**0.0626**		**0.0588**	**0.0588**	**0.0000**	**129.7016**	**129.7016**	**0.0316**	**0.0000**	**130.4927**

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	0.0397	1.2001	0.2321	2.8400e-003	0.0654	6.7200e-003	0.0721	0.0189	6.4300e-003	0.0253	0.0000	269.7385	269.7385	0.0215	0.0000	270.2771
Worker	0.1880	0.1271	1.2634	3.9900e-003	0.3935	2.7900e-003	0.3963	0.1045	2.5700e-003	0.1071	0.0000	360.8417	360.8417	9.3000e-003	0.0000	361.0743
Total	**0.2277**	**1.3271**	**1.4955**	**6.8300e-003**	**0.4589**	**9.5100e-003**	**0.4684**	**0.1234**	**9.0000e-003**	**0.1324**	**0.0000**	**630.5802**	**630.5802**	**0.0308**	**0.0000**	**631.3514**

3.4 Building Construction - 2020

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	0.1187	1.0744	0.9435	1.5100e-003		0.0626	0.0626		0.0588	0.0588	0.0000	129.7014	129.7014	0.0316	0.0000	130.4925
Total	**0.1187**	**1.0744**	**0.9435**	**1.5100e-003**		**0.0626**	**0.0626**		**0.0588**	**0.0588**	**0.0000**	**129.7014**	**129.7014**	**0.0316**	**0.0000**	**130.4925**

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	0.0397	1.2001	0.2321	2.8400e-003	0.0654	6.7200e-003	0.0721	0.0189	6.4300e-003	0.0253	0.0000	269.7385	269.7385	0.0215	0.0000	270.2771
Worker	0.1880	0.1271	1.2634	3.9900e-003	0.3935	2.7900e-003	0.3963	0.1045	2.5700e-003	0.1071	0.0000	360.8417	360.8417	9.3000e-003	0.0000	361.0743
Total	**0.2277**	**1.3271**	**1.4955**	**6.8300e-003**	**0.4589**	**9.5100e-003**	**0.4684**	**0.1234**	**9.0000e-003**	**0.1324**	**0.0000**	**630.5802**	**630.5802**	**0.0308**	**0.0000**	**631.3514**

3.4 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	0.0751	2.5176	0.4731	6.5600e-003	0.1524	6.7200e-003	0.1592	0.0440	6.4300e-003	0.0504	0.0000	622.7449	622.7449	0.0477	0.0000	623.9361
Worker	0.4032	0.2630	2.6778	8.9700e-003	0.9170	6.2900e-003	0.9233	0.2436	5.7900e-003	0.2494	0.0000	811.5833	811.5833	0.0193	0.0000	812.0657
Total	**0.4782**	**2.7806**	**3.1509**	**0.0155**	**1.0694**	**0.0130**	**1.0824**	**0.2876**	**0.0122**	**0.2998**	**0.0000**	**1,434.3282**	**1,434.3282**	**0.0670**	**0.0000**	**1,436.0018**

3.4 Building Construction - 2021

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	0.0751	2.5176	0.4731	6.5600e-003	0.1524	6.7200e-003	0.1592	0.0440	6.4300e-003	0.0504	0.0000	622.7449	622.7449	0.0477	0.0000	623.9361
Worker	0.4032	0.2630	2.6778	8.9700e-003	0.9170	6.2900e-003	0.9233	0.2436	5.7900e-003	0.2494	0.0000	811.5833	811.5833	0.0193	0.0000	812.0657
Total	**0.4782**	**2.7806**	**3.1509**	**0.0155**	**1.0694**	**0.0130**	**1.0824**	**0.2876**	**0.0122**	**0.2998**	**0.0000**	**1,434.3282**	**1,434.3282**	**0.0670**	**0.0000**	**1,436.0018**

3.4 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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

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	0.0698	2.3712	0.4369	6.4700e-003	0.1519	5.7900e-003	0.1577	0.0438	5.5400e-003	0.0494	0.0000	614.7295	614.7295	0.0456	0.0000	615.8684
Worker	0.3720	0.2337	2.4337	8.6100e-003	0.9135	6.0900e-003	0.9196	0.2427	5.6000e-003	0.2483	0.0000	779.1021	779.1021	0.0171	0.0000	779.5301
Total	**0.4418**	**2.6049**	**2.8706**	**0.0151**	**1.0653**	**0.0119**	**1.0772**	**0.2865**	**0.0111**	**0.2976**	**0.0000**	**1,393.8316**	**1,393.8316**	**0.0627**	**0.0000**	**1,395.3984**

3.4 Building Construction - 2022

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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

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	0.0698	2.3712	0.4369	6.4700e-003	0.1519	5.7900e-003	0.1577	0.0438	5.5400e-003	0.0494	0.0000	614.7295	614.7295	0.0456	0.0000	615.8684
Worker	0.3720	0.2337	2.4337	8.6100e-003	0.9135	6.0900e-003	0.9196	0.2427	5.6000e-003	0.2483	0.0000	779.1021	779.1021	0.0171	0.0000	779.5301
Total	**0.4418**	**2.6049**	**2.8706**	**0.0151**	**1.0653**	**0.0119**	**1.0772**	**0.2865**	**0.0111**	**0.2976**	**0.0000**	**1,393.8316**	**1,393.8316**	**0.0627**	**0.0000**	**1,395.3984**

3.4 Building Construction - 2023

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

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	0.0493	1.8110	0.3647	6.3100e-003	0.1519	1.7700e-003	0.1536	0.0438	1.6900e-003	0.0455	0.0000	599.5498	599.5498	0.0312	0.0000	600.3289
Worker	0.3463	0.2093	2.2263	8.2900e-003	0.9135	5.9300e-003	0.9194	0.2427	5.4600e-003	0.2481	0.0000	749.7964	749.7964	0.0153	0.0000	750.1783
Total	**0.3955**	**2.0203**	**2.5910**	**0.0146**	**1.0654**	**7.7000e-003**	**1.0731**	**0.2865**	**7.1500e-003**	**0.2936**	**0.0000**	**1,349.3462**	**1,349.3462**	**0.0464**	**0.0000**	**1,350.5072**

3.4 Building Construction - 2023

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

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	0.0493	1.8110	0.3647	6.3100e-003	0.1519	1.7700e-003	0.1536	0.0438	1.6900e-003	0.0455	0.0000	599.5498	599.5498	0.0312	0.0000	600.3289
Worker	0.3463	0.2093	2.2263	8.2900e-003	0.9135	5.9300e-003	0.9194	0.2427	5.4600e-003	0.2481	0.0000	749.7964	749.7964	0.0153	0.0000	750.1783
Total	**0.3955**	**2.0203**	**2.5910**	**0.0146**	**1.0654**	**7.7000e-003**	**1.0731**	**0.2865**	**7.1500e-003**	**0.2936**	**0.0000**	**1,349.3462**	**1,349.3462**	**0.0464**	**0.0000**	**1,350.5072**

3.4 Building Construction - 2024

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	0.1597	1.4587	1.7541	2.9200e-003		0.0665	0.0665		0.0626	0.0626	0.0000	251.5563	251.5563	0.0595	0.0000	253.0434
Total	**0.1597**	**1.4587**	**1.7541**	**2.9200e-003**		**0.0665**	**0.0665**		**0.0626**	**0.0626**	**0.0000**	**251.5563**	**251.5563**	**0.0595**	**0.0000**	**253.0434**

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	0.0400	1.4986	0.2885	5.2300e-003	0.1267	1.4700e-003	0.1282	0.0366	1.4000e-003	0.0380	0.0000	496.5552	496.5552	0.0264	0.0000	497.2150
Worker	0.2707	0.1573	1.7193	6.6500e-003	0.7624	4.8500e-003	0.7673	0.2025	4.4700e-003	0.2070	0.0000	601.9435	601.9435	0.0115	0.0000	602.2304
Total	**0.3106**	**1.6559**	**2.0078**	**0.0119**	**0.8892**	**6.3200e-003**	**0.8955**	**0.2391**	**5.8700e-003**	**0.2450**	**0.0000**	**1,098.4987**	**1,098.4987**	**0.0379**	**0.0000**	**1,099.4454**

3.4 Building Construction - 2024

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	0.1597	1.4587	1.7541	2.9200e-003		0.0665	0.0665		0.0626	0.0626	0.0000	251.5560	251.5560	0.0595	0.0000	253.0431
Total	**0.1597**	**1.4587**	**1.7541**	**2.9200e-003**		**0.0665**	**0.0665**		**0.0626**	**0.0626**	**0.0000**	**251.5560**	**251.5560**	**0.0595**	**0.0000**	**253.0431**

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	0.0400	1.4986	0.2885	5.2300e-003	0.1267	1.4700e-003	0.1282	0.0366	1.4000e-003	0.0380	0.0000	496.5552	496.5552	0.0264	0.0000	497.2150
Worker	0.2707	0.1573	1.7193	6.6500e-003	0.7624	4.8500e-003	0.7673	0.2025	4.4700e-003	0.2070	0.0000	601.9435	601.9435	0.0115	0.0000	602.2304
Total	**0.3106**	**1.6559**	**2.0078**	**0.0119**	**0.8892**	**6.3200e-003**	**0.8955**	**0.2391**	**5.8700e-003**	**0.2450**	**0.0000**	**1,098.4987**	**1,098.4987**	**0.0379**	**0.0000**	**1,099.4454**

3.5 Paving - 2024

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	0.0222	0.2143	0.3291	5.1000e-004		0.0105	0.0105		9.7000e-003	9.7000e-003	0.0000	45.0597	45.0597	0.0146	0.0000	45.4240
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0222**	**0.2143**	**0.3291**	**5.1000e-004**		**0.0105**	**0.0105**		**9.7000e-003**	**9.7000e-003**	**0.0000**	**45.0597**	**45.0597**	**0.0146**	**0.0000**	**45.4240**

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	9.7000e-004	5.6000e-004	6.1300e-003	2.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.1473	2.1473	4.0000e-005	0.0000	2.1483
Total	**9.7000e-004**	**5.6000e-004**	**6.1300e-003**	**2.0000e-005**	**2.7200e-003**	**2.0000e-005**	**2.7400e-003**	**7.2000e-004**	**2.0000e-005**	**7.4000e-004**	**0.0000**	**2.1473**	**2.1473**	**4.0000e-005**	**0.0000**	**2.1483**

3.5 Paving - 2024

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	0.0222	0.2143	0.3291	5.1000e-004		0.0105	0.0105		9.7000e-003	9.7000e-003	0.0000	45.0596	45.0596	0.0146	0.0000	45.4240
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0222**	**0.2143**	**0.3291**	**5.1000e-004**		**0.0105**	**0.0105**		**9.7000e-003**	**9.7000e-003**	**0.0000**	**45.0596**	**45.0596**	**0.0146**	**0.0000**	**45.4240**

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	9.7000e-004	5.6000e-004	6.1300e-003	2.0000e-005	2.7200e-003	2.0000e-005	2.7400e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.1473	2.1473	4.0000e-005	0.0000	2.1483
Total	**9.7000e-004**	**5.6000e-004**	**6.1300e-003**	**2.0000e-005**	**2.7200e-003**	**2.0000e-005**	**2.7400e-003**	**7.2000e-004**	**2.0000e-005**	**7.4000e-004**	**0.0000**	**2.1473**	**2.1473**	**4.0000e-005**	**0.0000**	**2.1483**

3.5 Paving - 2025

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	0.0137	0.1287	0.2187	3.4000e-004		6.2800e-003	6.2800e-003		5.7800e-003	5.7800e-003	0.0000	30.0289	30.0289	9.7100e-003	0.0000	30.2717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1287**	**0.2187**	**3.4000e-004**		**6.2800e-003**	**6.2800e-003**		**5.7800e-003**	**5.7800e-003**	**0.0000**	**30.0289**	**30.0289**	**9.7100e-003**	**0.0000**	**30.2717**

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	6.1000e-004	3.4000e-004	3.7800e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3749	1.3749	2.0000e-005	0.0000	1.3756
Total	**6.1000e-004**	**3.4000e-004**	**3.7800e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3749**	**1.3749**	**2.0000e-005**	**0.0000**	**1.3756**

3.5 Paving - 2025

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	0.0137	0.1287	0.2187	3.4000e-004		6.2800e-003	6.2800e-003		5.7800e-003	5.7800e-003	0.0000	30.0289	30.0289	9.7100e-003	0.0000	30.2717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1287**	**0.2187**	**3.4000e-004**		**6.2800e-003**	**6.2800e-003**		**5.7800e-003**	**5.7800e-003**	**0.0000**	**30.0289**	**30.0289**	**9.7100e-003**	**0.0000**	**30.2717**

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	6.1000e-004	3.4000e-004	3.7800e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3749	1.3749	2.0000e-005	0.0000	1.3756
Total	**6.1000e-004**	**3.4000e-004**	**3.7800e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3749**	**1.3749**	**2.0000e-005**	**0.0000**	**1.3756**

3.6 Architectural Coating - 2025

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	11.6175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4100e-003	0.0430	0.0678	1.1000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**11.6239**	**0.0430**	**0.0678**	**1.1000e-004**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

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	0.0176	9.8300e-003	0.1096	4.4000e-004	0.0526	3.3000e-004	0.0529	0.0140	3.0000e-004	0.0143	0.0000	39.8734	39.8734	7.1000e-004	0.0000	39.8912
Total	**0.0176**	**9.8300e-003**	**0.1096**	**4.4000e-004**	**0.0526**	**3.3000e-004**	**0.0529**	**0.0140**	**3.0000e-004**	**0.0143**	**0.0000**	**39.8734**	**39.8734**	**7.1000e-004**	**0.0000**	**39.8912**

3.6 Architectural Coating - 2025

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	11.6175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4100e-003	0.0430	0.0678	1.1000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	9.5747	9.5747	5.2000e-004	0.0000	9.5878
Total	**11.6239**	**0.0430**	**0.0678**	**1.1000e-004**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**9.5747**	**9.5747**	**5.2000e-004**	**0.0000**	**9.5878**

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	0.0176	9.8300e-003	0.1096	4.4000e-004	0.0526	3.3000e-004	0.0529	0.0140	3.0000e-004	0.0143	0.0000	39.8734	39.8734	7.1000e-004	0.0000	39.8912
Total	**0.0176**	**9.8300e-003**	**0.1096**	**4.4000e-004**	**0.0526**	**3.3000e-004**	**0.0529**	**0.0140**	**3.0000e-004**	**0.0143**	**0.0000**	**39.8734**	**39.8734**	**7.1000e-004**	**0.0000**	**39.8912**

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	6.1625	81.3814	54.3714	0.3009	14.9999	0.2555	15.2554	4.0369	0.2416	4.2785	0.0000	28,054.0177	28,054.0177	2.3543	0.0000	28,112.8740
Unmitigated	6.1625	81.3814	54.3714	0.3009	14.9999	0.2555	15.2554	4.0369	0.2416	4.2785	0.0000	28,054.0177	28,054.0177	2.3543	0.0000	28,112.8740

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	6,590.00	7,160.00	6070.00	19,184,657	19,184,657
General Light Industry	520.69	98.61	50.80	1,148,152	1,148,152
High Turnover (Sit Down Restaurant)	1,412.38	1,759.17	1464.48	1,704,854	1,704,854
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	9,913.87	11,601.78	5860.10	16,789,458	16,789,458
Total	18,436.95	20,619.57	13,445.38	38,827,120	38,827,120

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
Apartments Low Rise	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.478390	0.030777	0.167800	0.120556	0.019513	0.006321	0.020235	0.145317	0.001626	0.001724	0.005916	0.000950	0.000877
General Light Industry	0.478390	0.030777	0.167800	0.120556	0.019513	0.006321	0.020235	0.145317	0.001626	0.001724	0.005916	0.000950	0.000877
High Turnover (Sit Down Restaurant)	0.478390	0.030777	0.167800	0.120556	0.019513	0.006321	0.020235	0.145317	0.001626	0.001724	0.005916	0.000950	0.000877
Other Non-Asphalt Surfaces	0.478390	0.030777	0.167800	0.120556	0.019513	0.006321	0.020235	0.145317	0.001626	0.001724	0.005916	0.000950	0.000877
Regional Shopping Center	0.478390	0.030777	0.167800	0.120556	0.019513	0.006321	0.020235	0.145317	0.001626	0.001724	0.005916	0.000950	0.000877

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Arvin AQIA Cumulative Impacts - Kern-San Joaquin County, Annual

	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	2,196.5105	2,196.5105	0.0993	0.0206	2,205.1171
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,196.5105	2,196.5105	0.0993	0.0206	2,205.1171
NaturalGas Mitigated	0.1106	0.9642	0.5399	6.0300e-003		0.0764	0.0764		0.0764	0.0764	0.0000	1,094.8744	1,094.8744	0.0210	0.0201	1,101.3807
NaturalGas Unmitigated	0.1106	0.9642	0.5399	6.0300e-003		0.0764	0.0764		0.0764	0.0764	0.0000	1,094.8744	1,094.8744	0.0210	0.0201	1,101.3807

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					
Apartments Low Rise	1.41365e+007	0.0762	0.6514	0.2772	4.1600e-003		0.0527	0.0527		0.0527	0.0527	0.0000	754.3753	754.3753	0.0145	0.0138	758.8582
General Light Industry	1.55909e+006	8.4100e-003	0.0764	0.0642	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.1992	83.1992	1.5900e-003	1.5300e-003	83.6936
High Turnover (Sit Down Restaurant)	2.33735e+006	0.0126	0.1146	0.0962	6.9000e-004		8.7100e-003	8.7100e-003		8.7100e-003	8.7100e-003	0.0000	124.7297	124.7297	2.3900e-003	2.2900e-003	125.4709
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
Regional Shopping Center	2.48427e+006	0.0134	0.1218	0.1023	7.3000e-004		9.2600e-003	9.2600e-003		9.2600e-003	9.2600e-003	0.0000	132.5702	132.5702	2.5400e-003	2.4300e-003	133.3580
Total		**0.1106**	**0.9642**	**0.5399**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,094.8744**	**1,094.8744**	**0.0210**	**0.0201**	**1,101.3807**

5.2 Energy by Land Use - NaturalGas

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					
Apartments Low Rise	1.41365e+007	0.0762	0.6514	0.2772	4.1600e-003		0.0527	0.0527		0.0527	0.0527	0.0000	754.3753	754.3753	0.0145	0.0138	758.8582
General Light Industry	1.55909e+006	8.4100e-003	0.0764	0.0642	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.1992	83.1992	1.5900e-003	1.5300e-003	83.6936
High Turnover (Sit Down Restaurant)	2.33735e+006	0.0126	0.1146	0.0962	6.9000e-004		8.7100e-003	8.7100e-003		8.7100e-003	8.7100e-003	0.0000	124.7297	124.7297	2.3900e-003	2.2900e-003	125.4709
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
Regional Shopping Center	2.48427e+006	0.0134	0.1218	0.1023	7.3000e-004		9.2600e-003	9.2600e-003		9.2600e-003	9.2600e-003	0.0000	132.5702	132.5702	2.5400e-003	2.4300e-003	133.3580
Total		**0.1106**	**0.9642**	**0.5399**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,094.8744**	**1,094.8744**	**0.0210**	**0.0201**	**1,101.3807**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	4.67752e+006	1,360.7442	0.0615	0.0127	1,366.0760
General Light Industry	658898	191.6810	8.6700e-003	1.7900e-003	192.4321
High Turnover (Sit Down Restaurant)	321799	93.6150	4.2300e-003	8.8000e-004	93.9818
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.89223e+006	550.4703	0.0249	5.1500e-003	552.6272
Total		**2,196.5105**	**0.0993**	**0.0206**	**2,205.1171**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	4.67752e+006	1,360.7442	0.0615	0.0127	1,366.0760
General Light Industry	658898	191.6810	8.6700e-003	1.7900e-003	192.4321
High Turnover (Sit Down Restaurant)	321799	93.6150	4.2300e-003	8.8000e-004	93.9818
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.89223e+006	550.4703	0.0249	5.1500e-003	552.6272
Total		**2,196.5105**	**0.0993**	**0.0206**	**2,205.1171**

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	6.5851	0.4600	7.6034	2.7800e-003		0.0713	0.0713		0.0713	0.0713	0.0000	445.3419	445.3419	0.0201	7.9400e-003	448.2105
Unmitigated	6.5851	0.4600	7.6034	2.7800e-003		0.0713	0.0713		0.0713	0.0713	0.0000	445.3419	445.3419	0.0201	7.9400e-003	448.2105

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	1.1618					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.1539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0438	0.3741	0.1592	2.3900e-003		0.0302	0.0302		0.0302	0.0302	0.0000	433.2074	433.2074	8.3000e-003	7.9400e-003	435.7817
Landscaping	0.2257	0.0859	7.4442	3.9000e-004		0.0410	0.0410		0.0410	0.0410	0.0000	12.1345	12.1345	0.0118	0.0000	12.4287
Total	**6.5851**	**0.4600**	**7.6034**	**2.7800e-003**		**0.0713**	**0.0713**		**0.0713**	**0.0713**	**0.0000**	**445.3419**	**445.3419**	**0.0201**	**7.9400e-003**	**448.2105**

6.2 Area by SubCategory

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	1.1618					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.1539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0438	0.3741	0.1592	2.3900e-003		0.0302	0.0302		0.0302	0.0302	0.0000	433.2074	433.2074	8.3000e-003	7.9400e-003	435.7817
Landscaping	0.2257	0.0859	7.4442	3.9000e-004		0.0410	0.0410		0.0410	0.0410	0.0000	12.1345	12.1345	0.0118	0.0000	12.4287
Total	**6.5851**	**0.4600**	**7.6034**	**2.7800e-003**		**0.0713**	**0.0713**		**0.0713**	**0.0713**	**0.0000**	**445.3419**	**445.3419**	**0.0201**	**7.9400e-003**	**448.2105**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	247.5837	3.3659	0.0813	355.9470
Unmitigated	247.5837	3.3659	0.0813	355.9470

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	65.154 / 41.0754	165.0533	2.1296	0.0515	233.6338
General Light Industry	17.2744 / 0	32.6723	0.5641	0.0136	50.8117
High Turnover (Sit Down Restaurant)	3.37226 / 0.215251	6.5974	0.1101	2.6500e-003	10.1394
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	17.1982 / 10.5408	43.2607	0.5621	0.0136	61.3621
Total		**247.5837**	**3.3659**	**0.0813**	**355.9470**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	65.154 / 41.0754	165.0533	2.1296	0.0515	233.6338
General Light Industry	17.2744 / 0	32.6723	0.5641	0.0136	50.8117
High Turnover (Sit Down Restaurant)	3.37226 / 0.215251	6.5974	0.1101	2.6500e-003	10.1394
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	17.1982 / 10.5408	43.2607	0.5621	0.0136	61.3621
Total		**247.5837**	**3.3659**	**0.0813**	**355.9470**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	188.5035	11.1402	0.0000	467.0094
Unmitigated	188.5035	11.1402	0.0000	467.0094

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	460	93.3758	5.5184	0.0000	231.3347
General Light Industry	92.63	18.8031	1.1112	0.0000	46.5838
High Turnover (Sit Down Restaurant)	132.21	26.8374	1.5861	0.0000	66.4886
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	243.79	49.4872	2.9246	0.0000	122.6024
Total		**188.5035**	**11.1402**	**0.0000**	**467.0094**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	460	93.3758	5.5184	0.0000	231.3347
General Light Industry	92.63	18.8031	1.1112	0.0000	46.5838
High Turnover (Sit Down Restaurant)	132.21	26.8374	1.5861	0.0000	66.4886
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	243.79	49.4872	2.9246	0.0000	122.6024
Total		**188.5035**	**11.1402**	**0.0000**	**467.0094**

9.0 Operational Offroad

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

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

APPENDIX D: CARB 2015 AND 2020 ESTIMATED EMISSION INVENTORIES

2016 SIP EMISSION PROJECTION DATA

2015 Estimated Annual Average Emissions

KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.7	2.4	0.2	0.4	0.4	0.3	0.0
WASTE DISPOSAL	7.6	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.2	0.2	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	9.3	16.7	7.4	3.3	2.7	1.6	0.1
*** TOTAL STATIONARY SOURCES**	**9.3**	**1.2**	**10.0**	**19.1**	**7.6**	**3.7**	**3.0**	**1.9**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.4	1.3	-	-	-	-	-	-	1.4
MISCELLANEOUS PROCESSES	3.4	1.2	11.0	0.6	0.0	18.3	9.5	2.5	0.7
*** TOTAL AREAWIDE SOURCES**	**4.9**	**2.4**	**11.0**	**0.6**	**0.0**	**18.3**	**9.5**	**2.5**	**2.1**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.9	1.7	12.4	6.3	0.0	0.3	0.3	0.2	0.2
OTHER MOBILE SOURCES	5.2	5.1	23.7	6.4	0.3	3.0	3.0	2.9	0.0
*** TOTAL MOBILE SOURCES**	**7.1**	**6.8**	**36.1**	**12.7**	**0.3**	**3.4**	**3.3**	**3.1**	**0.2**
TOTAL KERN COUNTY IN MOJAVE DESERT	**21.2**	**10.4**	**57.0**	**32.3**	**8.0**	**25.4**	**15.8**	**7.6**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	13.0	1.9	10.3	8.3	0.7	2.8	2.7	2.7	1.5
WASTE DISPOSAL	207.8	11.4	0.1	0.0	0.0	0.1	0.0	0.0	4.9
CLEANING AND SURFACE COATINGS	2.8	2.5	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	47.2	12.9	1.0	0.4	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.2	2.0	0.1	0.1	0.1	3.3	1.4	0.5	0.1
*** TOTAL STATIONARY SOURCES**	**273.0**	**30.8**	**11.5**	**8.8**	**1.2**	**6.4**	**4.3**	**3.4**	**6.7**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	10.5	9.6	-	-	-	-	-	-	28.0

MISCELLANEOUS PROCESSES	63.6	9.9	5.2	1.3	0.0	61.6	30.7	5.6	17.0
*** TOTAL AREAWIDE SOURCES**	**74.0**	**19.5**	**5.2**	**1.3**	**0.0**	**61.6**	**30.7**	**5.6**	**45.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	7.9	7.1	48.6	33.2	0.1	1.8	1.7	0.9	0.9
OTHER MOBILE SOURCES	4.8	4.2	27.4	13.9	0.0	0.7	0.7	0.7	0.0
*** TOTAL MOBILE SOURCES**	**12.7**	**11.3**	**76.0**	**47.1**	**0.2**	**2.5**	**2.5**	**1.6**	**0.9**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**359.7**	**61.6**	**92.8**	**57.1**	**1.4**	**70.5**	**37.5**	**10.5**	**52.5**
GRAND TOTAL FOR KERN COUNTY	**380.9**	**72.1**	**149.8**	**89.5**	**9.4**	**96.0**	**53.4**	**18.1**	**54.8**

Start a new query.

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Gavin Newsom
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Secretary for Environmental Protection
Jared Blumenfeld
Visit his Website

Chair, California Air Resources Board
Mary D. Nichols
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ACCESSIBILITY
PRIVACY POLICY
CONDITIONS OF USE
LOCAL AIR DISTRICTS
REGISTER TO VOTE

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CALIFORNIA AIR RESOURCES BOARD

2016 SIP EMISSION PROJECTION DATA

2015 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	18.5	3.5	24.8	27.0	2.3	5.0	4.8	4.7	2.1
WASTE DISPOSAL	495.3	25.7	0.5	0.3	0.1	0.9	0.3	0.1	10.3
CLEANING AND SURFACE COATINGS	26.0	23.6	-	-	-	0.3	0.3	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	112.0	18.3	1.1	0.4	0.5	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	18.8	17.7	1.3	3.7	3.3	19.0	8.6	3.3	1.6
*** TOTAL STATIONARY SOURCES**	**670.6**	**88.8**	**27.7**	**31.4**	**6.2**	**25.3**	**14.1**	**8.5**	**14.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	52.7	47.9	-	-	-	-	-	-	116.3
MISCELLANEOUS PROCESSES	761.7	102.9	53.3	8.1	0.3	467.5	233.8	41.3	193.4
*** TOTAL AREAWIDE SOURCES**	**814.4**	**150.8**	**53.3**	**8.1**	**0.3**	**467.5**	**233.8**	**41.3**	**309.7**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	42.5	38.6	276.3	141.6	0.6	8.3	8.2	4.2	4.1
OTHER MOBILE SOURCES	35.4	31.3	189.3	82.2	0.3	6.1	6.0	5.5	0.0
*** TOTAL MOBILE SOURCES**	**77.9**	**69.9**	**465.6**	**223.8**	**0.9**	**14.4**	**14.1**	**9.7**	**4.2**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**1562.8**	**309.4**	**546.6**	**263.3**	**7.5**	**507.2**	**262.1**	**59.4**	**328.0**

Start a new query.

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2016 SIP EMISSION PROJECTION DATA

2020 Estimated Annual Average Emissions

KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.8	2.4	0.2	0.4	0.4	0.4	0.0
WASTE DISPOSAL	8.4	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.1	0.1	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	10.2	18.4	8.1	3.7	2.9	1.7	0.1
*** TOTAL STATIONARY SOURCES**	**10.2**	**1.3**	**11.0**	**20.8**	**8.3**	**4.1**	**3.3**	**2.1**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.6	1.4	-	-	-	-	-	-	1.3
MISCELLANEOUS PROCESSES	3.5	1.2	11.0	0.6	0.0	18.6	9.7	2.6	0.7
*** TOTAL AREAWIDE SOURCES**	**5.0**	**2.6**	**11.0**	**0.6**	**0.0**	**18.6**	**9.7**	**2.6**	**2.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.1	1.1	7.2	4.1	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	5.0	4.9	23.8	5.5	0.3	3.0	2.9	2.9	0.0
*** TOTAL MOBILE SOURCES**	**6.2**	**5.9**	**31.0**	**9.6**	**0.3**	**3.3**	**3.2**	**3.0**	**0.1**
TOTAL KERN COUNTY IN MOJAVE DESERT	**21.4**	**9.8**	**53.0**	**31.0**	**8.6**	**26.0**	**16.2**	**7.7**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	12.6	1.8	9.9	7.6	0.7	2.7	2.6	2.5	1.6
WASTE DISPOSAL	224.6	12.2	0.2	0.1	0.0	0.1	0.0	0.0	5.4
CLEANING AND SURFACE COATINGS	3.0	2.7	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	46.2	11.8	0.9	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.4	2.3	0.1	0.1	0.1	3.7	1.6	0.6	0.2
*** TOTAL STATIONARY SOURCES**	**288.8**	**30.7**	**11.1**	**8.0**	**1.1**	**6.7**	**4.4**	**3.3**	**7.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	10.9	10.0	-	-	-	-	-	-	26.5

MISCELLANEOUS PROCESSES	63.6	9.9	5.2	1.2	0.0	61.8	30.9	5.7	17.1
*** TOTAL AREAWIDE SOURCES**	**74.5**	**19.9**	**5.2**	**1.2**	**0.0**	**61.8**	**30.9**	**5.7**	**43.6**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	5.4	4.9	31.4	23.5	0.1	1.7	1.6	0.7	0.8
OTHER MOBILE SOURCES	4.0	3.5	27.2	10.8	0.0	0.6	0.5	0.5	0.0
*** TOTAL MOBILE SOURCES**	**9.4**	**8.4**	**58.6**	**34.2**	**0.2**	**2.2**	**2.2**	**1.2**	**0.8**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**372.7**	**59.0**	**74.9**	**43.5**	**1.4**	**70.7**	**37.4**	**10.2**	**51.7**
GRAND TOTAL FOR KERN COUNTY	**394.0**	**68.8**	**127.9**	**74.4**	**10.0**	**96.7**	**53.6**	**17.9**	**54.0**

Start a new query.

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CALIFORNIA AIR RESOURCES BOARD

2016 SIP EMISSION PROJECTION DATA

2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	17.9	3.2	24.7	24.1	2.4	4.8	4.7	4.6	2.2
WASTE DISPOSAL	527.3	26.9	0.6	0.3	0.2	0.9	0.3	0.2	11.2
CLEANING AND SURFACE COATINGS	27.8	25.2	-	-	-	0.3	0.3	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	111.0	16.6	1.0	0.4	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	20.6	19.5	1.4	3.9	3.6	20.9	9.5	3.6	1.7
*** TOTAL STATIONARY SOURCES**	**704.7**	**91.3**	**27.7**	**28.6**	**6.5**	**27.2**	**14.9**	**8.7**	**15.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	55.0	49.9	-	-	-	-	-	-	113.1
MISCELLANEOUS PROCESSES	761.8	103.0	53.2	7.9	0.3	473.4	236.8	41.8	193.9
*** TOTAL AREAWIDE SOURCES**	**816.8**	**152.8**	**53.2**	**7.9**	**0.3**	**473.4**	**236.8**	**41.8**	**307.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	27.3	24.9	167.9	96.9	0.6	7.8	7.6	3.4	3.6
OTHER MOBILE SOURCES	30.6	27.2	196.2	69.8	0.3	5.6	5.5	5.0	0.0
*** TOTAL MOBILE SOURCES**	**57.9**	**52.0**	**364.1**	**166.8**	**1.0**	**13.4**	**13.1**	**8.5**	**3.6**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**1579.4**	**296.2**	**445.0**	**203.3**	**7.8**	**514.0**	**264.8**	**59.0**	**325.9**

Start a new query.

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APPENDIX E: AMBIENT AIR QUALITY ASSESSMENT MODELING FILES

(Electronic Files)

AAQA for Arvin (1)
All Values are in ug/m^3

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
SLINE1	1.49E+00	8.04E-02	4.17E+00	2.06E+00	1.42E-02	8.70E-03	3.29E-03	7.70E-04	2.95E-01	6.91E-02	8.08E-02	1.89E-02
SLINE2	1.54E+00	2.24E-02	4.33E+00	1.66E+00	1.48E-02	7.24E-03	2.45E-03	2.14E-04	2.20E-01	1.92E-02	6.00E-02	5.25E-03
PAREA1	2.27E+00	1.43E-01	2.12E+00	8.34E-01	1.39E-02	7.17E-03	2.64E-03	8.77E-04	3.29E-02	1.09E-02	3.29E-02	1.09E-02
Background	1.16E+02	2.20E+01	2.84E+03	2.34E+03	2.17E+01	1.95E+01	6.49E+00	1.75E+00	1.44E+02	7.81E+01	8.61E+01	1.63E+01
Facility Totals	1.21E+02	2.22E+01	2.85E+03	2.34E+03	2.17E+01	1.96E+01	6.50E+00	1.75E+00	1.45E+02	7.82E+01	8.63E+01	1.63E+01
AAQS	188.68	57	23000	10000	196	1300	105	80	50	20	35	12
	Pass	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Fail**	**Fail**	**Fail**	**Fail**

Project Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
8	**1**	**2000**	**500**	**0**	**25**	**5**	**1**	**10.4**	**2.08**	**2.5**	**0.63**
								Pass	**Pass**	**Pass**	**Pass**

AAQA Emission (g/sec)

Device	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
SLINE1	3.35E-04	3.35E-04	9.39E-04	9.39E-04	3.20E-06	3.20E-06	3.20E-06	3.20E-06	2.88E-04	2.88E-04	7.88E-05	7.88E-05
SLINE2	1.36E-04	1.36E-04	3.81E-04	3.81E-04	1.30E-06	1.30E-06	1.30E-06	1.30E-06	1.17E-04	1.17E-04	3.20E-05	3.20E-05
PAREA1	8.46E-04	8.46E-04	7.90E-04	7.90E-04	5.18E-06	5.18E-06	5.18E-06	5.18E-06	6.44E-05	6.44E-05	6.44E-05	6.44E-05

ROOSTER ENVIRONMENTAL SERVICES, INC.
PO BOX 1681, BAKERSFIELD, CA 93302
OFFICE: (661) 374-4624

Tuesday, November 12, 2019

Larson Design Group
4449 Easton Way, 2nd Floor #2071
Columbus, OH 43219

RE: 925 Varsity, Arvin, CA asbestos inspection

Rooster Environmental Services, Inc. conducted a Asbestos Containing Materials (ACM) inspection of the above referenced property. The purpose of the inspection was to determine the location and condition of ACM prior to demolition



SITE CONDITIONS

The inspection encompassed the interior and exterior areas of the single family residence, the pump house, and the shed. Finishing materials were in good repair at the time of inspection.

INSPECTION PROTOCOLS

Bulk samples are collected of each suspect material at the discretion of the inspector. Samples are assigned a unique identification number, then shipped to a NVLAP certified laboratory for analysis using Chain of Custody protocols.

Bulk sampling requires that a physical piece of the material be removed. As such some suspect asbestos materials may not be identified if they are hidden from view by other finishing materials, such as a wood floor installed over ACM linoleum. Some materials are known to be ACM, such as transite vent pipes, and are not sampled. Some materials are assumed to be ACM based on appearance and experience of the inspector, such as gray mastic on roof vents, and some materials are assumed to be ACM because the destructive nature of the sampling technique would compromise the integrity of the system or mar the aesthetic appearance thereof. These materials are noted as “assumed” in the percent asbestos column of the report.

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ANALYTICAL RESULTS

In general, samples are analyzed by Polarized Light Microscopy (PLM) EPA 600/R-93/116. Additional analysis will be noted in the Analytical Results section of this report when merited.

The following samples were submitted for analysis, and the results thereof are noted.

Sample #	Location	Material Sampled	Estimated Quantity	% ACM	Condition	Fr/Nf	Control Methods
111101	kitchen wall	paint texture/joint compound tape drywall		nd nd nd nd			
111102	living room wall	paint texture/joint compound tape drywall		nd nd nd nd			
111103	middle bedroom wall	paint texture/joint compound drywall		nd nd nd			
111104	kitchen floor	linoleum felt glue wood		nd nd nd nd			
111105	bathroom floor	linoleum felt glue wood		nd nd nd nd			
111106	exterior wall	stucco base		nd nd			
111107	roof	brown shingles grey shingles		nd nd			
	pump house						
	no samples collected	no suspect acm					
	shed						

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Sample #	Location	Material Sampled	Estimated Quantity	% ACM	Condition	Fr/Nf	Control Methods
11108	window	putty paint		nd nd			



Pump house



Shed

CONCLUSIONS

No ACM was found in the materials sampled..

RECOMMENDATIONS

None required.

DEFINITIONS OF TERMS RELATED TO REGULATED ASBESTOS CONTAINING MATERIAL (RACM)

Regulated Asbestos Containing Material

Any building material with an asbestos content greater than one percent (ACM = >1%), and one of the following:

A. Friable - any material, when dry, that can be crumbled, pulverized, or reduced to powder by hand pressure.
B. Category I non-friable - any non-friable material that has become friable, or has been subjected to sanding, grinding cutting, or abrading.
C. Category II non-friable - any non-friable material that, during the course of demolition, has a high probability of becoming, or has become friable.

D. Asbestos Containing Construction Material (ACCM) - the State of California regulates building material with an asbestos content equal to or greater than one tenth of one percent (>0.1%) .

CATEGORIES OF ACM

Category I non-friable ACM - Asbestos containing packings, gaskets, resilient floor coverings, and asphaltic roofing products containing more than one percent asbestos per Appendix A, Subpart F, 40CFR Part 763, Section 1, Polarized Light Microscopy.

Category II non-friable ACM - Excluding Category I non-friable ACM, any non-friable material containing more than one percent asbestos as determined using Polarized Light Microscopy .

This report was generated in accordance with generally accepted practices in the asbestos consultant field. Rooster Environmental Services, Inc.



_

Stephen R. Smith
CEO / President
File: 1111 925 varsity asbestos report

attachments: certification, lab reports

SGS FORENSIC LABORATORIES

Final Report

Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-1

Rooster Environmental Services, Inc.
Steve Smith
PO Box 1681

Bakersfield, CA 93303

Client ID: L1859
Report Number: B295798
Date Received: 11/08/19
Date Analyzed: 11/12/19
Date Printed: 11/12/19
First Reported: 11/12/19

Job ID/Site: 1111; 925 Varsity Dr., Arvin

Date(s) Collected:

SGSFL Job ID: L1859
Total Samples Submitted: 8
Total Samples Analyzed: 8

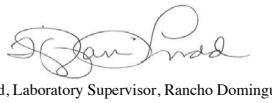
Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
111101	51295770						
Layer: White Drywall			**ND**				
Layer: Drywall Tape			**ND**				
Layer: White Skimcoat/Joint Compounds			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (10 %) Fibrous Glass (Trace)		**Asbestos (ND)**					
111102	51295771						
Layer: White Drywall			**ND**				
Layer: Drywall Tape			**ND**				
Layer: White Skimcoat/Joint Compounds			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (10 %) Fibrous Glass (Trace)		**Asbestos (ND)**					
111103	51295772						
Layer: White Drywall			**ND**				
Layer: White Skimcoat/Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %)		**Asbestos (ND)**					
111104	51295773						
Layer: Beige Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Off-White Mastic			**ND**				
Layer: Wood			**ND**				
Total Composite Values of Fibrous Components: Cellulose (85 %)		**Asbestos (ND)**					
111105	51295774						
Layer: Beige Sheet Flooring			**ND**				
Layer: Fibrous Backing			**ND**				
Layer: Off-White Mastic			**ND**				
Layer: Wood			**ND**				
Total Composite Values of Fibrous Components: Cellulose (85 %)		**Asbestos (ND)**					

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ROOSTER ENVIRONMENTAL SERVICES, INC.
PO BOX 1681, BAKERSFIELD, CA 93302
OFFICE: (661) 374-4624

Report Number: B295798
Client Name: Rooster Environmental Services, Inc. **Date Printed:** 11/12/19

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
111106	51295775						
Layer: Grey Cementitious Material			**ND**				
Layer: Off-White Cementitious Material			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							
111107	51295776						
Layer: 2 Brown Roof Shingles			**ND**				
Layer: 2 Grey Roof Shingles			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace) Fibrous Glass (35 %)							
111108	51295777						
Layer: Beige Putty			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							



Tiffani Ludd, Laboratory Supervisor, Rancho Dominguez Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

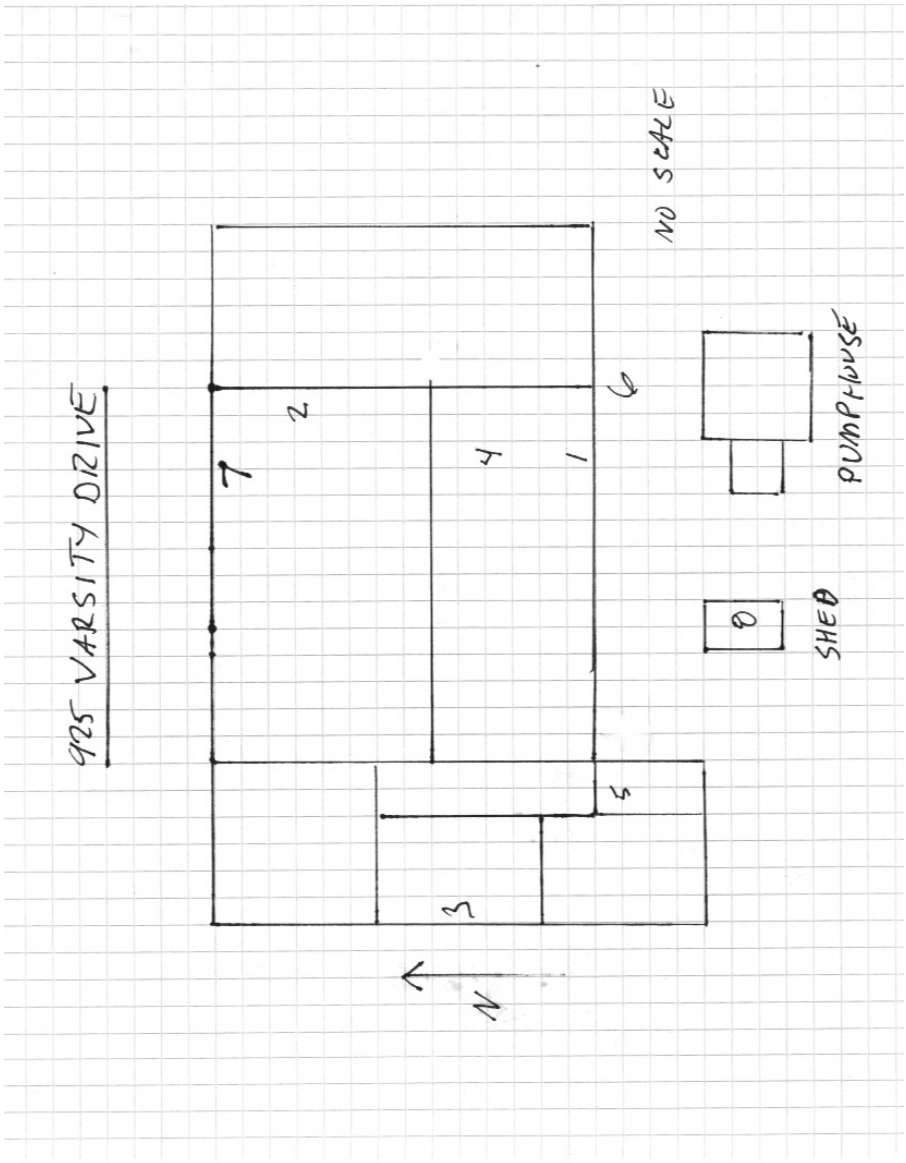
PROJECT:	925 VARSITY DR, ARVIN	PO #	1111
COLLECTED BY:	S. SMITH	DATE:	11/6/19
TURNAROUND:	48 HRS	ANALYTICAL METHOD	PLM EPA EPA 600/ R-93/116

SAMPLE NUMBER	LOCATION	DESCRIPTION	HA# / NOTES
111101	KITCHEN WALL	TEXTURE/JOINT COMPOUND/ DRYWALL	
111102	LIVING ROOM WALL	TEXTURE/JOINT COMPOUND/ DRYWALL	
111103	MIDDLE BEDROOM WALL	TEXTURE/JOINT COMPOUND/ DRYWALL	
111104	KITCHEN FLOOR	LINOLEUM / GLUE	
111105	BATHROOM FLOOR	LINOLEUM / GLUE	
111106	S EXTERIOR WALL	STUCCO COLOR COAT / BASE	
111107	ROOF	FELT LAYERS	
111108	SHED WINDOW	PUTTY	

RELINDUISHED BY:	S. SMITH	SIGNATURE:		DATE:	11/6/19
RECEIVED BY:	J. Carrillo	SIGNATURE:		DATE:	11-8-19 2:30 pm US Mail

EMAIL RESULTS TO: steve@roosterenvironmental.com

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APPENDIX B
CULTURAL RESOURCES

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

July 30, 2019

Jaymie Brauer
Kern Community College District

VIA Email to: Jaymie.brauer@qkinc.com

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, Arvin Education Center, Kern County.

Dear Ms. Brauer:

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: katy.sanchez@nahc.ca.gov

Sincerely,

Katy Sanchez

KATY SANCHEZ
Associate Environmental Planner

Attachment

Native American Heritage Commission
Tribal Consultation List
07/08/2019

Santa Rosa Rancheria Tachi Yokut Tribe
Rueben Barrios Sr., Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278

Tache
Tachi
Yokut

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville , CA 93258
neil.peyron@tulerivertribe-nsn.gov
(559) 781-4271

Yokuts

Wuksache Indian Tribe/Eshom Vallev Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas , CA 93906
kwood8934@aol.com
(831) 443-9702

Foothill Yokuts
Mono
Wuksache

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: Arvin Education Center, Kern County.

July 31, 2019

EXAMPLE LETTER TO TRIBES

Bakersfield COLLEGE

FROM: Kern Community College District

RE: Tribal Cultural Resources under the California Environmental Quality Act (CEQA), AB 52 (Gatto, 2014). A Formal Notification of a Decision to Undertake a Project and Notification of Consultation Opportunity, pursuant to Public Resources Code §21080.3.1 (hereafter PRC).

Dear Chairperson Barrios;

The Kern Community College District (District) has decided to undertake the following project: construct and operate a community college campus (Project). Below please find a map showing the Project's regional location (Figure 1), aerial location (Figure 2), Public Land Survey System (PLSS) map (Figure 3), topographical map (Figure 4), as well as the name of our Project point of contact.

The Kern Community College District is proposing to construct and operate a community college campus within Section 23, Township 31 South, Range 29 East, Mount Diablo Meridian, and the Arvin U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The Project is located on a portion of the approximately 37 acre site (APNs 190-020-14, -46 and -48), which is located on the southwest corner of Campus Drive and Varsity Avenue.

The Project includes the construction of an approximately 27,100 square foot general education facility and twelve 960 square foot modular classrooms. The college student population is estimated to be approximately 1,000 students and 25 staff members. The high school will use the modular classrooms for up to approximately 300 existing students and 22 staff members. The Project site would be primarily accessed from Varsity Road from the north and North Walnut Street from the south. An Initial Study/ Mitigated Negative Declaration is being prepared to comply with CEQA.

Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the Kern Community College District.

Should you have any comments or questions please contact our designated representative, Jaymie L. Brauer at (661) 616-2600 or at Jaymie.brauer@qkinc.com.

Very Respectfully,

Enclosures: Figures 1-4

ATTACHMENT A
PROJECT FIGURES



Figure - 1
Regional Location



Figure - 2
Project Area

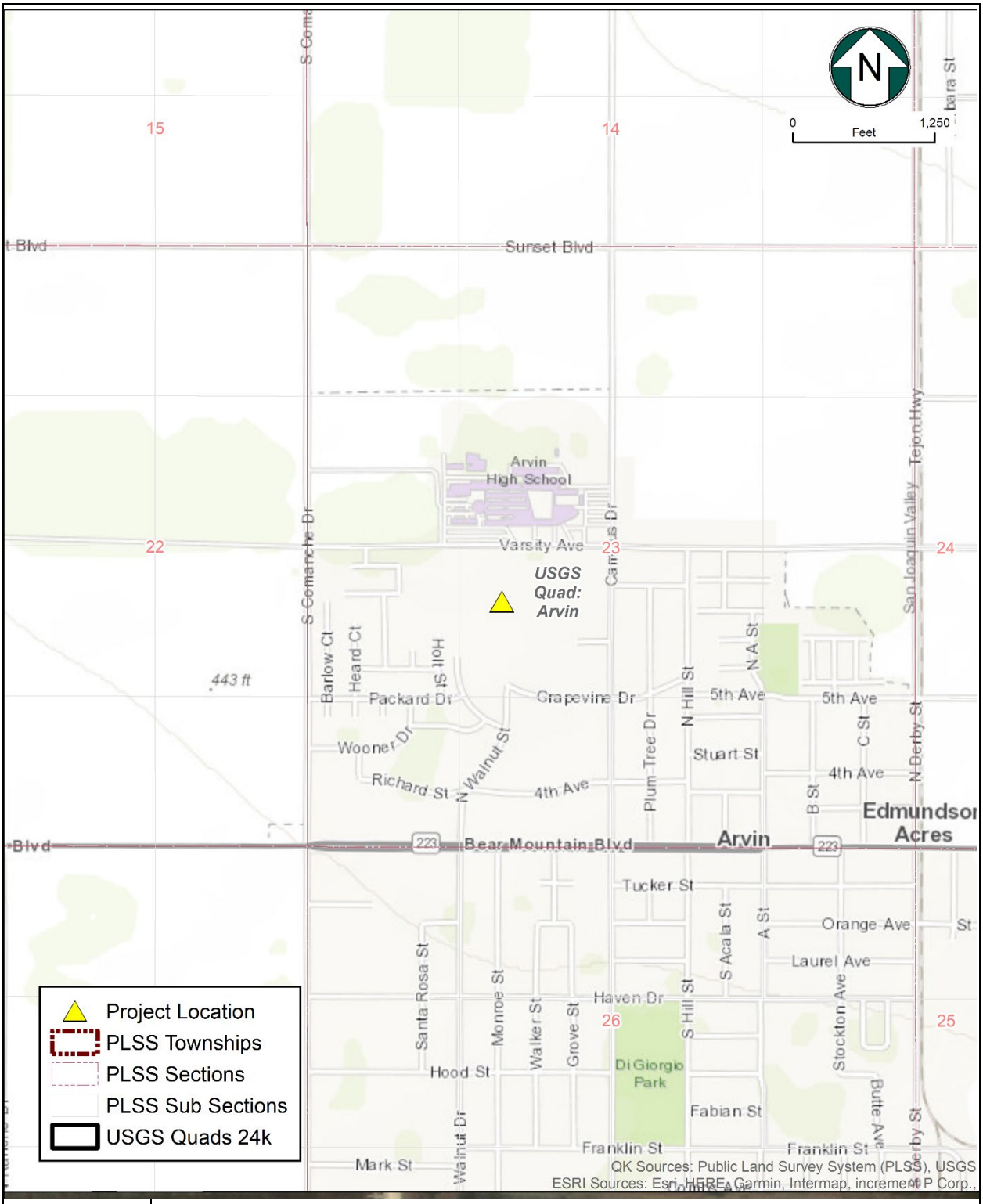


Figure - 3
PLSS/USGS Quad

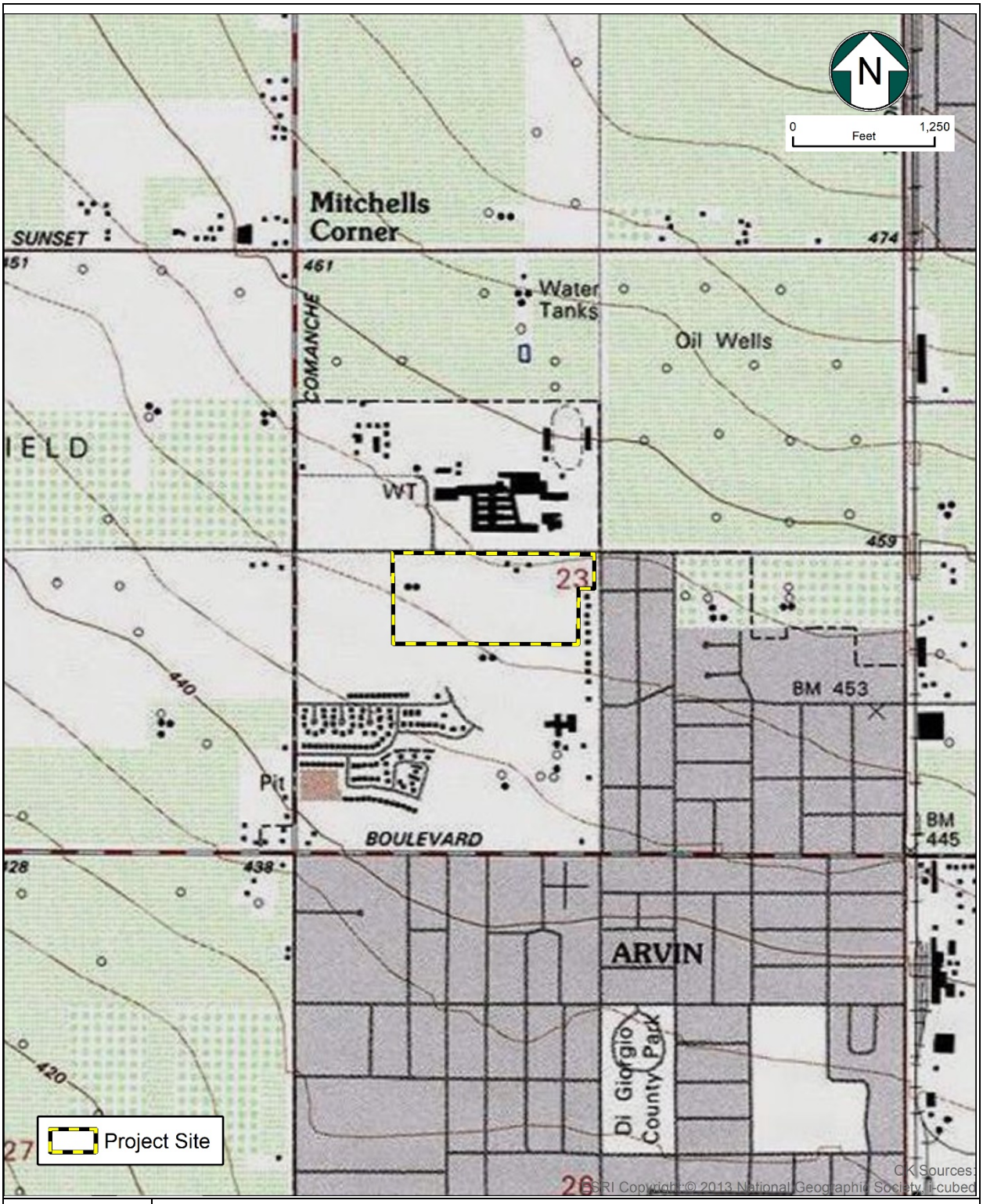


Figure - 4
Topo

July 31, 2019

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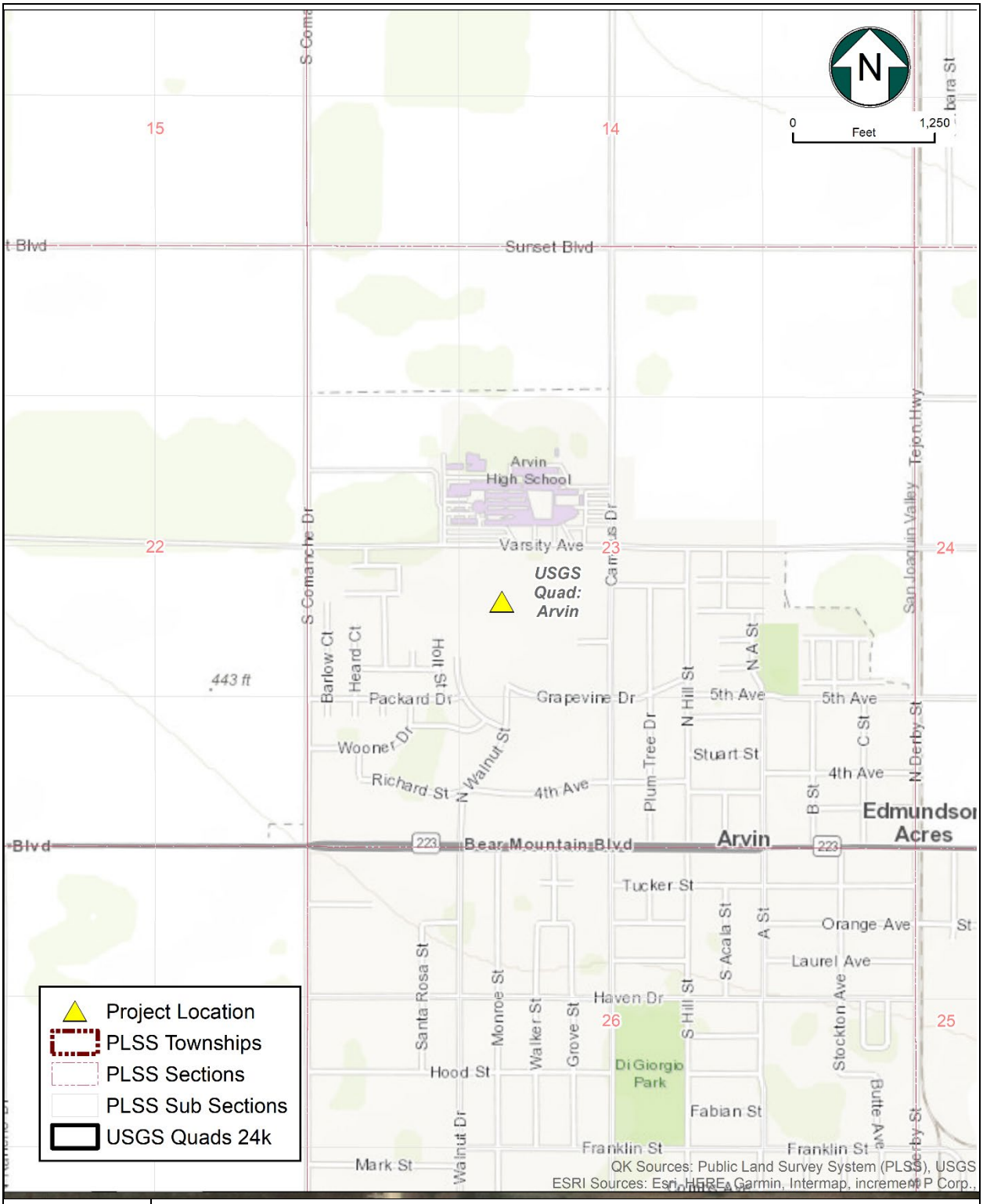


Figure - 3
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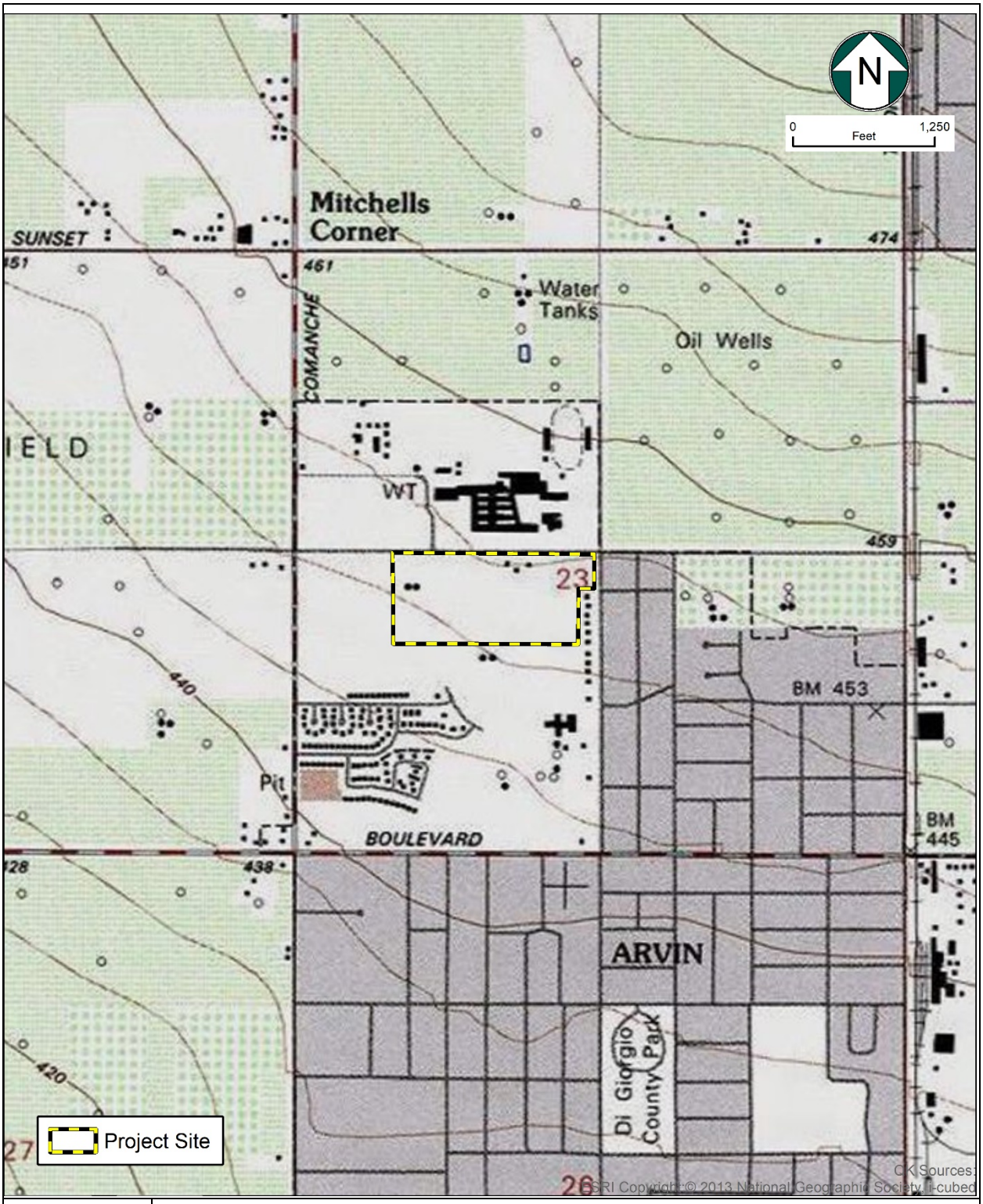


Figure - 4
Topo

APPENDIX C
GEOTECHNICAL REPORT

BSK ASSOCIATES

DRAFT PRELIMINARY GEOTECHNICAL EVALUATION
KERN COMMUNITY COLLEGE DISTRICT
BAKERSFIELD COLLEGE, ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK PROJECT G19-096-11B

PREPARED FOR:

QUAD KNOPF, INC.
P.O. BOX 3699
VISALIA, CA 93278

May 20, 2019

DRAFT

DRAFT PRELIMINARY GEOTECHNICAL EVALUATION
KERN COMMUNITY COLLEGE DISTRICT
BAKERSFIELD COLLEGE, ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

Prepared for:

Quad Knopf, Inc.
P.O. Box 3699
Visalia, Ca 93278

Bakersfield Project: G19-096-11B

May 20, 2019

Prepared by:

Adam Terronez, PE, GE
Bakersfield Branch Manager

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Senior Engineering Geologist

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Distribution: Janel Freeman (pdf) [email: jeri.bartel@qkinc.com]

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Figure 11: Area Fault Map

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Figure A-1: Photograph Location Map
Photo Plates 1 to 11

Appendix B: USDA Soil Properties

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1.0 INTRODUCTION

This revised report presents the results of a preliminary geotechnical evaluation for the Proposed Arvin Educational Center (Site), located in Arvin, Kern County, California. The project area consists of APNs 190-020-14, 46 and 48 located along south of Varsity and west of Campus Drive as shown on the Site Vicinity Map, Figure 1.

BSK performed Site reconnaissance on May 16, 2019 to observe Site features and soil conditions as related to a geotechnical evaluation. This report provides a preliminary geotechnical evaluation for use in the planning phase subject project. In the event that changes occur in the design of the project, the project engineer of record may make additional recommendations.

1.1 Planned Construction

The proposed Bakersfield College, Arvin Educational Center will consist of 27,000 sf building and 12 portable classrooms. The project area is approximately 37 acres consisting of APNs 190-020-14, 46 and 48.

1.2 Purpose and Scope of Services

The objective of the preliminary geotechnical evaluation was to provide a preliminary determination of geotechnical related issues and soil conditions at the Site. BSK's scope of services for this assessment included a Site reconnaissance, desktop review, and report preparation.

2.0 SITE CONDITIONS

The following sections address the Site description, surface conditions, and preliminary groundwater conditions at the Site. This information is based on BSK's field reconnaissance and review of published maps and reports.

2.1 Site Description and Surface Conditions

The proposed project is located within Section 23, Township 31 South, Range 29 East, Mount Diablo Meridian. The proposed project is in the south eastern portion of the San Joaquin Valley. The site coordinates of the center of the property are:

Latitude 35.2150°N
Longitude -118.8369°W

As shown on Figure 2, most of the site is vacant land with a house located along Varsity Road. Petroleum production related equipment are located near the west and southern project boundaries. The surrounding area is mostly residential and farmland. Adjacent properties to the west and east are residential with Grimmway Academy School located to the south and Arvin High School located to the north.

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2.2 Site Observations

BSK performed a Site reconnaissance survey on May 16, 2019 to observe Site features and soil conditions. The Site survey photographs are present on Plates 1 to 11, in Appendix A. Site observations indicate that the Site is mostly vancant land with the reminants of a burned stucture (Plate 11). The Site was convered with grasses and weeds with surface staining on some of the bare soil areas (Plate 4).

2.3 Site Topography

As shown on Figure 3, the Site area slopes to the southeast with a slope gradient of approximately 0.4% (Vertical/Horizontal). Elevations range from approximately 455 feet (NAVD27 datum) near the northeast corner of Site perimeter to 447 feet (NAVD27 datum) near the southwest Site perimeter. There are no mapped drainages or streams that cross or are near the Site.

2.4 Site Surface Soils

Figure 4 presents a soil map showing the site area mapped soil types based on the U.S.D.A. Soil Survey Geographic (SSURGO) Database. According to the SSURGO database for Kern County, California, obtained from the U.S.D.A., Natural Resources Conservation Service, the Site soils consist of Hesperia sandy loam, 0 to 2 percent slopes.

The soils mapped in the Site area have an engineering classification of SC (clayey sand) and SC-SM (clayey/silty sand) and would have low to medium plasticity with low to moderate expansion potential. Soil unit descriptions with characteristic parameters are provided in Appendix B.

2.5 Groundwater Conditions

The Site is within the San Joaquin Basin, Kern County Groundwater Subbasin. The Kern County Groundwater subbasin is bounded on the north by the Kern County line and the Tule Groundwater subbasin, on the east and southeast by granitic bedrock of the Sierra Nevada foothills and Tehachapi mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges.

To ascertain groundwater levels for the area, groundwater elevation data from the California Department of Water Resources (DWR) were obtained for wells in the vicinity of the Site. Figure 5, presents data from the well #1S29E25C001M located approximately 4,000 feet southeast of the Site. The groundwater data indicates that during the 1980s the depth to groundwater was approximately 180 feet below the ground surface (bgs) and more recent data indicates that groundwater is greater than 290 feet bgs.

2.6 Geologic Setting

The Site is located in the transitional area of the Great Valley geomorphic province and the Sierra Nevada geomorphic province. The Site is located in the structural region identified by the U.S.G.S. (Bartow, 1991) as the San Joaquin Valley portion of the southern Sierran block. This area forms a broad

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syncline with deposits of marine and overlying continental sediments, Jurassic to Holocene in age. The thickness of the sediments increases to the west and reach a thickness of as much as 20,000-feet on the west side of the San Joaquin Valley syncline. Northeast of the Site, the relatively flat geomorphology transitions into the foothills of Sierra Nevada, which generally consist of pre-Cretaceous metamorphic rocks, Mesozoic ultramafic rocks, and Mesozoic granitic rocks.

As shown on Figure 6, the Site is situated on young (mid-early Holocene) alluvial fan deposits derived from the hills east of the Site.

3.0 GEOLOGIC/SEISMIC HAZARDS

The types of geologic and seismic hazards assessed include surface ground fault rupture, liquefaction, seismically-induced settlement, slope failure, flood hazards and inundation hazards.

3.1 Kern County General Plan Physical Constraints

As shown on Figure 7, the Site is not located in a Kern County designated hazard zone.

3.2 Fault Rupture Hazard Zones in California

The purpose of the Alquist-Priolo Geologic Hazards Zones Act, as summarized in CDMG 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." As indicated by SP 42, the State Geologist is required to delineate "earthquake fault zones" (EFZs) along known active faults in California. Cities and counties affected by the zones must regulate certain development 'projects' within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

As shown on Figure 8, the Site is not located in a Fault-Rupture Hazard Zone. The nearest Fault-Rupture Hazard Zone is associated with the White Wolf Fault located approximately 3.8 miles southeast of the Site.

3.3 State of California Seismic Hazard Zones (Liquefaction and Landslides)

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. There are no mapped areas that have Seismic Hazard Zones in the project area.

3.4 Slope Stability and Potential for Slope Failure

The Site and surrounding areas are essentially flat and the potential hazard due to landslides from adjacent properties is not applicable.

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3.5 Land Subsidence

Land subsidence in California generally occurs in areas of fluid removal (petroleum and groundwater) and in arid areas due to hydrocompaction of loose near-surface soils.

The Site is not located in an area susceptible to subsidence due to petroleum withdrawal. The Site is located in an area with historical subsidence due to groundwater withdrawal. (Borcher, 2014). Recent studies using interferometric synthetic aperture radar (InSAR) from satellites and aircraft have produced maps of subsidence with sensitivity of fractions of an inch (Farr 2016). Figure 9 presents data showing total subsidence in the area from May 2015 to February 2016. The measured subsidence was combatively low compared to other parts of the San Joaquin Valley. Regional subsidence due to groundwater withdrawal in the area is anticipated, but localized impacts such as differential settlements, would be minimal.

Hydrocompaction is the consolidation of loose dry surface soils from the infiltration of water. Materials of unusually low density deposited in areas of low rainfall undergo significant compaction when they become thoroughly wetted. Hydrocompaction materials consist of sediments loosely placed by wind or by mudflow, that when saturated, the material hydrocompacts (settlement). The Site is not located in an area known for hydrocompaction but Site soils may have a potential for hydrocompaction, which will require further evaluation. A more detailed geotechnical investigation will be performed once the layout of the structures is defined. If hydrocompaction soil is encountered, some of the options to mitigate this issue are over-excavate and recompact the material or design the foundation deeper than the hydrocompaction material zone.

3.6 Expansive Soils

Near-surface soils observed at the Site, and mapped by the U.S.D.A., indicate that expansive soils may be located in the project area. Expansive soils have the potential to cause displacement and possible damage to surface improvements such as concrete slab-on-grade floors and exterior walkways. The potential effects of the shrinking and swelling of expansive soils and the associated impacts can be mitigated through prudent grading and design of the structures. A design level geotechnical investigation will be required to confirm the status of expansive soils in the project area.

3.7 Flood and Inundation Hazards

An evaluation of flooding at the site includes review of potential hazards from flooding during periods of heavy precipitation and flooding due to a catastrophic dam breach from up-gradient surface impoundments.

3.7.1 Flood Hazards

Federal Emergency Management Agency (FEMA) flood hazard data was obtained to present information regarding the potential for flooding at the Site. As shown on Figure 10, according to FEMA Flood Hazard Map Layer GIS data, dated 8/03/2018, the project Site is in FEMA flood zone AO (River or stream flood

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hazard areas, and areas with a 1% or greater chance of shallow flooding each year). The FEMA flood hazard data indicates that the flood depth at the Site would be one foot or less.

3.7.2 Inundation Hazards - Dams

The Site is not located in the Lake Isabella inundation area or in the inundation pathway from a catastrophic breach of other dams or reservoirs.

4.0 SEISMIC HAZARD ASSESSMENT

The types of seismic hazards assessed include earthquake induced ground motion, seismic induced landslides, liquefaction, and seismic induced settlement.

4.1 Seismic Sources

Figure 11 presents a regional fault map showing the major fault which may impact the Site. The probabilistic value of ground motion at a site can be caused by earthquakes on any of the sources surrounding the site. Deaggregation of the seismic hazard was performed by using the USGS interactive deaggregation website. The deaggregation at the Maximum Considered Earthquake (MCE) hazard level results in distance, magnitude and epsilon (round-motion uncertainty) for each source, which contributes to the hazard. Each source has a corresponding epsilon, which is the probabilistic value relative to the mean value of ground motion for that source.

The result of deaggregation at the MCE hazard level from the USGS website for the Site indicate that the most extreme event would be a magnitude 7.9 earthquake on the San Andreas Fault. For liquefaction and seismic settlement, the modal magnitude of 6.9 with a distance of 7.0 km would be appropriate for probabilistic input parameter that is consistent with the design earthquake ground motion.

4.2 Earthquake Ground Motion, 2016 California Building Code

4.2.1 Site Class

Confirmation of site soil class will require subsurface data and will be determined during the design level geotechnical investigation.

4.2.2 Seismic Design Criteria

The 2016 California Building Code (CBC) utilizes ground motion based on the Risk-Targeted Maximum Considered Earthquake (MCE_R) that is define in the 2016 CBC as the most severe earthquake effects considered by this code, determined for the orientation that results in the largest maximum response to horizontal ground motions and with adjustment for targeted risk. Ground motion parameters in the 2016 CBC are based on ASCE 7-10, Chapter 11.

The United States Geologic Survey (USGS) has prepared maps presenting the Risk-Targeted MCE spectral acceleration (5% damping) for periods of 0.2 seconds (S_S) and 1.0 seconds (S_1). The values of S_S and S_1 can be obtained from the OSHPD Seismic Design Maps Application available at:
https://seismicmaps.org/

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Table 1 below presents the spectral acceleration parameters produced for an assumed Site Class D by OSHPD Seismic Design Maps Application and Chapter 16 of the 2016 CBC based on ASCE 7-10.

TABLE 1 SPECTRAL ACCELERATION PARAMETERS RISK TARGETED MAXIMUM CONSIDERED EARTHQUAKE			
Criteria	Value		Reference
MCE Mapped Spectral Acceleration (g)	S_S = 1.514	S_1 = 0.563	USGS Mapped Value
Site Coefficients (Site Class D)	F_a = 1.000	F_v = 1.500	ASCE Table 11.4
Site Adjusted MCE Spectral Acceleration (g)	S_{MS} = 1.514	S_{M1} = 0.844	ASCE Equations 11.4.1-2
Design Spectral Acceleration (g)	S_{DS} = 1.009	S_{D1} = 0.563	ASCE Equations 11.4.3-4

The preliminary seismic parameters are based on using the default soil class (Class D) and should only be used for preliminary planning purposes. Actual seismic design parameters will require subsurface data and will be determined during the design level geotechnical investigation.

4.2.3 Geometric Mean Peak Ground Acceleration

As per Section 1803A.5.12 of the CBC, peak ground acceleration (PGA) utilized for dynamic lateral earth pressures and liquefaction, shall be based on a site specific study (ASCE 7-10, Section 21.5) or ASCE 7-10, Section 11.8.3. The USGS Ground Motion Parameter Application based on ASCE 7-10, Section 11.8.3 produced the values shown in Table 2 based on default Site Class D.

TABLE 2 GEOMETRIC MEAN PEAK GROUND ACCELERATION MAXIMUM CONSIDERED EARTHQUAKE		
Criteria	Value	Reference
Mapped Peak Ground Acceleration (g)	PGA = 0.592	USGS Mapped Value
Site Coefficients (Site Class D)	F_{PGA} = 1.000	ASCE Table 11.8-1
Geometric Mean PGA (g)	PGA_M = 0.592	ASCE Equations 11.8-1

For liquefaction analysis and seismic settlement calculations a PGA of 0.592g should be used. The levels of earthquake induced ground motion presented in Sections 4.1.2 and 4.1.3 can be considered moderately intense to intense and structures should be designed to comply with seismic response requirements at the site. Structural dynamic characteristics contained in the Kern County Code of Building Regulations and the California Building Code and State of California design standards should be incorporated into the project design.

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4.2.4 Seismic Design Category

As shown above, the short period design spectral response acceleration coefficient, S_{DS}, is greater than 0.50, therefore the Site lies in Seismic Design Category D as specified in Section 1613A.3.5 of the 2016 CBC. The long period spectral response acceleration coefficient, S_1, is less than 0.75, therefore the Site lies in Seismic Design Category D, based on Risk Category III. When S_1 is greater than or equal to 0.75g, the Seismic Design Category is E for buildings in Risk Categories I, II, and III, and F for those in Risk Category IV.

4.3 Liquefaction

Liquefaction describes a condition in which a saturated, cohesionless soil loses shear strength during earthquake shocks. Ground motion from an earthquake may induce cyclic reversals of shearing strains of large amplitude. Lateral and vertical movements of the soil mass, combined with loss of bearing strength, usually result from this phenomenon. Historically, liquefaction of soils has caused severe damage to structures, berms, levees and roads. Seed and Idriss (1971) demonstrated that liquefaction potential depends on soil type, void ratio, depth to groundwater, duration of shaking and confining pressures over the potentially liquefiable soil mass. Fine, well sorted, loose sand, shallow groundwater, severe seismic ground motion and particularly long durations of ground shaking are conditions conducive for liquefaction.

The depth to groundwater is currently and hisorically greater than 50 feet bgs, therefore, the potential for liquefaction is low.

5.0 REGULATORY SETTING

5.1 Federal Regulations

Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction Program (NEHRP) leads the federal government's efforts to reduce the fatalities, injuries, and property losses caused by earthquakes. Congress established NEHRP in 1977, directing that four federal agencies coordinate their complementary activities to implement and maintain the program. These agencies are FEMA, the National Institute of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey.

The NEHRP agencies pursue the goals of the program through collaboration with each other and numerous partners. In addition to other federal agencies, program partners include state and local governments, universities, research centers, professional societies, trade associations, and businesses, as well as associated councils, commissions, and consortia. NEHRP's work encompasses research, development, and implementation activities. Program research helps to advance our understanding of why and how earthquakes occur and impact the natural and built environments. The program develops strategies, tools, techniques, and other measures that can reduce the adverse effects of earthquakes, and facilitates and promotes implementation of these measures, thereby strengthening earthquake resilience among at-risk communities.

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5.2 State Regulations

California and Uniform Building Codes

The 2016 California Building Standards Code (Title 24) and the Uniform Building Code provide standards for building construction as well as seismic design parameters and grading requirements. These codes contain specific requirements for seismic safety, excavation, foundations, retaining walls, and all demolition and grading activities.

Construction of schools in California utilize the 2016 California Building Code (CBC), CCR Title 24, Chapters 16A and 18A requirements for a Geotechnical/Engineering Geologic Report. The final Geotechnical/Engineering Geologic Assessments Report may be required to be conformance with California Geological Survey (CGS) Note 48 (2013).

Alquist-Priolo-Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The purpose of the Alquist-Priolo Geologic Hazards Zones Act, as summarized in CDMG 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." As indicated by SP 42, "the State Geologist is required to delineate "earthquake fault zones" (EFZs) along known active faults in California. Cities and counties affected by the zones must regulate certain development 'projects' within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (1990) addresses non-surface fault rupture earthquake hazards such as liquefaction and seismically induced landslides. This Act requires the State Geologist to designate Seismic Hazard Zones. These zones of Required Investigation referred in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. The California Geological Survey has not issued a Seismic Hazards Maps for the project area.

NPDES General Permit for Construction Storm Water Discharges

The National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) Water Quality Order 99-08-DWQ applies to projects that disturb one or more acres of soil. General Permits are implemented and enforced by the California Regional Water Quality Control Board (RWQCB). The permit requires that the following general measures be implemented during construction activity:

- Elimination or reduction of non-stormwater discharges to storm water systems and other waters of the U.S.

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- Development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer identifying Best Management Practices (BMPs) the discharger will use to protect storm water runoff and incorporating visual, chemical, and sediment monitoring programs.
- Inspections of storm water control structures and pollution prevention measures.

5.3 Local Regulations

Kern County Code of Building Regulations

The 2016 Kern County Code of Building Regulations was developed to promote the public safety and welfare by the adoption of minimum building standards to be required and enforced throughout the unincorporated territory of the County of Kern.

Construction in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the California Building Code, with some modifications and amendments.

Chapter 17.28 Kern County Grading Code

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All requirements of the Kern County Grading Code would be applied during implementation of the proposed project. All required grading permit(s) would be obtained prior to commencement of construction activities. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

17.28.140 Erosion control.

A. Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

B. Other Devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

17.28.150 Drainage retention facilities.

General. All drainage retention/detention facilities and their associated conveyance facilities shall be designed in accordance with the Kern County Development Standards or latest revision thereof.

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17.28.160 Maintenance.

The owner of any property on which grading has been performed pursuant to a permit issued under the provisions of this chapter, or any other person or agent in control of such property, shall maintain in good condition and repair all drainage structures, sumps and other protective devices shown on the grading plans filed with the application for grading permit and approved as a condition precedent to the issuance of such permit.

17.28.170 Grading inspection.

A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Ordinance Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

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G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:

1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.

2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

5.4 Kern County Environmental Checklist

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant effect if it:

- Exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State geologist for the area or based on other substantial evidence of a known fault;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction;
  - Landslides;
- Results in substantial soil erosion or the loss of topsoil;
- Is located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; is located on expansive soil, as defined in Section 1805.8 of the California Building Code, creating substantial risks to life or property.

An evaluation according to this checklist follows:

a) Exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault.

The project area is not located in a Fault-Rupture Hazard Zone and no known active faults have been mapped in the project area.

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ii) Strong seismic ground shaking.

Estimated ground motion may be moderate to very intense and there are numerous faults in the area that are capable of producing strong ground motion. The threshold of significance would be exceeded if habitable structures are not designed to withstand seismic loading that could result in structure damage or collapse.

Mitigation Measure GEO – 1: Project proponent will design structures in accordance with state and county code requirements for seismic ground shaking and geotechnical and geohazard constraints. Designs shall comply with seismic, soil response at the site, and structural dynamic characteristics contained in the Kern County Code of Building Regulations and the California Building Code and State of California design standards. The final Geotechnical/Engineering Geologic Assessments Report may be required to be conformance with California Geological Survey (CGS) Note 48 (2013).

iii) Seismic-related ground failure, including liquefaction.

The depth to groundwater is currently greater than 50 feet bgs, therefore, the potential for liquefaction and seismic related ground failure is low.

iv) Landslides.

The site and surrounding areas are essentially flat, the project does not include any habitable structures, and the potential hazard due to landslides from adjacent properties is not applicable. Debris flows may occur in the intermittent stream channels and arroyos during high intensity rainfall events located upstream.

b) Result in substantial soil erosion or the loss of topsoil.

According to the Kern County General Plan Safety Element, the Site is not within a zone that is prone to soil erosion (Kern County General Plan Safety Element, 2009). The proposed Site is essentially flat which would minimize the possibility for the formation of significant rills or gullies by water. With respect to soil erosion by wind, earthwork at the Site during construction might cause some disturbed soils to be affected by wind erosion. New construction and grading projects requiring a storm water pollution prevention plan (SWPPP) will also require an Erosion Control Plan (ECP) for the mitigation of potential soil erosion and sedimentation. Projects that involve more than an acre of disturbance that will result in the discharge of stormwater to a Water of the United States containing contaminants and/or sediments must comply with the State Water Resources Control Board's Construction General Permit. Additionally, the Kern County Engineering, Survey and Permit Services Department require that such projects complete an "Applicability of NPDES Storm Water Program" form. As required, the SWPPP will be submitted for approval by Kern County Engineering, Survey and Permit Services.

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c) Is located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

The depth to groundwater is currently greater than 50 feet bgs, therefore, the potential for liquefaction and seismic related ground failure is low.

Hydrocompaction is the consolidation of loose dry surface soils from the infiltration of water. Materials of unusually low density deposited in areas of low rainfall undergo significant compaction when they become thoroughly wetted. Site soils may have a potential for hydrocompaction which will require further evaluation. A more detailed geotechnical investigation will be performed once the layout of the structures is defined. Hydrocompaction materials consist of sediments loosely placed by wind or by mudflow, that when saturated, the material hydrocompacts (settlement). If hydrocompaction soil is encountered, project proponent shall: 1) over-excavate and re-compact the material, 2) design the foundation deeper than the hydrocompaction material zone, or 3) provide an alternative engineering solution to ensure that hydrocompaction will not result in instability of project features.

Mitigation Measure GEO –2: The potential for impacts relating to unstable soils will be addressed by the applicant in the site-specific design-level geotechnical report prepared by a registered engineering geologist or soils engineer. Hydrocompaction assessment and protection recommendations in the geotechnical investigation and grading recommendations will mitigate this potential impact. Prior to issuance of grading or building permits for the project, the applicant shall submit the geotechnical report to the Kern County Engineering, Surveying, and Permit Services Department for review and approval.

d) Is located on expansive soil, as defined in Section 1805.8 of the California Building Code, creating substantial risks to life or property.

The Site area soils may be expansive. A geotechnical engineering evaluation would be needed to confirm the actual site conditions. Any recommendations based on the results of the evaluation would be performed according to standard geotechnical engineering practices.

5.5 Cumulative Impacts

Development of the proposed project in addition to projected future development in the area will alter the landforms in the region and expose workers and structures to the geologic hazards of the region. Site-specific geologic and construction issues will be addressed and potential impacts mitigated by implementation of recommendations contained in site-specific geotechnical investigation(s) as the proposed project and improvements proceed through the permitting processes. The consideration of geologic and soil impacts and mitigation efforts of each proposed project in the area will result in cumulative impacts that are less than significant.

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6.0 LIMITATIONS

The findings expressed in this report are based on a limited preliminary study for the area that consisted of Site reconnaissance in accessible areas and a review of publicly available references. The findings and evaluations in this report do not represent an engineering analysis of actual site conditions such as those that would be determined through on-site geologic or geotechnical investigations. A detailed investigation consisting of field exploration (field exploration and soil sampling), laboratory testing of soil samples, and engineering analysis will be required for definitive evaluation of the potential environmental impacts from development.

The findings of this report are valid as of the present. However, changes in the conditions of the Site can occur with the passage of time, whether caused by natural processes or the work of man, on this property or adjacent property. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, governmental policy or the broadening of knowledge.

BSK has prepared this report for the exclusive use of the Client and members of the project design team. The report has been prepared in accordance with generally accepted geotechnical engineering practices which existed in Kern County at the time the report was written. No other warranties either expressed or implied are made as to the professional advice provided under the terms of BSK's agreement with Client and included in this report.

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7.0 REFERENCES

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United States Geological Survey Topographic 15 minute quadrangles: Digital files from Cal-Atlas http://atlas.ca.gov

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FIGURES

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Map Date: 5/13/2019

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Figure 1
Vicinity Map
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Feet

Project area boundary based on Kern County APN GIS files, dated 2018

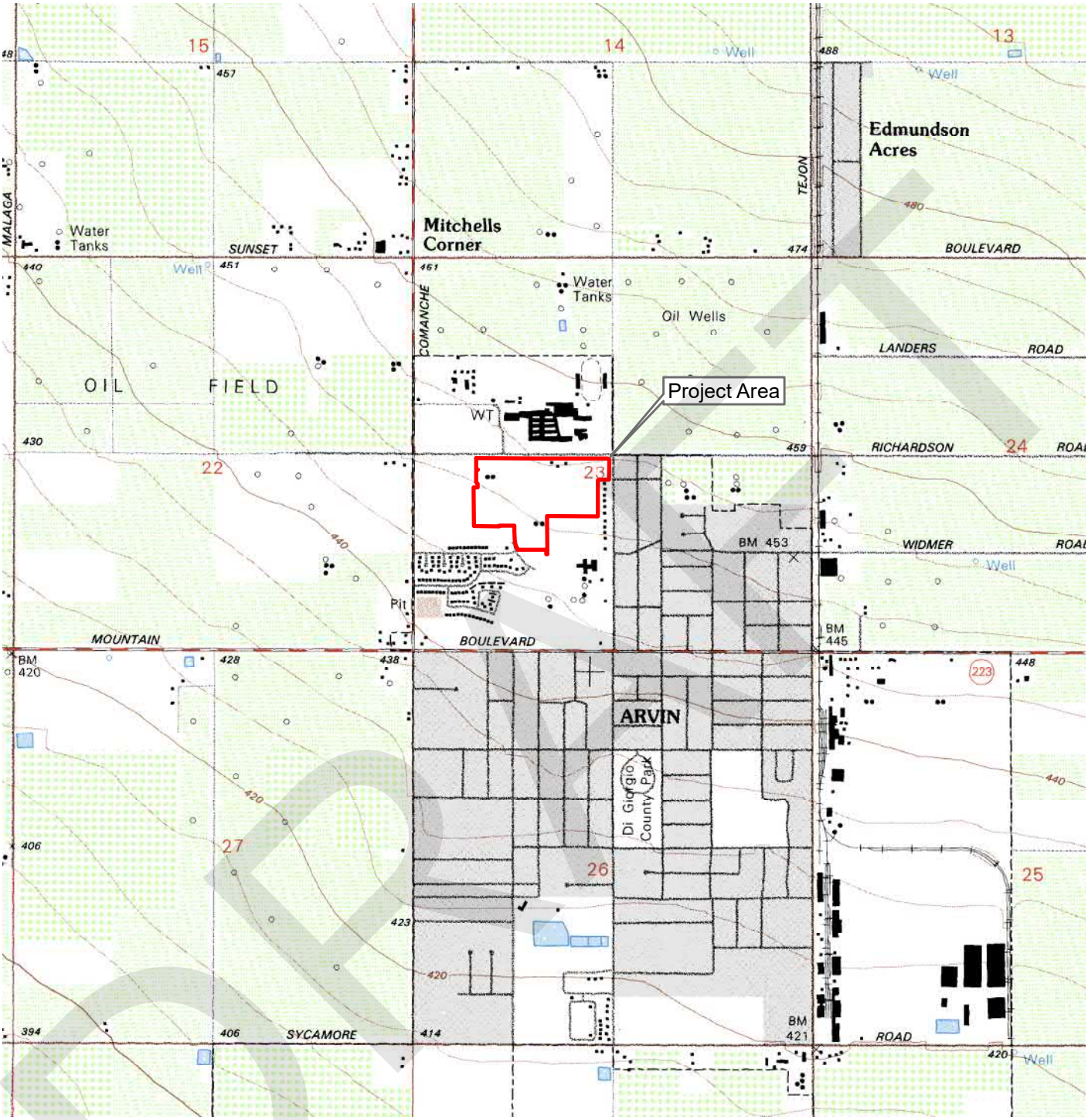
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Figure 2
Site Area Map
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Feet

Project area boundary based on Kern County APN GIS files, dated 2018

Map Date: 5/13/2019

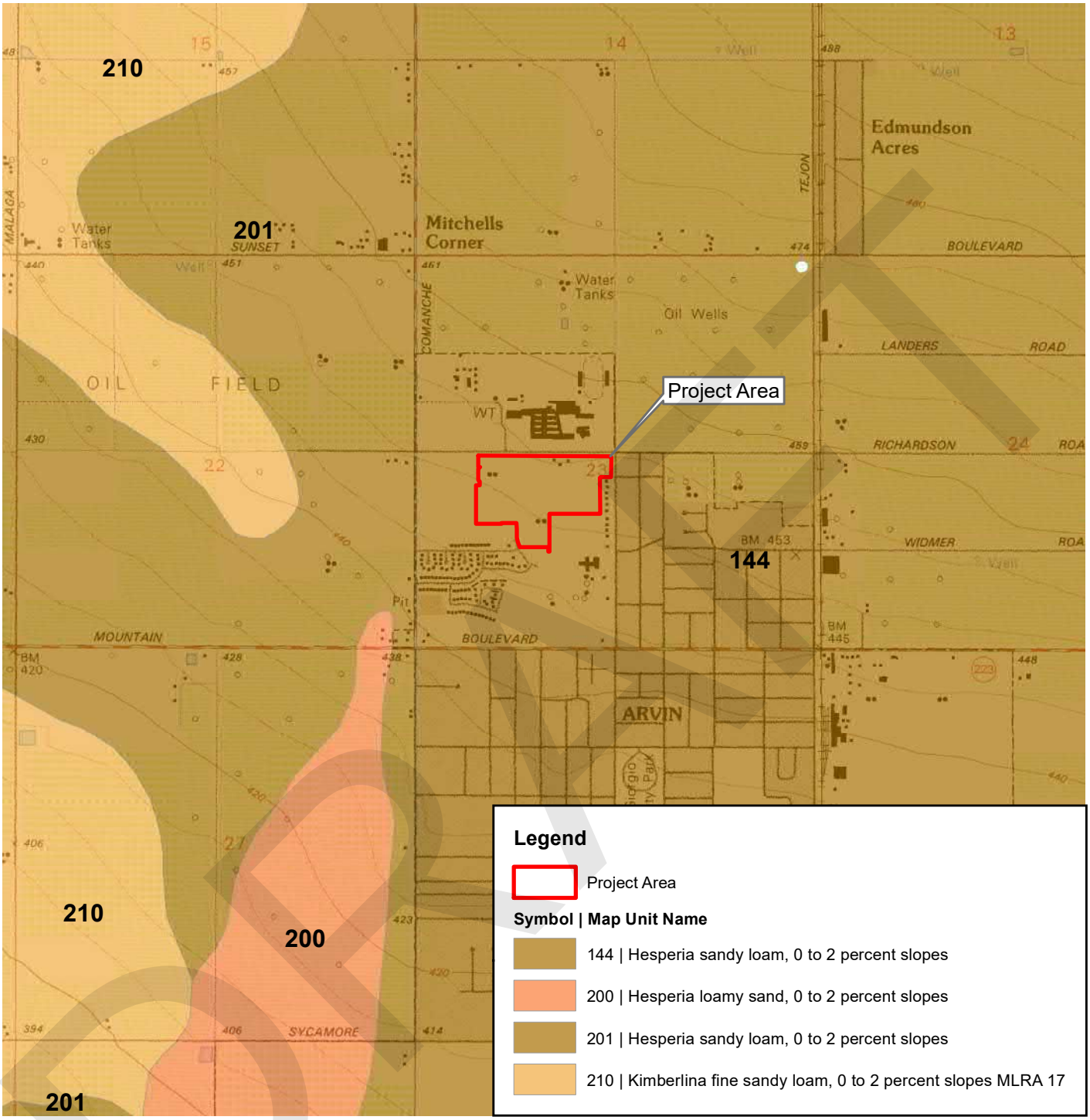
Document Path: T:\GIS-Files\Project-Files\Geotech\G1909611B - Arvin Educational Center - CEQA\Figure 3 Topographic Map.mxd

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Arvin, California

Figure 3
Topographic Map
BSK Project G1909611B

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Feet

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey Geographic (SSURGO) database for Kern County, California, Southeastern Part

Map Date: 5/13/2019

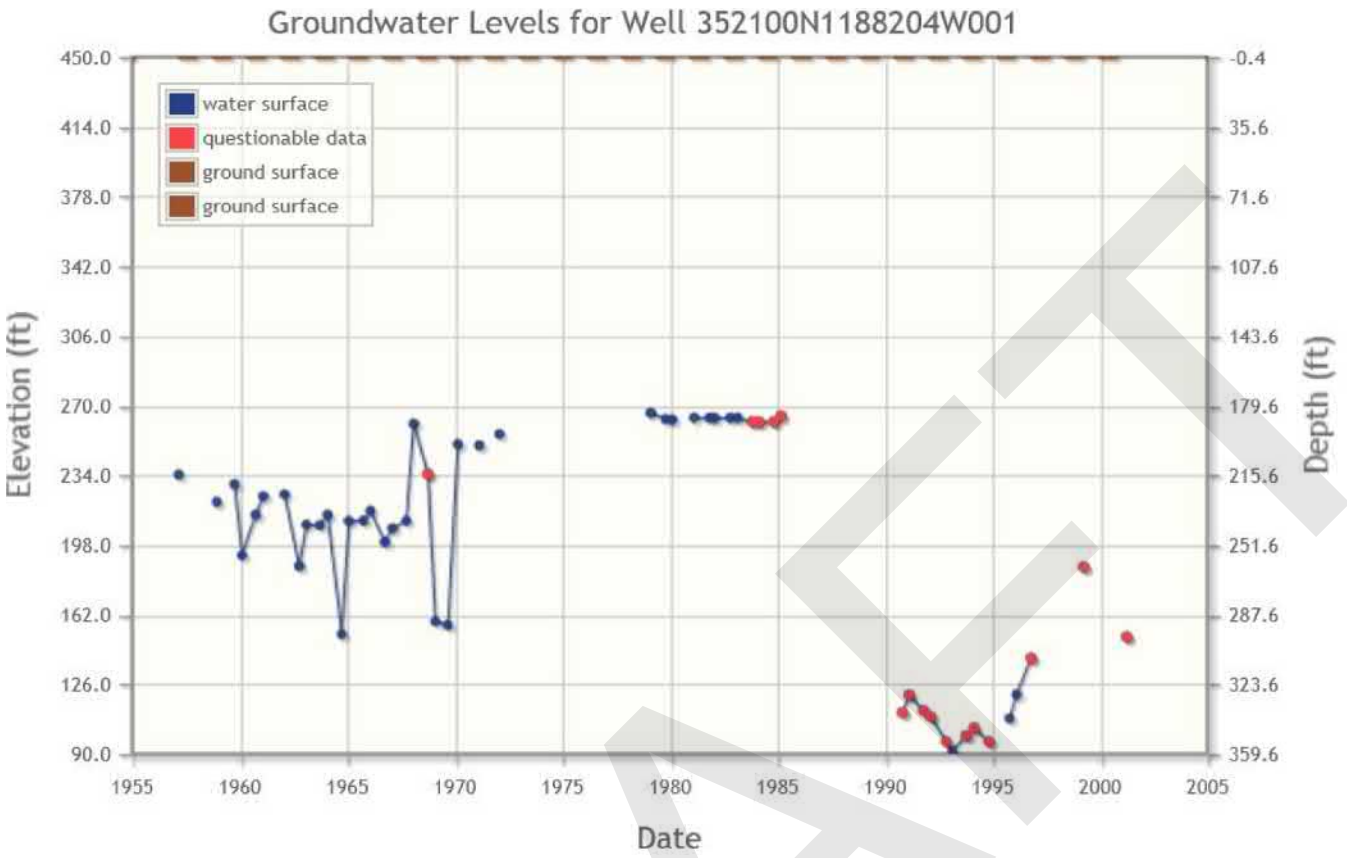
Document Path: T:\GIS-Files\Project-Files\Geotech\G1909611B - Arvin Educational Center - CEQA\Figure 4 Soil Units.mxd

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Figure 4
Soil Map
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State Well Number: 31S29E25C001M
Latitude (NAD83): 35.210000
Longitude (NAD83): -118.8204
Groundwater Basin (code): Kern County (5-022.14)
Reference Point Elevation (NAVD88 ft): 449.550
Ground Surface Elevation (NAVD88 ft): 449.550

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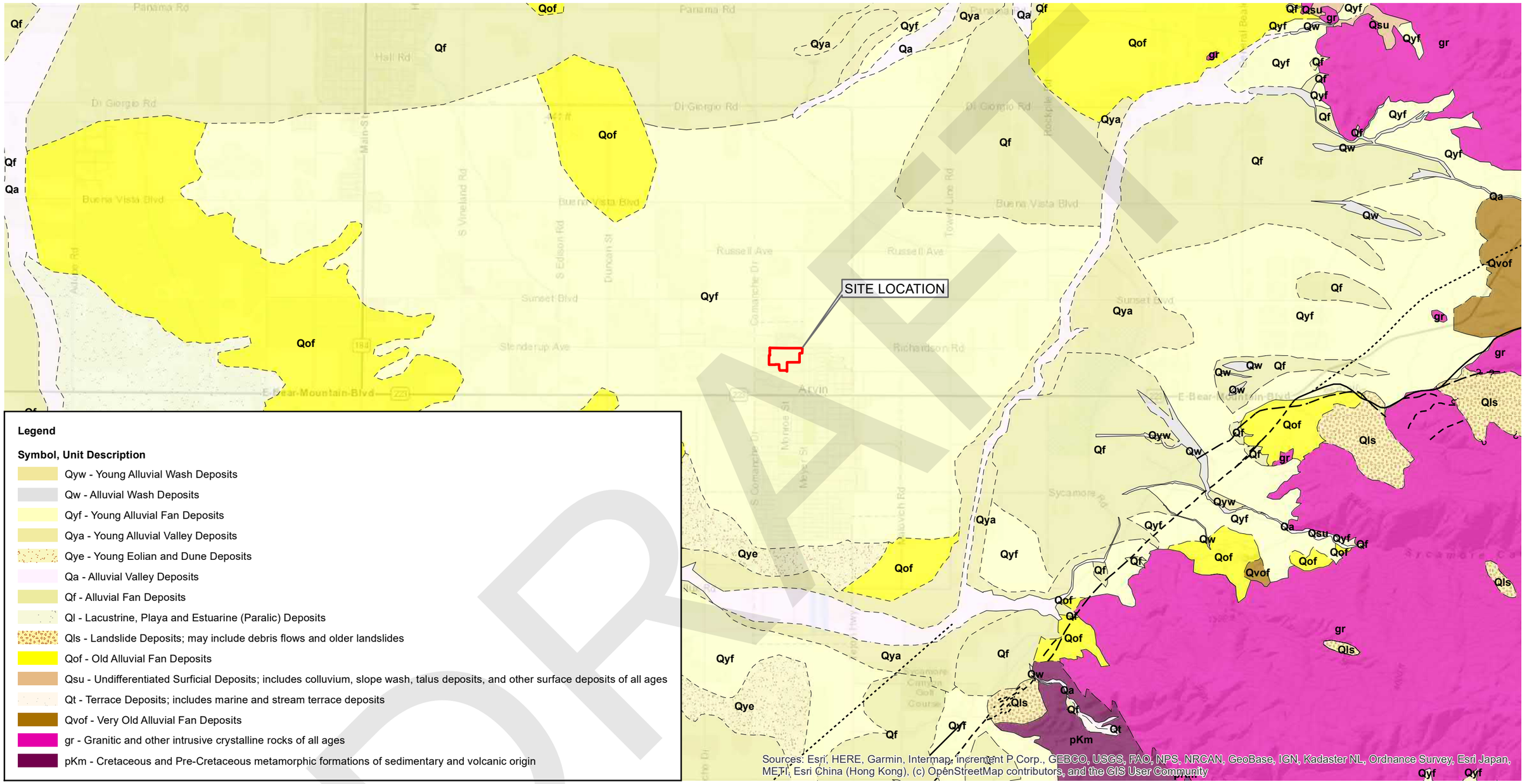
Reference: http://www.water.ca.gov/waterdatalibrary/index.cfm

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Figure 5
Area Hydrograph
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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Legend

Symbol, Unit Description

- Qyw - Young Alluvial Wash Deposits
- Qw - Alluvial Wash Deposits
- Qyf - Young Alluvial Fan Deposits
- Qya - Young Alluvial Valley Deposits
- Qye - Young Eolian and Dune Deposits
- Qa - Alluvial Valley Deposits
- Qf - Alluvial Fan Deposits
- Ql - Lacustrine, Playa and Estuarine (Paralic) Deposits
- Qls - Landslide Deposits; may include debris flows and older landslides
- Qof - Old Alluvial Fan Deposits
- Qsu - Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages
- Qt - Terrace Deposits; includes marine and stream terrace deposits
- Qvof - Very Old Alluvial Fan Deposits
- gr - Granitic and other intrusive crystalline rocks of all ages
- pKm - Cretaceous and Pre-Cretaceous metamorphic formations of sedimentary and volcanic origin

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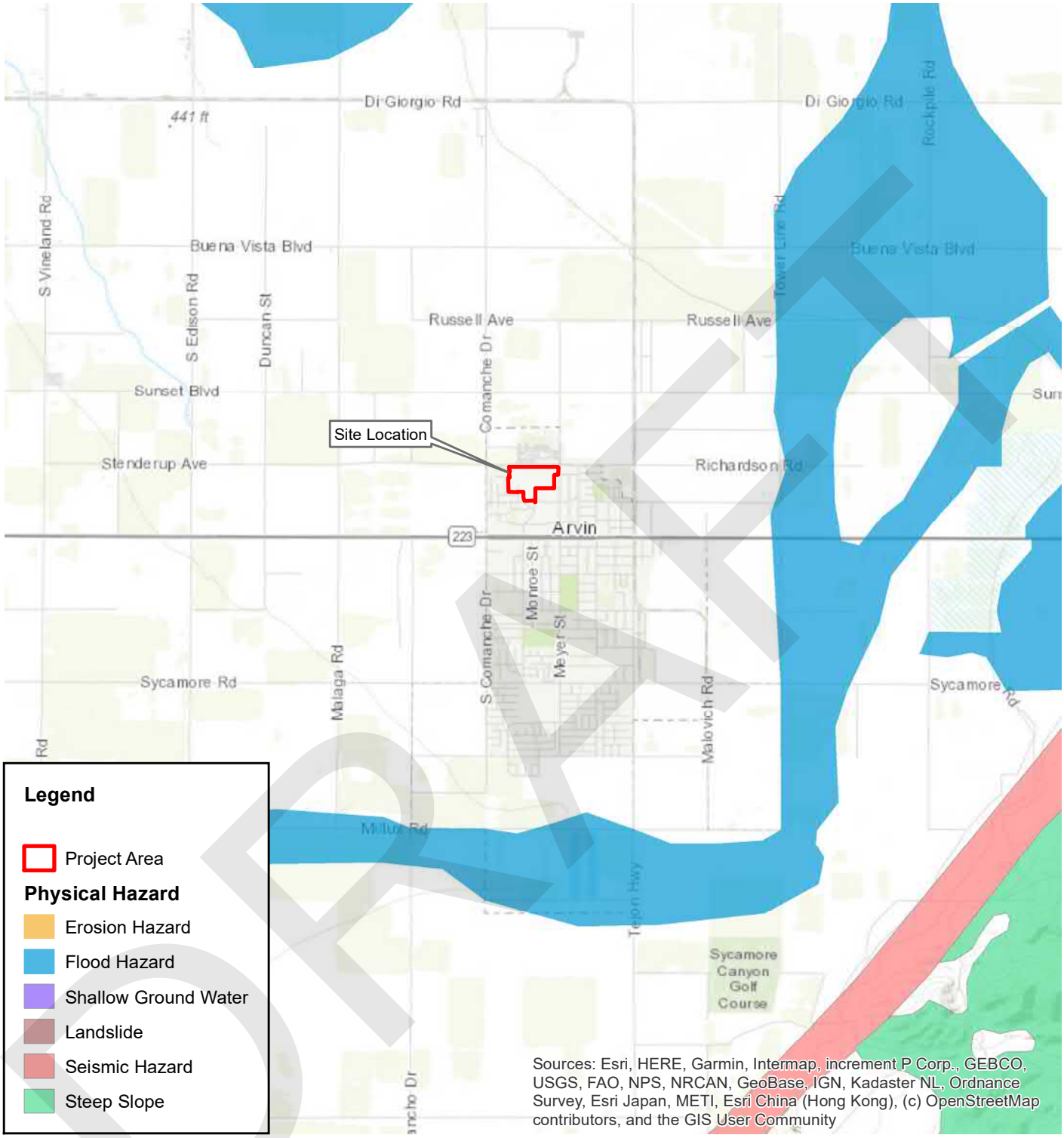
Reference: Soutehrn California Surfical Deposits, California Geological Survey Special Report Issue, SR 217, 2010

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Figure 6
Geologic Map
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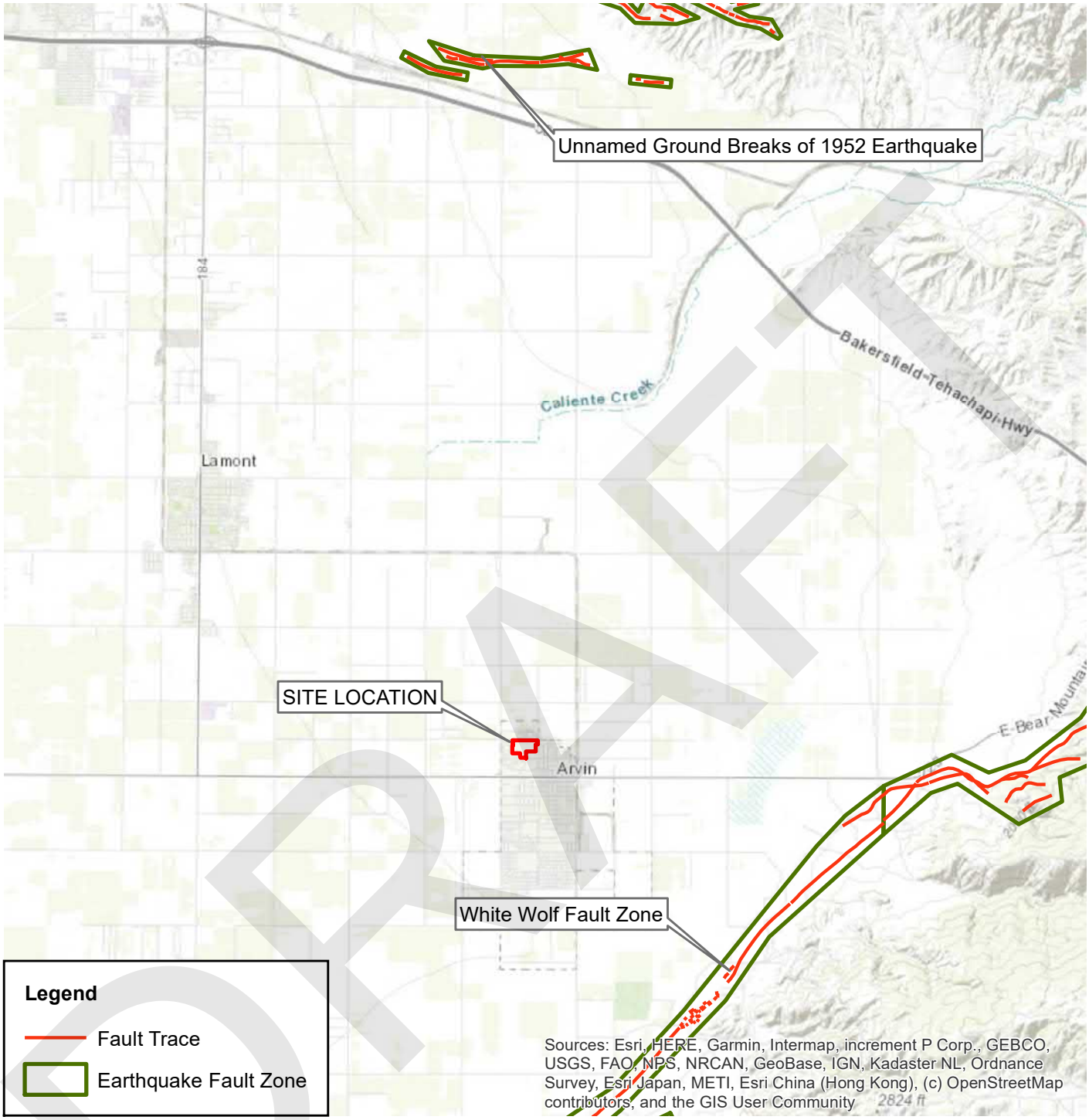
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Figure 7
Kern County Physical Constaints
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Source: CGS Earthquake Hazard Zones, http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps

Map Date: 5/13/2019

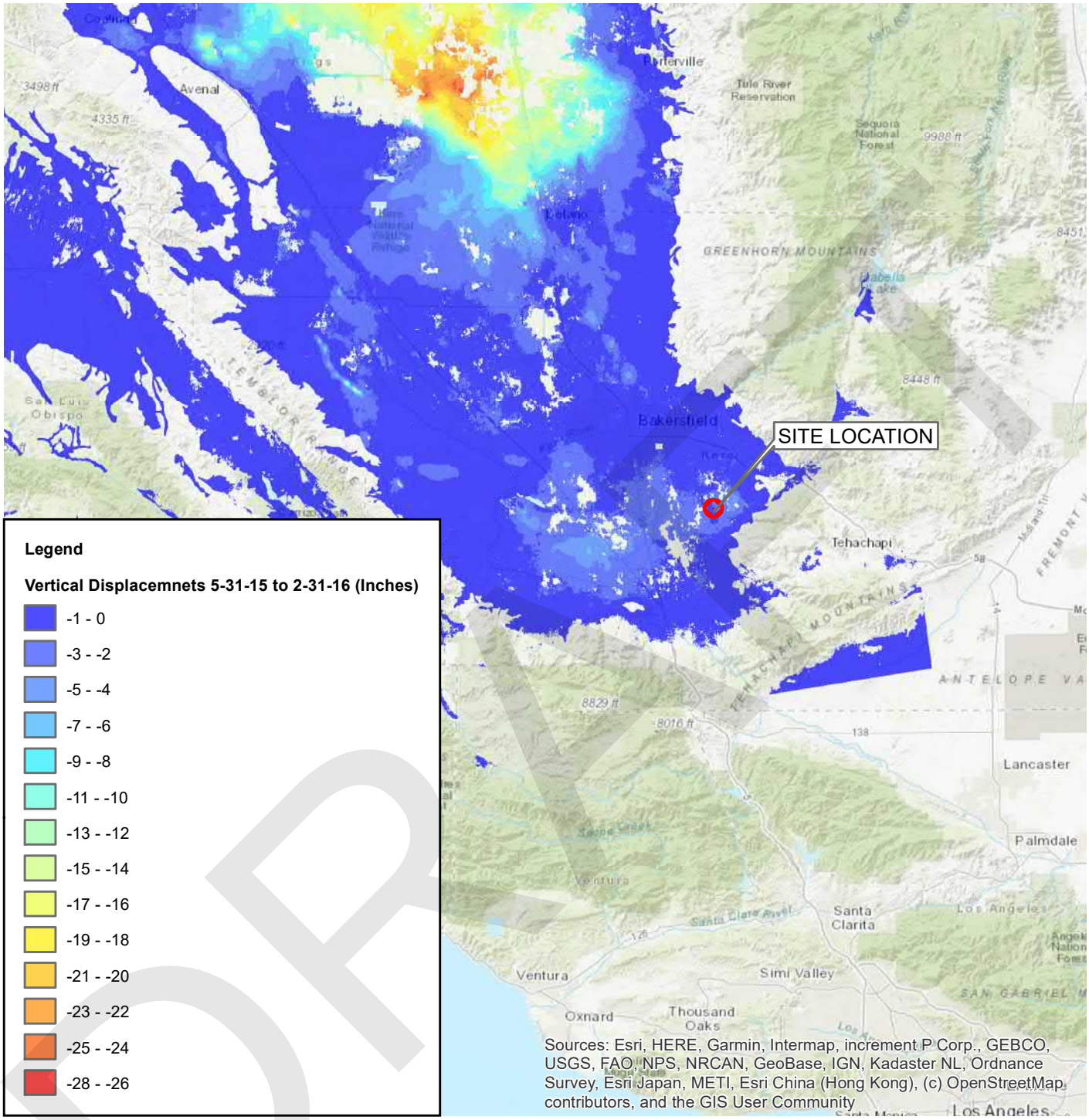
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Figure 8
Earthquake Fault Zone
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Data based on Interferometric Synthetic Aperture Radar (InSAR) from JPL
https://data.cnra.ca.gov/dataset/nasa-jpl-insar-subsidence

Map Date: 5/14/2019

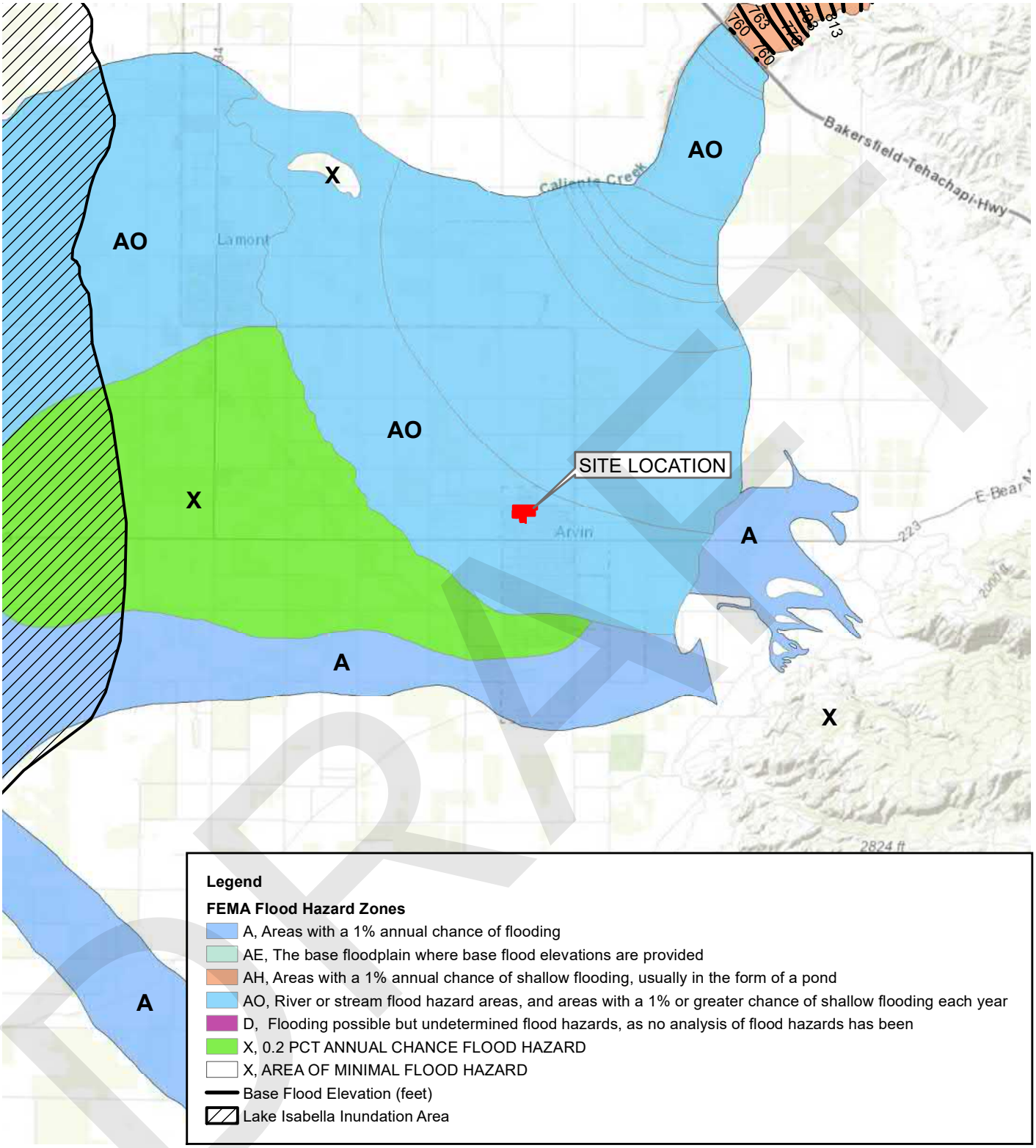
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Figure 9
Area Subsidence
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Legend

FEMA Flood Hazard Zones

- A, Areas with a 1% annual chance of flooding
- AE, The base floodplain where base flood elevations are provided
- AH, Areas with a 1% annual chance of shallow flooding, usually in the form of a pond
- AO, River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year
- D, Flooding possible but undetermined flood hazards, as no analysis of flood hazards has been
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- X, AREA OF MINIMAL FLOOD HAZARD
- Base Flood Elevation (feet)
- Lake Isabella Inundation Area

0 1 2 4

Miles

Map Date: 5/14/2019

Reference: FEMA Flood Hazard Layer, 06029C-NFHL, Kern County, California NFHL Extract, 8/03/2018

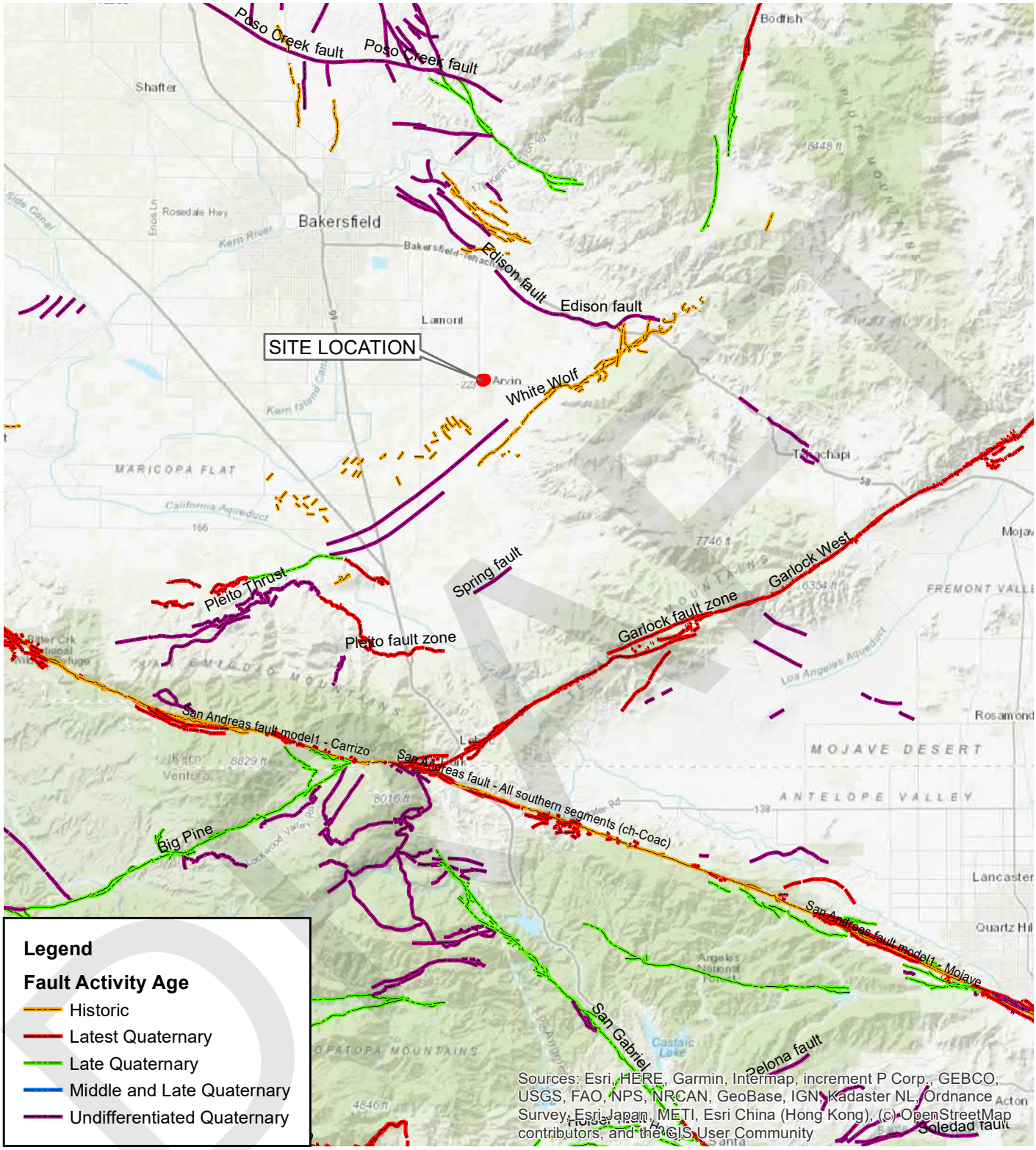
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Figure 10
Flood Hazard Map
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Reference:U.S. Geological Survey and California Geologic Survey, 2018, Quaternary fault and fold database for the United States, accessed Feb 2018, from USGS web site: https://earthquake.usgs.gov/hazards/qfaults/

Document Path: T:\GIS-Files\Project-Files\Geotech\G1909611B - Arvin Educational Center - CEQA\Figure 11 Faults.mxd

Map Date: 5/14/2019

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Bakersfield College, Arvin Educational Center
Arvin, California

Figure 11
Area Fault Map
BSK Project G1909611B

APPENDIX A

PHOTOS

DRAFT



REFERENCE IMAGE: Google Earth 2018

APPROXIMATE LOCATION OF PHOTOGRAPH

BSK ASSOCIATES
700 22nd Street
Bakersfield, California 93301
Tel. (661) 327-0671

PHOTO MAP

Arvin Educational Center

Arvin, California

Figure A-1

JOB NO. G19-096-61B

DATE May 2019

DR. BY VS

CH. BY AXT

SCALE AS SHOWN

SHEET NO. 1 OF 1 SHEETS



Southwest Corner Facing East

Vacant field bordered by residential housing on the south and west side.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Southwest Corner Facing North

Vacant field bordered by residential housing to the west and Varsity Road to the north.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Southeast Corner Facing North

Vacant field bordered by Varsity Road to the north.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Southeast Corner Facing West

Vacant field bordered by residential housing to the west.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES

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Northwest Corner Facing Southeast

Vacant field with an oil facility on the west side of the property.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Northwest Corner Facing South

Vacant field with an oil facility on the west side of the property.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Northwest Corner Facing East

Powerlines running along the shoulder of Varsity Road.

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SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Northeast Corner Facing West

Vacant residential home bordered by Varsity Road to the north.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Northeast Corner Facing South

Vacant field bordered by Campus Drive to the east and residential housing to the south.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Central Western Border Facing East

Oil facility on the west side of the property.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES



Central Northern Border Facing West

Remnants of a burned building northeast of a small metal structure.

SITE PHOTOGRAPH

GEOTECHNICAL ENGINEERING INVESTIGATION
ARVIN EDUCATIONAL CENTER
ARVIN, CALIFORNIA

BSK ASSOCIATES

APPENDIX B

USDA SOIL PROPERTIES

DRAFT

Map Unit Description (Brief, Generated)

Kern County, California, Southeastern Part

[Minor map unit components are excluded from this report]

Map unit: 144 - Hesperia sandy loam, 0 to 2 percent slopes

Component: Hesperia (85%)

The Hesperia component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on alluvial fans, valleys. The parent material consists of alluvium derived from granitoid. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 6e. Irrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

DRAFT

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

DRAFT

Engineering Properties

Kern County, California, Southeastern Part

[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
144:												
Hesperia	0-18	Sandy loam	SC, SC-SM	A-2-4, A-6	0	0	95-100	86-100	61-82	29-44	18-30	4-12
	18-34	Fine sandy loam, gravelly fine sandy loam	SC, SC-SM	A-2-4, A-6	0	0	84-100	64-100	56-98	22-44	18-29	4-12
	34-70	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam, sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	84-100	64-100	46-82	21-44	18-29	4-12

DRAFT

APPENDIX D

ENHANCED PHASE I ESA, LIMITED PHASE II SOIL INVESTIGATION REPORT,

LIMITED SOIL INVESTIGATION WORKPLAN

SOILS ENGINEERING, INC.

ENHANCED PHASE 1 ENVIRONMENTAL SITE ASSESSMENT REPORT

For

Potential KCCD Campus
Southwest of Varsity Avenue & Campus Dr.
Arvin, Kern County, California
APNs: 190-020-14, -46 & -48

Prepared For:

Kern Community College District
2100 Chester Ave.
Bakersfield, CA 93301
Attention: Eric Mittlestead

Prepared By:

Soils Engineering, Inc.
4400 Yeager Way
Bakersfield, CA 93313

File No. 17-16268

December 2017

SOILS ENGINEERING, INC.

December 19, 2017

File No. 17-16269

Kern Community College District
2100 Chester Ave.
Bakersfield, CA 93301

Attention: Eric Mittlestead

Subject: Enhanced Phase 1 Environmental Site Assessment
For Potential KCCD Campus
SW of Varsity Ave. & Campus Drive
Arvin, Kern County, California
APN: 190-020-14, -46 & -48

Dear Mr. Mittlestead:

In accordance with your request and authorization, Soils Engineering, Inc. (SEI) has performed an Enhanced Phase 1 Environmental Site Assessment in accordance with ASTM standard practice E 1527-13 for the above described subject property in Arvin, California (site).

Our preliminary assessment indicates that there is a moderately high potential that hazardous materials have contaminated a small portion of the subject site. The site is located southwest of Varsity Avenue and Campus Drive in Arvin, CA. The site is bordered by mainly residential properties to the west, east and south and by Varsity Avenue and Arvin High School to the north.

The property is currently idle land with a vacant house, two (2) sheds and two (2) water wells. Historical structures (2 houses and a warehouse) were present in the northeastern portion of Site from the 1940's to approximately 2014. Four (4) oil wells and two (2) tank settings are present in the northwestern and southern portion of the site area. Based on aerial photos, Sanborn Maps and building permits it appears that the site was utilized for agricultural activities from at least the 1930's up until the 1980's.

The most salient environmental issues noted in our investigation are as follows:

- A review of Kern County Environmental Health Services files & the EDR Database records indicate that no off-site properties within a one-mile radius of the site boundaries are of environmental concern and are not currently a threat to the subject property. A neighborhood cleanup of a petroleum hydrocarbon leak in a well field gas pipeline emanating from the NW tank setting was completed in 2014. The cleanup system was located within the NW tank setting and soil samples collected on-site indicated no on-site impact from this nearby pipeline leak where sampled.

- Agricultural activities occurred at the site from at least the 1930's up until the 1980's. Structures and storage areas appear to have been present within the northeastern portion of Site from at least the 1940's to 2014. Multiple soil samples were collected and analyzed for organochlorine pesticides (OCPs) and arsenic across the field areas. The OCP concentrations were all reported below the EPA Residential Screening Levels (RSLs). Arsenic concentrations were reported within the normal range for the Arvin area in the shallow soil with a few elevated arsenic concentrations reported in the deeper samples. Soil samples were also collected within the former and existing structure areas with selected soil samples analyzed for OCPs, arsenic, lead, and total petroleum hydrocarbons (TPH). Elevated concentrations of the OCPs 4,4'-DDT, chlordane and dieldrin, along with lead and TPH were reported in some of these soil samples. Some removal activities will be required prior to the preparation of the site as a college campus. This historical activity is considered a REC.

- Two (2) water wells are present on the site that may have been utilized for mixing of chemicals. Soil samples were collected adjacent to the water wells which were analyzed for OCPs, organochlorine herbicides (OCHs), arsenic, lead and TPH. Elevated 4,4-DDT and lead were reported in the top 1' of soil adjacent to the east side of the northeastern water well (WW 1). No elevated concentrations of concern were reported in the western water well sample (WW 2). The elevated concentrations of lead and 4,4'-DDT adjacent to the northeastern water well should be removed and replaced with clean soil. This is considered a REC.

- An underground storage tank (UST) is suspected to be present adjacent to a small shed southwest of the house. A soil sample collected at a depth of 6' adjacent to the east end of the suspected UST had no petroleum hydrocarbons reported of potential concern. This UST should be removed per Kern County Environmental Health Services Department (KCEHSD) regulations. This is considered a REC.

- Oilfield activities have been conducted on-site within 2 tank settings. Soil samples and trenches were conducted adjacent to the limits of these 2 tank settings. The only area of potential concern identified in these samples and trenches was on the east side of the east gate of the southern tank setting where stained soil was encountered at location TF2-2. The analytical results of the TF2-2 soil samples did not indicate any elevated TPH, volatile organics, chlorides, pH or metals at this location.

- A soil gas survey was conducted at 6 locations across the site with no petroleum hydrocarbon vapors, methane or H2S reported of potential concern. In addition, no off-site activities are known that would have the potential for vapor encroachment

onto the site.

- A petroleum pipeline is present running east from the northwestern tank setting. Soil samples collected at 3 locations adjacent to the pipeline had no petroleum hydrocarbons reported. Another suspected petroleum pipeline appears to be present near the southern tip of the site. A soil sample collected adjacent to this suspected pipeline had no petroleum hydrocarbons reported.

- The cumulative cancer risk calculated for this site is 2.3×10^{-5} with a cumulative hazard index of 0.84 indicating an elevated risk and low hazard level for the site. Arsenic and lead concentrations were evaluated separately from this calculation.

- No other Historical recognized environmental concerns (HREC's) or Controlled recognized environmental concerns (CREC's) were identified at this site.

Recommendations

- The elevated concentrations of lead, 4,4'-DDT, chlordane and dieldrin reported adjacent to the northeast water well, small shed, existing house and former structure areas should be removed to an approximate depth of 1' to 2.5' and replaced with clean soil. This is an estimated quantity of ~541 cubic yards. The soil should be disposed of per State and Federal regulations. The estimated cost for this remediation is $85,000 to $135,000.

- The suspected UST located adjacent to the small shed should be removed per KCEHSD requirements. The cost of this removal is <$10,000.

- If the tank settings are ever to be utilized by the client as part of the school campus these areas should be thoroughly assessed and remediated, if warranted, prior to development.

- The two (2) suspected areas with petroleum pipelines should be thoroughly assessed and remediated, if warranted, once they are removed. Setbacks from these pipelines may be needed if they are to be utilized in the future.

No current activities were found within a one-mile radius of the site which process, store or transport hazardous materials in sufficient quantity or in a mode, which might have measurable effect on the environmental integrity of the subject site. No sites were listed in our search of available or "reasonably ascertainable" State or Federal government records within the ASTM E-1527-13 search radius around the subject property for the databases shown in the Table on pages ES-1 to ES-6 and orphan summary on page 21 all within Appendix A. No sites appear to have

current environmental problems that may affect the site as reported by the Kern County Environmental Services Department, the Bakersfield Fire Department and GeoTracker.

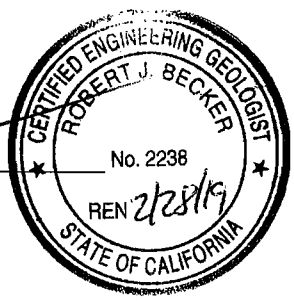
A Phase I ESA comprises a number of individual elements whose basic nature and extent are determined in accordance with the standard of care applicable to Phase I ESAs. The standard of care is commonly defined as the care applied by the ordinary practitioner at the time and in the area where the ESA was performed. We believe that we have complied with the applicable standard of care and that we have complied as well with Phase I ESA practices and service scope elements recommended by the American Society for Testing and Materials (ASTM).

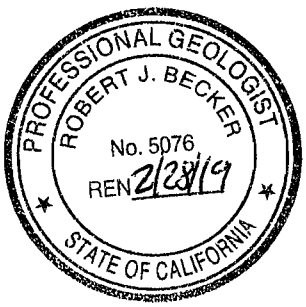
I declare that to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in 312.10 of 40 CFR Part 312. I have the specific qualifications based on education, training, and experience to assess property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

The accompanying report is an instrument of service of *Soils Engineering, Inc.* The report summarizes our findings and relates our opinions with respect to the potential for hazardous materials to exist at the site at levels likely to warrant mitigation pursuant to current guidelines regulated by the California EPA and California Water Quality Control Board and defined in Titles 22 and 23 of CCR in the state of California. Note that our findings and opinions are based on information that we obtained on given dates, through records review, site review, and related activities. It is possible that other information exists or subsequently has become known, just as it is possible for conditions we observed to have changed after our observation. For these and associated reason, Soils Engineering, Inc. and many of its peers routinely advise clients for ESA services that it would be a mistake to place unmerited faith in findings and opinions conveyed via ESA reports. *Soils Engineering, Inc.* cannot under any circumstances warrant or guarantee that not finding indicators of hazardous materials means that hazardous materials do not exist on the site. Additional research, including invasive testing, can reduce the risks to you, but no techniques now commonly employed can eliminate these risks altogether. Soils Engineering, Inc. will be pleased to provide more information in this regard. Please call (661) 831-5100 for assistance or any questions concerning this report.

Sincerely,
SOILS ENGINEERING, INC.

Robert J. Becker, PG, CEG





Distribution: Addressee (3)

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Appendix A: EDR Summary Radius Map Report, Historical Topographical Maps, Sanborn Map Report, City Directory Abstract, and Vapor Encroachment Screen

Appendix B: Assessors Map, USER Questionnaire, Table 1 (Soil Sample Analytical Results), Table 2 Soil Gas Survey Results, Table 3 to 5 (Risk & Hazard Results), Analytical Reports (12), Soil Gas Boring Logs (6), Portion of Stantec Field Data Report dated August 15, 2014 and DOGGR records.

Appendix C: Aerial Photos
Appendix D: QA/QC FORMS D-1 through D-4

SOILS ENGINEERING, INC.

ENHANCED PHASE I - ENVIRONMENTAL SITE ASSESSMENT

For
Kern Community College District
Potential Campus
Southwest of Varsity Ave. & Campus Drive
in Arvin, CA

December 2017

1.0 Executive Summary

Soils Engineering, Inc. (SEI) has conducted an Enhanced Phase I Environmental Site Assessment (ESA) for a Potential Community College Campus located southwest of the intersection of Varsity Avenue and Campus Drive (site) in Arvin, CA (see Assessor's Map, Appendix B and Location Map, Plate 1). The following is an Executive Summary of the investigation conducted between September 1 and December 19, 2017.

1.1 *Property Use* – The property is currently idle land with a vacant house, two (2) sheds and two (2) water wells. Historical structures (2 houses and a warehouse) were present in the northeastern portion of Site from the 1940's to approximately 2014. Four (4) oil wells and two (2) tank settings are present in the northwestern and southern portion of the site area. Based on aerial photos, Sanborn Maps and building permits it appears that the site was utilized for agricultural activities from at least the 1930's up until the 1980's.

1.2 *Building Permits* - were reviewed for the City of Arvin and the County of Kern with the following permits listed for the site.

- Building permits for the site addresses were reviewed. No environmental concerns were found in the permits available for the addresses listed.

1.3 *Purpose and Scope* - The purpose of the site assessment was to identify potential sources of hazardous substances that are obvious upon visual observations or by all appropriate inquiry using elective research of readily available information. All appropriate inquiry constitutes research into previous ownership and uses of the subject property consistent with good commercial or customary practices as defined by CERCLA, 42 U.S.C. 9601(35)(B). All appropriate inquiry will qualify a party to a commercial real estate transaction for one of the threshold criteria for satisfying the Landowner Liability Protections to CERCLA liability (42 U.S.C 9601(35)(A) & (B), 9607(b)(3), 9607(q) and 9607(r).

Visual inspections and all appropriate inquiry (AAI) were used to identify recognized environmental conditions (REC), historical recognized environmental conditions (HREC) and Controlled recognized environmental conditions (CREC) in connection with the Property.

A "**recognized environmental condition**" or "**REC**" is defined as "...the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." This definition does not include "**de minimus conditions**" defined as "a condition that generally does not present a threat to human 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" (ASTM, 2013).

A "**historical recognized environmental condition**" or "**HREC**" is defined as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." (ASTM, 2013). The HREC designation requires the comparison of residual contamination concentrations, if any, to currently regulatory standards.

A "**controlled recognized environmental condition**" or "**CREC**" is defined as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)" (ASTM, 2013).

The AAI included surveys of historical literature, regulatory review of the available records for the Property and adjacent properties, if listed, interviews with persons having knowledge of the Site and its use, vapor migration screening and the determination if any obvious hazardous substances exist or may have existed on the Property. The scope of these services was conducted in compliance with ASTM E 1527-13 guidelines for Phase 1 Environmental Site Assessments.

1.4 *Environmental Issues* - The most salient environmental issues noted in our investigation are as follows:

- A review of Kern County Environmental Health Services files & the EDR Database records indicate that no off-site properties within a one-mile radius of the site

boundaries are of environmental concern and are not currently a threat to the subject property. A neighborhood cleanup of a petroleum hydrocarbon leak in a well field gas pipeline emanating from the NW tank setting was completed in 2014. The cleanup system was located within the NW tank setting and soil samples collected on-site indicated no on-site impact from this nearby pipeline leak where sampled.

- Agricultural activities occurred at the site from at least the 1930's up until the 1980's. Structures and storage areas appear to have been present within the northeastern portion of Site from at least the 1940's to 2014. Multiple soil samples were collected and analyzed for organochlorine pesticides (OCPs) and arsenic across the field areas. The OCP concentrations were all reported below the EPA Residential Screening Levels (RSLs). Arsenic concentrations were reported within the normal range for the Arvin area in the shallow soil with a few elevated arsenic concentrations reported in the deeper samples. Soil samples were also collected within the former and existing structure areas with selected soil samples analyzed for OCPs, arsenic, lead, and total petroleum hydrocarbons (TPH). Elevated concentrations of the OCPs 4,4'-DDT, chlordane and dieldrin, along with lead and TPH were reported in some of these soil samples. Some removal activities will be required prior to the preparation of the site as a college campus. This historical activity is considered a REC.

- Two (2) water wells are present on the site that may have been utilized for mixing of chemicals. Soil samples were collected adjacent to the water wells which were analyzed for OCPs, organochlorine herbicides (OCHs), arsenic, lead and TPH. Elevated 4,4-DDT and lead were reported in the top 1' of soil adjacent to the east side of the northeastern water well (WW 1). No elevated concentrations of concern were reported in the western water well sample (WW 2). The elevated concentrations of lead and 4,4'-DDT adjacent to the northeastern water well should be removed and replaced with clean soil. This is considered a REC.

- An underground storage tank (UST) is suspected to be present adjacent to a small shed southwest of the house. A soil sample collected at a depth of 6' adjacent to the east end of the suspected UST had no petroleum hydrocarbons reported of potential concern. This UST should be removed per Kern County Environmental Health Services Department (KCEHSD) regulations. This is considered a REC.

- Oilfield activities have been conducted on-site within 2 tank settings. Soil samples and trenches were conducted adjacent to the limits of these 2 tank settings. The only area of potential concern identified in these samples and trenches was on the east side of the east gate of the southern tank setting where stained soil was encountered at location TF2-2. The analytical results of the TF2-2 soil samples did not indicate any elevated TPH, volatile organics, chlorides, pH or metals at this location.

- A soil gas survey was conducted at 6 locations across the site with no petroleum hydrocarbon vapors, methane or H2S reported of potential concern. In addition, no off-site activities are known that would have the potential for vapor encroachment onto the site.

- A petroleum pipeline is present running east from the northwestern tank setting. Soil samples collected at 3 locations adjacent to the pipeline had no petroleum hydrocarbons reported. Another suspected petroleum pipeline appears to be present near the southern tip of the site. A soil sample collected adjacent to this suspected pipeline had no petroleum hydrocarbons reported.

- The cumulative cancer risk calculated for this site is 2.3×10^{-5} with a cumulative hazard index of 0.84 indicating an elevated risk and low hazard level for the site. Arsenic and lead concentrations were evaluated separately from this calculation.

- No other Historical recognized environmental concerns (HREC's) or Controlled recognized environmental concerns (CREC's) were identified at this site.

1.5 Recommendations

- The elevated concentrations of lead, 4,4'-DDT, chlordane and dieldrin reported adjacent to the northeast water well, small shed, existing house and former structure areas should be removed to an approximate depth of 1' to 2.5' and replaced with clean soil. This is an estimated quantity of ~541 cubic yards. The soil should be disposed of per State and Federal regulations. The estimated cost for this remediation is $85,000 to $135,000.

- The suspected UST located adjacent to the small shed should be removed per KCEHSD requirements. The cost of this removal is <$10,000.

- If the tank settings are ever to be utilized by the client as part of the school campus these areas should be thoroughly assessed and remediated, if warranted, prior to development.

- The two (2) suspected areas with petroleum pipelines should be thoroughly assessed and remediated, if warranted, once they are removed. Setbacks from these pipelines may be needed if they are to be utilized in the future.

2.0 Site Reconnaissance

The site location is shown on Plate 1, Site Location Map.

2.1 On-Site Properties - Site reconnaissance's were conducted in September, October and November 2017 consisting of walking the property, collecting soil samples and taking

photographs (see Plate 4 and attached photos).

The site is located southwest of Varsity Avenue and Campus Drive in Arvin, CA. The site is bordered by residential properties along with Nectarine Ct. & Alderete Drive to the south, by Varsity Avenue to the north, by Campus Drive and N. Walnut St. to the east and by residential properties to the west. A boarded-up house is present in the northeastern portion of the site along with a small shed and two (2) idle water wells. The western water well is located within a large shed. Adjacent to the NE corner of the small shed appears to be an underground storage tank (UST) based on aboveground piping and some subsurface probing conducted. Former structures (2 houses and a warehouse) were present west and southwest of the existing house with some asphalt and concrete pillars remaining at the former warehouse location. Two (2) tank settings are present within the site borders. The NW tank setting has 5 aboveground storage tanks and 3 oil wells and associated equipment surrounded by a chain-link fence. No oil staining was evident in the surface soil adjacent to this tank setting. The southern tank setting has 3 aboveground storage tanks and 1 oil well and associated equipment surrounded by a chain-link fence. Fluids were present ponding on November 28, 2017 near the east gate with some surface staining (15' x 10') outside of the gate at this tank setting. The northern portion of the site has low weed growth and multiple dirt pathways. Electrical transformers are present adjacent to the house and near the western water well. The southern portion of the site has areas with low vegetation and a large graded lower elevated area and some stockpiled soils. Petroleum pipeline(s) run east from the NW tank setting across the site according to the tank setting owner (Petro Capitol). Another suspected pipeline is present near the southern tip of the site with pipeline markers present along the SE border of the site.

Overall the site appears to be in moderately good shape with no signs of stressed vegetation, sumps or other environmental concerns evident that have not already been mentioned above.

See Plate 2 for a Plot Plan of the site and Appendix B for an assessors Map showing the areas discussed above. Also see Appendix D for a checklist of environmental conditions reviewed as part of the QA/QC for this report.

2.2 *Oil Wells and Water Wells* – Four (4) active oil wells are present on the site as indicated on the California Division of Oil and Gas & Geothermal Resources (DOGGR) online mapping system (Plate 9).

Two (2) idle water wells are present in the northeastern portion of the site. 34 Federal and/or State water wells were indicated within one (1) mile of the site by GEOCHECK (Appendix A, pages A-7). GEOCHECK Summary gives Federal and State water well information for wells within the target area.

2.3 *Site Area* – The site covers an area of approximately 36.22 acres consisting of 3 parcels as shown on the Assessors Map (Appendix B).

2.4 *Adjacent Off-site Properties* – Adjacent off-site properties include; residential to the south, west and east, and Arvin High School to the north.

2.5 *Off-site Properties Within a One Mile Radius* – Multiple off-site properties were listed in the EDR Summary Radius Map Report as being within a 1-mile radius of the site and have experienced a release of hazardous waste or store hazardous materials. A review of the EDR search, GeoTracker and files at the Kern County Environmental Health Services Department is summarized below:

The listed properties within 1/4 mile of the site include the following:

- Arvin High School, 900 Varsity Ave. – Located just North of Site. Listed on UST, HIST UST, SWEEPS UST, AST databases. No violations noted.

- Fernandez Transport, 1312 Nance St. – Located <1/8 mile to the west. Listed on the RCRA Non-Gen/ NLR database. No violations noted.

- Fire Station 54, 301 Campus Dr. – Located 1/8 to ¼ mile to the southeast of Site. Listed on UST, CHMIRS, SWEEPS UST, HAZNET databases. A natural gas pipe was damaged and leaked in 2012. Disposal of aqueous hazardous waste.

- Crupper Waste Disposal, .25 miles North of Arvin HS – Located ¼ to 1/2 mile north of Site. Listed on SLIC database. Soil removed and disposed of from gunnite lined ponds. SLIC case closed in 2002.

Other properties are listed over ¼ mile away from the Site see pages 10 to 11 in Appendix A for more detail.

2.6 *Previous Site Development* - A review of available aerial photographs and city directories of the subject site indicates that the site area was utilized as agricultural land from the 1930's to approximately the 1980's. Historical structures were present from the 1940's to 2014 in the northeastern portion of the site. Oilfield activities began by the early 1970's. See Appendix C for copies of historical aerial photographs.

Aerial Photographs

1937 Aerial – Site appears to be agricultural land. A large irrigation sump and some trees in the northeastern portion of the site. No structures evident, but could be present. The surrounding area is mainly agricultural land or vacant land.

1942 Aerial – Site appears to be agricultural land. The irrigation sump is now filled in. Multiple structures now present in the northeastern portion of the site. Surrounding area is similar to 1937.

1952 Aerial – Agricultural land continues on-site. Appears to be 3 houses and a warehouse in NE area. Arvin HS now present to the north. Some residential now to the southeast.

1956 Aerial - Site appears to be similar to 1952 aerial. More residential to the east.

1968 Aerial – Site appears to be agricultural land. Multiple structures and yard area in the northeast area. Surrounding area is similar to 1956 aerial.

1973 Aerial – Agricultural land on-site. Structures and yard still present in the NE area. Two (2) tank settings now present on-site. The NW tank setting has 4 ASTs, at least 1 oil well and a sump. The southern tank setting has at least 2 ASTs, 1 oil well and a sump. Surrounding area still mainly agricultural with some residential and high school to the north.

1984 Aerial – Site appears to be mainly agricultural land. Tank setting areas are not as clear. Sump evident in the NW tank setting. The surrounding area is mainly agricultural land with some residential and high school to the north.

1992 Aerial – Site area now appears to be idle. Structures still present in the NE area. Tank settings now similar to present with 5 ASTs in the NW and 3 in the southern tank settings. Possible stockpiled soil in the southwestern area. New residential now to the southwest. The surrounding area is mainly vacant land with some residential and a high school to the north.

2002 Aerial – Similar to 1994 aerial on-site. Stockpiles in southern portion now gone. More residential now present to the west and south.

2006 Aerial – Looks like warehouse has been removed, but 3 houses and 2 sheds remain in NE portion of Site. Surrounding area similar to 2002.

2009 Aerial - Site area is similar to 2006. Some trees removed in NE area. Surrounding area mainly residential and Arvin HS to the north.

2012 Aerial Photograph – Most of Site is idle land. One of the houses is now removed in NE portion of site. Southern Tank setting now has 4 ASTs. Area to the SE now developed with Walnut Street and Nectarine Ct. present.

2017 Aerial Photograph – Now only existing house present in the NE portion of the site

along with 2 sheds. Southern tank setting now has 3 ASTs with one removed. Surrounding area now has Grimmway Academy to the east of south portion.

A list of aerial photographs is given on QA-QC Form D-3 (Appendix D).

Sanborn Maps – The following is a summary of the available Sanborn Maps of the site. See Appendix A for copies of the Sanborn Maps.

- No Sanborn Maps available for this location.

City Directory Search - The following is a summary of the EDR-City Directory Abstract for the site address (See Appendix A).

- 925 Varsity – Residential, Chase Howard 1975 – 1980, Vicky & Charley Clairday, 1985 George Tapia 1999, 2008
- 935 Varsity – Residential, David Taylor 1975 -1980, Rodney Langels 1985, 1990, Phillip Degadillo 1999, 2008, 2013
- 943 Varsity – Residential, unoccupied 1975-2013

Historical Topographic Maps - The following is a summary of the EDR Historical Topographic Map Report for the site area.

1914 Topo – Shows vacant land in the site area. Road to the east.

1930-1933 Topo – Shows vacant land. Arvin shown to the SE.

1941 Topo – Shows vacant land.

1955 Topo – Shows land with a few structures in the NE. Arvin HS and Varsity Ave. to the north and Campus Drive to the east.

1968 & 1973 Topo - Shows land with structures in the NE. More residential to the east.

1995 Topo – Shows land with structures (3) in the NE. 2 tank settings now shown on-site.

2012 Topo – Shows very little detail. Varsity Ave. to the north and Campus Dr. to the east.

See Appendix A for copies of the Historical Topographic Maps.

2.7 Source of Potable Water - Water will be supplied to the site by a local water service.
2.8 Sewage Disposal - Sewage disposal will be provided by the City of Arvin. Septic tanks are

possible adjacent to the former and existing structures.

2.9 Potential Occupant Hazards

2.9.1 Radon Gas - According to GeoCheck Version 2.1 Summary (page 4, Appendix A) the average radon level in this region of Kern County is 1.422 pCi/L, a safe concentration. No radon sampling was conducted.

2.9.2 Asbestos Containing Materials (ACM's) & Lead-Based Paint – ACMs and lead-based paint could be present in the existing house. Lead-based paint could also be present in the former structure areas. Soil sampling around the existing structures and in the suspected area of the former structures was conducted with some elevated lead concentrations reported in the near surface soil adjacent to the small shed and the NE water well (WW1). An asbestos survey may be needed prior to demolition of the house. No asbestos sampling was conducted during this investigation. No Naturally Occurring Asbestos (NOA) bearing rock is present within 10-miles of the site location according to the USGS NOA Maps reviewed.

2.9.3 Polychlorinated Biphenyl (PCB's) – A few electrical transformers were observed on-site near the existing and former structure area. These appeared to be in good condition with No PCB stickers. No PCB sampling was conducted.

2.10 Vapor Migration Screening

A Vapor Encroachment Screen was conducted by SEI on the site and surrounding properties. This included conducting a soil gas survey at 6 on-site locations (SG1 to SG6) as shown on Plate 3. The analytical results indicate that there is no elevated methane, volatile organic compounds or H2S of concern at the six locations sampled at depths of 5' and 15'. In addition, there are no on-site historical activities or nearby properties that are considered a threat for vapor intrusion. A pipeline leak occurred just west of the site that was remediated in 2014. The other off-site properties (including oil wells) listed in the EDR Database were either upgradient, cross-gradient or far enough away from the subject site to be of concern. See attached EDR Vapor Encroachment Screen in Appendix A for more detail along with the soil gas survey analytical results on Table 2 and in Appendix B.

2.11 Sampling Activities Conducted

1st Sampling Event

To evaluate the near surface soil across the northern ~29 acres of the site, SEI collected soil samples with a hand-auger at 35 locations on September 13, 2017. Soil samples were collected at depths of 0 to 6" (-3" sample) and 2' to 2.5' (-2' sample) at all 35 locations as shown on Plate 3. Boring locations were placed at equally spaced apart intervals within five (5) major sections of the northern portion of the site (C1 to C5) with

four (4) sample locations (C#A to C#D) placed within each major section. Soil samples were also collected adjacent to the two (2) existing water wells (WW1 and WW2) at depths of 0 to 6" and 2' to 2.5'. Soil samples were also collected adjacent to the edge of the existing house at 4 locations (S1 to S4) and adjacent to the small shed (S7) at depths of 0 to 6" and 2' to 2.5'. Soil samples (S5, S6, S8 to S13) were also collected at depths of 0 to 6" and 2' to 2.5' within the former structure areas observed in the historical aerial photos (see Plate 3 and 3A). To evaluate the area adjacent to the northwestern tank setting eight (8) trenches (T1 to T8) were conducted to depths of at least 7' at the locations shown on Plate 3. Discrete (1) or composite soil samples (8) were collected from each trench. The soil samples were placed into stainless steel sleeves, capped with Teflon-lined plastic caps labeled and placed into a cooler with blue-ice. Soil samples were also collected at 6 soil gas locations across the site at depths of 5', 10' and 15' with a Geoprobe rig with the locations shown on Plate 3.

The soil samples were delivered over-night with a completed chain of title document in a sealed cooler with blue ice to Positive Lab Services in Los Angeles, CA, a State certified analytical laboratory. The 0 to 6" soil samples collected within each section (C#A-3" to C#D-3") were composited by the laboratory and analyzed for organochlorine pesticides (OCPs) by EPA Method 8081. The discrete C#B-3" samples were all analyzed for arsenic by EPA Method 6010 along with duplicate samples C2E-3" collected at the same location and depth as C2B-3" and C5E-2' at same location as C5D-2'. The individual discrete soil samples (-3" and -2') from the two (2) composites with the highest OCPs reported (C1 and C5) were also analyzed for OCPs. The C#B-3" samples with the highest arsenic result also had the -2' sample analyzed for arsenic. This included sample C1B-2'. Soil samples WW1-3" and WW2-3" were analyzed for Total Petroleum Hydrocarbons (TPH) by EPA Method 8015 for OCPs, for Organochlorine Herbicides (OCHs) by EPA Method 8151A and for CAM 17 Metals. Soil sample WW1-2' was analyzed for TPH, OCPs, arsenic and lead. Sample WW1-3" was also analyzed for STLC lead and STLC 4,4'-DDT to evaluate for CA hazardous constituents. The S1 to S13 discrete soil samples (-3" and -2') were analyzed for OCPs, arsenic and lead since they were in the existing or former structure areas. The S7 and S11 to S13 discrete soil samples (-3" and -2') were also analyzed for TPH by EPA Method 8015B since there was some surface staining evident. Samples S11-3", S12-3" and S13-3" were also analyzed for OCHs by EPA Method 8151A. Sample S7-3" was also analyzed for STLC and TCLP lead to evaluate for hazardous constituents. The trench samples (T1-Comp to T8-Comp and T2-7') were all analyzed for TPH, CAM 17 Metals, volatile organics (BTEX) by EPA Method 8021B and for pH. Soil gas boring samples SG1-5' and SG2-5' were analyzed for TPH, BTEX, CAM 17 Metals and pH. Samples SG3-5', SG3-10', SG5-5' and SG6-5' were analyzed for arsenic to determine arsenic background concentrations.

The analytical results are presented on Table 1 and the analytical reports are attached in Appendix B. The analytical results indicate that the 0 to 6" composite soil samples

(C1A,B,C,D-3" to C5A,B,C,D-3") had minor concentrations of 4,4' DDE (0.092 mg/kg), 4,4'-DDT (0.022 mg/kg) and dieldrin (0.0256 mg/kg) reported. Discrete soil sample results in the field areas had a high of 4,4'-DDE of 0.175 mg/kg (C5A-3"), a high of 0.0267 mg/kg 4,4'-DDT (C5A-3"), and a high of 0.0338 mg/kg dieldrin (C1D-3). Other minor concentrations of gamma chlordane (up to 0.010 mg/kg), Endosulfan I (up to 0.020 mg/kg), and Technical Chlordane (up to 0.142 mg/kg) were reported in a few of the field area soil samples.

In the NE water well area, sample WW1-3" had elevated concentrations of 4,4',-DDT (1.470 mg/kg), lead (166 mg/kg) and TPH (2742 mg/kg) reported. The STLC lead analysis result (4.51 mg/l) was at a CA non-hazardous concentration. These constituents were not elevated in the WW1-2' sample. No elevated OCPs, TPH, lead or arsenic were reported in the WW2-3" soil sample.

In the existing and former structure areas in the northeast portion of the Site, elevated OCPs (dieldrin, technical chlordane and 4,4'-DDT) were reported in samples S1-3", S3-3", S4-3" adjacent to the house; sample S7-3" adjacent to the small shed (4,4'-DDT and lead); and samples S8-3", S8-2', S9-3" in the former structure areas (dieldrin and Technical Chlordane). The highest concentrations reported in the discrete soil samples analyzed in these areas are: 4,4'-DDD (0.692 mg/kg), 4,4'-DDE (1.24 mg/kg), and 4,4'-DDT (8.850 mg/kg) reported in sample S7-3". The highest dieldrin reported was in sample S8-3" at 0.286 mg/kg. The highest technical chlordane concentration was reported in sample S1-3" at 1.40 mg/kg. The highest lead reported was in sample S7-3" at 599 mg/kg with the STLC lead result at a CA hazardous concentration of 40 mg/l. The sample S7-2' had lead reported at only 3.4 mg/kg. Elevated TPH concentrations were reported in samples S7-3" (2176 mg/kg) and S11-3' (1954 mg/kg). No elevated concentrations of potential concern were reported in samples S2-3", S5-3", S6-3", S10-3" and S13-3".

No elevated concentrations of potential concern were reported in the 8 trench samples analyzed, except for elevated arsenic reported at 42.9 mg/kg in sample T2-7'.

Elevated arsenic was also reported in sample SG3-10' at 82.9 mg/kg. No TPH or BTEX was reported in the soil gas boring samples SG1-5' and SG2-5'.

2nd Sampling Event

To further evaluate the former structure areas in the northeastern portion of Site, SEI collected discrete soil samples on October 4, 2017 with a hand-auger at locations that had elevated concentrations of potential concern reported in the first sampling event. This included:

- S1, S3 and S4 adjacent to the existing house. Step-out soil samples were collected 2' to 6' away from the initial sample locations at depths of 0 to 6" (-3"

sample) and 2' to 2.5' (-2' sample) as shown on Plates 3 and 3A. All of the -3" soil samples were analyzed for OCPs.

- Step-out samples were collected 5' north of S7 (S7-N- depth), and 2' to 4' from the west (S7-W-depth), east (S7-E-depth) and south (S7-S-depth) sides of the small shed at depths of 0 to 6" and 1.5' as shown on Plates 3 and 3A. The -3" soil samples were analyzed for OCPs and lead and the -1.5' samples for total lead. Sample S7-N-1.5' was also analyzed for OCPs. A soil sample (S7-T-6') was also collected adjacent to the eastern end of the suspected UST near the NE corner of the small shed and analyzed for TPH, BTEX and lead.

- A soil sample (S8-4') was collected at a depth of 4' at location S8 to further evaluate OCPs at depth. Step-out samples were collected 13' west (S8-W-depth), 12' east (S8-E-depth), 15' south (S8-S-depth) and 20' north (S8-N-depth) from S8 at depths of 0 to 6" and 2.5' as shown on Plates 3 and 3A. The majority of the soil samples collected in this area were analyzed for OCPs.

- Step-out samples were collected 12' west (S9-W- depth), 15' east (S9-E-depth), 20' south (S9-S-depth) and 15' north (S9-N-depth) from S9 at depths of 0 to 6" and 1.5' as shown on Plates 3 and 3A. The majority (all -3" and some -1.5') of the soil samples collected in this area were analyzed for OCPs.

- In the former warehouse area step-out samples were collected 15' north, west and south from samples S11 and S12 and 16' east of S12 at depths of 0 to 6" and 1.5' as shown on Plates 3 and 3A. A resample was also collected at a depth of 2' at S12 to evaluate the initial result at this location which was believed to be mis-labeled (-3" instead of -2' and visa versa). A soil sample was also collected at a depth of 4' at S12. The -3" soil samples were analyzed for OCPs and TPH. Samples S12-2' (resample) and S12-4' were also analyzed for OCPs and TPH.

- At the NE water well (WW1) step-out soil samples were collected at depths of 0 to 6" and 2' to 2.5' approximately 5' east of WW1 (WW1-E-depth), and just south (WW1-S) and north (WW1-N) of the water well pad and 6' west (WW1-W) of the water well. The -3" soil samples were analyzed for OCPs, Lead and TPH.

- To evaluate the suspected location of the petroleum pipeline(s) running east from the NW tank setting to Campus Dr., soil samples were collected at a depth of 6' at 3 locations (PL1 to PL3). The soil samples were all analyzed for TPH.

The analytical results are presented on Table 1 and the analytical reports are attached in Appendix B. In the existing and former structure areas in the northeast portion of the Site the following was reported:

- S1, S3 & S4 step-outs had had no elevated OCPs reported.
- The S7 step-outs had elevated lead reported in samples S7-S-3" (357 mg/kg, STLC = 6.11 mg/l) and S7-W-3" (71.9 mg/kg, STLC = 5.52 mg/l), but the OCPs were < the EPA RSLs. The sample S7-T-6' had no TPH and BTEX reported and lead was 58.2 mg/kg.
- The S8 step-outs had elevated dieldrin reported in samples S8-E-3" (47.4 ug/kg), S8-N-3" (335 ug/kg), and S8-S-3" (68.3 ug/kg). All of the -2.5' samples had no elevated OCPs reported. The sample S8-4' had no elevated OCPs reported.
- The S9 step-outs had elevated dieldrin reported in samples S9-E-3" (472 ug/kg), S9-E-1.5' (253 ug/kg), S9-S-3" (63.1 ug/kg), and S9-S-1.5' (54 ug/kg).
- S11 and S12 step-outs had no elevated OCPs or TPH of concern reported. The re-sample S12-2' had similar results as the mis-labeled sample S12-3" indicating that the samples S12-3" and S12-2' had been originally mis-labeled or switched.
- The WW1 area step-out samples analyzed had no concentrations of potential concern reported.
- No elevated concentrations of potential concern were reported in the 3 pipeline area soil samples analyzed.

3rd Sampling Event

To further evaluate the former structure areas in the northeastern portion of Site, SEI collected step-out discrete soil samples on October 23, 2017 with a hand-auger to define areas that had elevated concentrations of potential concern previously reported. This included:

- Step-out samples were collected 15' (S8-N2) and 30' (S8-N3) further north of sample location S8-N; 15' (S8-E2) and 33' (S8-E3) further east of sample location S8-E: and 15' south (S8-S2) of sample location S8-S at depths of 0 to 6" and 2' as shown on Plates 3 and 3A. The majority of the soil samples collected in this area were analyzed for OCPs.

- Samples were collected at a depth of 3' at locations S9-E and S9-S to further evaluate OCPs at depth at these locations. Step-out samples were collected 15' (S9-E2) and 30' (S9-E3) east of sample location S9-E at depths of 0 to 6", 1.5' and 3' as shown on Plates 3 and 3A. The majority of the soil samples collected in this area were analyzed for OCPs.

The analytical results of this sampling event indicate elevated dieldrin in samples S8-E2-3" (39.6 ug/kg), S8-E3-3" (43 ug/kg), and S8-N2-3" (178 ug/kg). The 1.5', 2' and 3' deep samples analyzed during this sampling event had no elevated OCPs reported.

4th Sampling Event

To evaluate the southern ~6 acres of the Site, SEI collected discrete soil samples on November 28, 2017 with a hand-auger at 9 locations. In addition, 2 composite soil samples were collected from multiple soil piles in this area of the site. This included:

- Soil samples were collected at 4 locations (C6A to C6D) at depths of 0 to 6" (-3") and 2' to 2.5' (-2') evenly spread-out within the southern portion of the site as shown on Plate 3. The -3" soil samples were composited by the analytical lab and was analyzed for OCPs. The sample C6B-3" was also analyzed for arsenic.

- Samples were collected at 4 locations (TF2-1 to TF2-4) surrounding the southern tank setting at depths of 2' and 4.5' as shown on Plate 3. At location TF2-2 soil samples were collected at depths of 0 to 6", 2', 6' and 9' to evaluate the soil at depth due to staining and odor observed in an area approximately 10' x 15' adjacent to the east gate to the tank setting. The -2' samples and all of the samples from TF2-2 were analyzed for TPH and BTEX. Samples TF2-2-3" and TF2-2-2' were also analyzed for CAM 17 Metals, pH and chlorides. Sample TF2-2-6' was also analyzed for chlorides.

- A soil sample (PL4-6') was collected at a depth of 6' adjacent to the suspected location of a petroleum pipeline crossing the southern area of the site. The soil sample was analyzed for TPH and BTEX.

- Two (2) composite soil samples were collected from the stockpiles of soil in the northern (P1 Soil) and southwestern (P2 Soil) portion of the southern area of the site. Each composite was comprised of multiple samples of the representative soil piles combined in the field into one (1) composite sample. The two (2) composite samples were analyzed for OCPs, TPH, BTEX, pH and CAM 17 Metals.

The analytical results of this sampling event indicate no elevated concentrations of chemicals of potential concern. The composite sample C6A,B,C,D-3" had only a minor concentration of 4,4'-DDE reported (0.043 mg/kg). Arsenic was reported at 7.64 mg/kg in sample C6B-3". Only minor TPH concentrations were reported in the TF2 samples ranging from <100 mg/kg to 15 mg/kg with no BTEX reported. No elevated CAM 17 metals were reported in the TF2-2 samples and pH ranged from 7.9 to 8.0 in these samples. Chlorides were reported at 407 mg/kg to 564 mg/kg in samples T2-2-3". -2' and -6' which is in the normal range. The soil stockpile samples had some minor to moderate TPH reported likely due to some asphalt pieces in the samples. TPH was 903 mg/kg in sample P1 Soil and 125 mg/kg in sample P2 Soil. OCPs, CAM 17 metals and pH were in the normal range for the soil pile samples. No TPH or BTEX was reported in the pipeline area sample PL4-6'.

Soil samples that were not initially analyzed were kept on hold at the analytical laboratory in case additional analysis was needed on these samples.

See Table 1 for all of the analytical results and Appendix B for the analytical reports.

Soil Gas Survey

SEI utilized Environmental Support Technologies (EST) to conduct a soil gas survey at 6 locations (SG-2 to SG-6) across the site. This included 3 locations at the corners of the property and 3 located adjacent to or near the 2 tank settings as shown on Plate 3. The soil gas survey was conducted by advancing six (6) on-site borings (SG-1 to SG-6) with a Geoprobe to depths of 15' bgs. Vapor samples were collected at depths of 5' and 15' at each location. The depth of placement of the probes was based on the lithology encountered by continuous coring or discrete soil sampling. If a potentially non-permeable layer was encountered at the proposed installation depths of 5' or 15' the probe was installed within a more permeable layer. The soil gas samples were collected by advancing a sealed steel probe with a Geoprobe unit to the proposed sampling depths (5' and 15' bgs), then installing semi-permanent soil gas probes within a minimum of 1-foot of sand pack. At least one-foot of dry granular bentonite was placed over each sand pack interval to preclude the infiltration of hydrated bentonite. The borehole was grouted with hydrated bentonite between the sampling intervals and at the surface to prevent any leaks. The tubing for the soil gas probes in each borehole were marked on the surface for depth and sample number and sealed for a minimum of 120 minutes before purging and vapor sampling. A default purge volume of 3 was utilized for all of the soil vapor samples. After purging three (3) volumes of vapors from the tubing, a vapor sample was collected in a new syringe and tested for volatile organic compounds at an on-site mobile laboratory by Environmental Support Technologies (EST). Then a hand-held RKI Eagle 2 meter was attached to the purged line and readings for methane and hydrogen sulfide (H2S) were recorded by the EST on-site chemist at each sampling interval. The hand-held meters were calibrated for the constituents to be tested for prior to analyses per manufactures specifications.

The results of the soil gas survey indicates that no elevated methane concentrations (highest was 70 ppmV), only trace concentrations of a few VOCs (toluene up to 420 ug/m3, xylenes up to 270 ug/m3, trichlorobenzene up to 120 ug/m3) and no H_2S concentrations are present in the soil gas samples collected at the six (6) soil gas locations. See Table 2 for the results of the soil gas survey and Appendix A for the analytical report.

Preliminary Risk Assessment

Utilizing the analytical results of the soil samples collected during this investigation, a preliminary risk assessment was conducted. The highest reported concentrations of OCPs were compared to the EPA Residential Screening Levels (RSLS) for residential sites. This includes 4,4'-DDD at 0.692 mg/kg, 4,4'-DDE at 1.24 mg/kg, 4,4'-DDT at

8.850 mg/kg, dieldrin at 0.472 mg/kg, and technical chlordane at 1.4 mg/kg. The on-site arsenic concentrations range from 7.64 mg/kg to 82.9 mg/kg with a median concentration of 11.95 mg/kg within the field areas and structure areas. This is just below the DTSC's arsenic concentration of potential concern (12 mg/kg) and is within the range of the regional background concentrations of arsenic in Arvin. The highest TPH concentration reported was 2,742 mg/kg (WW1-3") with no BTEX concentrations reported. The highest lead concentration was 599 mg/kg which is more then DTSC modified RSL of 80 mg/kg. STLC lead analysis indicates that the soil surrounding the small shed (S7) has CA hazardous concentrations of lead in the top ~1'.

The cumulative cancer risk calculated for this site is 2.3×10^{-5} with a cumulative hazard index of 0.84 indicating an an elevated risk and acceptable hazard level for the site. See Tables 3 to 5 for these calculations.

3.0 Property Use

Available records kept by the County of Kern, City of Arvin, aerial photograph reviews, city directories, etc., indicate that the property was agricultural land up to the 1980's. Structures have been present in the northeastern portion of the site since the 1940's with most removed by 2014.

3.1 *Chronology of Former Property Use* - Site usage, as indicated on aerial photographs, City Directories and Building Permits has included the following:

- The site was predominately agricultural land from at least 1937 to the 1980's.
- Residential and farm related structures appear to have been present within the northeastern portion of Site from at least 1942. The majority of these structures were removed by 2014.
- Oilfield activities on-site began by 1973 and are still present within 2 tank settings on the property.

3.2 *Rationale For Research Period* - The research period for records dates from the earliest records retained in the archives of the County of Kern and available databases yielding information from 1950's to the present.

3.3 *Sources* - A review was made of environmental records maintained by government agencies and private sources. The contents of that review are included in Appendix A. The list of Federal, State, and Local databases searched is summarized on Page ES1 to ES6 and GR1 to GR5 of the EDR-Summary Radius Map with GEOCHECK (Appendix A). In addition, the following sources were researched:

Building Permits – City of Arvin and Kern County building permits were reviewed from

the 1950's to the present. The following permits on the subject property were listed:

- No available permits indicate an environmental concern.

California Division of Oil and Gas Publications - Records were researched for the period circa 1940 to the present. Division of Oil and Gas and Geothermal Resources (DOGGR) Online Mapping System indicates that 4 oil wells have been drilled on the site. This includes 3 active oil wells (Jewett #1-1, #1-2 and #1-3) within the NW Tank Setting operated by Petro Capitol Resources and 1 active oil well (Goldman-Jewett 1-23) operated by Sun Mountain Oil Company in the southern tank setting. These wells were all drilled between 1970 and 1973. 134 oil wells are listed within 1-mile from the site by EDR. See Plate 9 for the location of the nearby active or abandoned oil and gas wells.

Kern County Environmental Health Services Department - The following information was found on file for the sites close enough to be considered a possible threat to the subject property:

- Petro Capitol Resources (PCR), Intersection of Varsity Rd., Mahin Drive and Nelson Ct. A gas leak was reported in the neighborhood just west of the subject site in March 2014. PCR shut-down a well field gas pipeline passing north of the residential neighborhood. The pipeline was pressure-tested and a leak was detected in the vicinity of Mahin Dr. and Varsity Ave. A portion of the neighborhood was vacated, the houses were ventilated and vapor extraction wells were installed in the neighborhood to mitigate the vapor levels within some of the houses coming from the subsurface soil. The treatment system was placed within the NW tank setting with PVC pipes running north and west into the neighborhood. Multiple soil samples were collected within the neighborhood and on the subject site to determine what subsurface soil was impacted and when treatment was complete. Vapor levels were mitigated by the end of August 2014. The 4 on-site soil borings (BG-4 to BG-7) conducted near the NW corner of the site, indicated no subsurface impact at 2' bgs from this leak. This incident has been successfully cleaned up and is not an environmental threat to the subject site. See attached Field Data Report dated August 15, 2014 in Appendix B for more detail.

Kern County Department of Agriculture – The Kern County Department of Agriculture keeps hard copy records for the past 5 years only. Online permit and use data goes back to 1994. Agricultural use was conducted at this site up into the 1980's, but has been idle for at least 30 years so no records are available of actual use.

4.0 Current Property Uses

The site is currently idle land with 2 idle water wells and an abandoned house. Two (2) active tank settings are also on the property.

See Plate 2 for the current site plan.

5.0 Current and Historical Regulatory Review of Subject Site & Adjoining Listed Properties

5.1 *Site* - The subject site address does appear on the EDR database search report with the following listing:

- Sun Mountain Oil & Gas – Jewett 1-23 – This is the southern tank setting and is listed under the AST database for having aboveground storage tanks. No violations are noted for this listing.

5.2 *Adjoining Listed Properties* –The following adjoining properties are listed in the EDR database search.

- Arvin High School, 900 Varsity Ave. – Located just North of Site. Listed on UST, HIST UST, SWEEPS UST, AST databases. No violations noted.

5.3 *Database Search* - A summary of the list of government records searched is contained in Appendix A in the sections titled "EXECUTIVE SUMMARY" and "GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING," pages Executive Summary 1-6 and GR1 through GR5.

6.0 User Provided Information

6.1 *Review of Title Information* - Other than normal utility easements, petroleum pipelines and oil gas leases no other easements are known that would indicate use of the property for process, storage, disposal or transportation of hazardous materials.

6.2 *Owners* - The following are the owners/lessee's and Assessors Parcel Number for the subject site:

The following parcel comprises the site area:

APN: 190-020-14, 46 & -48, Owners: City of Arvin

6.3 *Environmental Liens or Activity and Use Limitations*
No environmental liens or Activity and Use Limitations are known for this site. See attached USER Questionnaire in Appendix B which was completed by Eric Mittlestead

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The following parcel comprises the site area:

APN: 190-020-14, 46 & -48, Owners: City of Arvin

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No environmental liens or Activity and Use Limitations are known for this site. See attached USER Questionnaire in Appendix B which was completed by Eric Middlestead

of the Kern Community College District.

6.4 Specialized Knowledge
The user has no specialized knowledge for this site.

6.5 Commonly Known or Reasonably Ascertainable Information
- The user has no historical information that covers the sites usage.
- The user has no knowledge of specific chemicals used at the site, besides active oil wells.
- The user has no knowledge of any spills or other chemical releases that have taken place at the site.
- The user has no knowledge of an environmental cleanup that has taken place at the site.

6.6 Valuation Reduction for Environmental Issues
The site is being donated by the City of Arvin so does not apply.

6.7 Owner, Property Manager and Occupant Information
The owner of the property is the City of Arvin. No property manager or occupants.

6.8 Reason for Performing Phase 1 ESA
The Phase 1 ESA is being performed as part of a due diligence requirement prior to purchase of the property.

6.9 Other
None.

7.0 Geology and Hydrology

7.1 The regional area of the site has an overall southwestern slope. (See Physical Setting Source Map, Plate 5).

7.1.1 Geologic Setting - The project site rests on Quaternary fan deposits, identified as Qf on geologic maps within the San Joaquin Valley. Near surface soils within the zone of influence of future developments consist of interbedded sand, gravel, silt, and clay overlying bedrock, which is located several thousand feet below the surface. No asbestos bearing rock is suspected within 10-miles of the site location.

7.1.2 Surface Lithology - Earth materials encountered at the site in the six (6) soil gas borings (SG-1 to SG6) advanced to a depth of 15' bgs consisted of interbedded strata of silty sand, sandy silt, and sand, classified as SM, ML and SP & SW respectively, in the Unified Soil Classification System (USCS).

7.2 Hydrology

7.2.1 Depth To Water - The depth to the unconfined aquifer as indicated by Kern County Water Agency maps was approximately 350' in 2008. GeoCheck (Appendix A) indicates that wells within 1-mile of the site had a depth to groundwater between 127' to 274' in the years 1949 and 1958. See Plate 8 for a Depth to Water Map.

7.2.2 Groundwater Quality - The groundwater quality data shown on Kern Water Agency maps and data in Appendix A appears to be good within 1 mile of the site.

7.2.3 Plate 5 "Physical Setting Source Map," (Appendix A, Page A-11) depicts general site topography including elevation contour lines, closest water wells given on Federal and State databases, and closest public water wells. Earthquake fault lines, epicenters of earthquakes and operational oil and gas wells are also indicated, if present.

7.2.4 Water Wells –34 water wells (Federal or State listings) were indicated within one mile of the property as indicated in the data base search provided in Appendix A in the section titled "GEOCHECK – PHYSICAL SETTING SOURCE SUMMARY – WELL SEARCH DISTANCE INFORMATION" are shown on Plate 5.

7.2.5 The California Regional Water Quality Control Board - Leaking Underground Storage Tank (LUST) records were reviewed. A list of agencies with LUST information is given on page GR1 to GR5 in Appendix A. As the regulatory agency for the California Regional Quality Water Control Board, the Kern County Environmental Health Services Division maintains a database of underground storage tanks and leaking underground storage tanks in the Kern County area, including the subject site. An Independent data base search was performed by Environmental Data Resources Inc. (EDR). The State GeoTracker website and Kern County Environmental Health Department records were also searched for LUST sites near the subject site.

7.2.6 Wetlands – No wetlands are present within ¼-mile of the site according to the National Wetlands Inventory maps.

8.0 Oil and Gas Well Locations were reviewed utilizing the DOGGR Online Mapping System and the results are shown on Plate 9.

9.0 Surrounding Properties - PLATE 6, "OVERVIEW MAP" shows the locations of sites that were listed on one of the DATABASES searched (See Section 5.2, "REVIEW OF ENVIRONMENTAL RECORDS MAINTAINED BY GOVERNMENT AGENCIES

AND PRIVATE SOURCES").

9.1 *Data Base Search* – 14 properties were mapped within a one-mile radius of the site (see Overview Map, Plate 6) as potential environmental threats. For more detail on these sites see Plate 7, Detail Map and page 8 to 11 in Appendix A.

9.2 *Orphan Summary List* – None of the orphan sites listed on page 21 in Appendix A appear to be an environmental threat to the subject site.

9.3 *Historical Use Information on Adjoining Properties*
At this point in time, the adjoining properties to the site are predominately schools and residential. None of the adjoining properties currently have environmental issues of potential concern to the subject site.

10.0 Interviews - The following interviews were conducted during this Phase 1 ESA.

10.1 *Interview with Owner*
An Environmental Questionnaire and Disclosure Statement was sent to the owner of the property, but was not completed by the dated of this report.

10.2 *Interview with Site Manager*
The site is unoccupied.

10.3 *Interview with Occupants*
Same as 10.2.

10.4 *Interviews with Local Government Officials*
SEI conducted phone or e-mail interviews with the Kern County Environmental Health Services Department (KCEHSD), and the City of Arvin Building Department, concerning the sites historical activities and adjoining properties.

10.5 *Interviews with Others*
No other interviews were conducted for this site.

11.0 Findings
The following was identified at the site during this investigation:

- A review of Kern County Environmental Health Services files & the EDR Database records indicate that no off-site properties within a one-mile radius of the site boundaries are of environmental concern and are not currently a threat to the subject property. A neighborhood cleanup of a petroleum hydrocarbon leak in a well field gas pipeline emanating from the NW tank setting was completed in 2014. The

cleanup system was located within the NW tank setting and soil samples collected on-site indicated no on-site impact from this nearby pipeline leak where sampled.

- Agricultural activities occurred at the site from at least the 1930's up until the 1980's. Structures and storage areas appear to have been present within the northeastern portion of Site from at least the 1940's to 2014. Multiple soil samples were collected and analyzed for organochlorine pesticides (OCPs) and arsenic across the field areas. The OCP concentrations were all reported below the EPA Residential Screening Levels (RSLs). Arsenic concentrations were reported within the normal range for the Arvin area in the shallow soil with a few elevated arsenic concentrations reported in the deeper samples. Soil samples were also collected within the former and existing structure areas with selected soil samples analyzed for OCPs, arsenic, lead, and total petroleum hydrocarbons (TPH). Elevated concentrations of the OCPs 4,4'-DDT, chlordane and dieldrin, along with lead and TPH were reported in some of these soil samples. Some removal activities will be required prior to the preparation of the site as a college campus. This historical activity is considered a REC.

- Two (2) water wells are present on the site that may have been utilized for mixing of chemicals. Soil samples were collected adjacent to the water wells which were analyzed for OCPs, organochlorine herbicides (OCHs), arsenic, lead and TPH. Elevated 4,4-DDT and lead were reported in the top 1' of soil adjacent to the east side of the northeastern water well (WW 1). No elevated concentrations of concern were reported in the western water well sample (WW 2). The elevated concentrations of lead and 4,4'-DDT adjacent to the northeastern water well should be removed and replaced with clean soil. This is considered a REC.

- An underground storage tank (UST) is suspected to be present adjacent to a small shed southwest of the house. A soil sample collected at a depth of 6' adjacent to the east end of the suspected UST had no petroleum hydrocarbons reported of potential concern. This UST should be removed per Kern County Environmental Health Services Department (KCEHSD) regulations. This is considered a REC.

- Oilfield activities have been conducted on-site within 2 tank settings. Soil samples and trenches were conducted adjacent to the limits of these 2 tank settings. The only area of potential concern identified in these samples and trenches was on the east side of the east gate of the southern tank setting where stained soil was encountered at location TF2-2. The analytical results of the TF2-2 soil samples did not indicate any elevated TPH, volatile organics, chlorides, pH or metals at this location.

- A soil gas survey was conducted at 6 locations across the site with no petroleum hydrocarbon vapors, methane or H2S reported of potential concern. In addition, no

off-site activities are known that would have the potential for vapor encroachment onto the site.

- A petroleum pipeline is present running east from the northwestern tank setting. Soil samples collected at 3 locations adjacent to the pipeline had no petroleum hydrocarbons reported. Another suspected petroleum pipeline appears to be present near the southern tip of the site. A soil sample collected adjacent to this suspected pipeline had no petroleum hydrocarbons reported.

- The cumulative cancer risk calculated for this site is 2.3×10^{-5} with a cumulative hazard index of 0.84 indicating an elevated risk and low hazard level for the site. Arsenic and lead concentrations were evaluated separately from this calculation.

- No other Historical recognized environmental concerns (HREC's) or Controlled recognized environmental concerns (CREC's) were identified at this site.

12.0 Opinion

The following is SEI's opinion as to the known or suspected recognized environmental concerns identified at the site.

- Based on the analytical results of soil samples collected and analyzed on-site during this investigation it appears that agricultural activities have not impacted the field areas with elevated levels of OCPs or arsenic.

- The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the eastside of the NE water well should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~2 cubic yards) should be disposed of per State and Federal regulations.

- The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the small shed should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~10 cubic yards) should be disposed of per State and Federal regulations and is considered a CA hazardous waste.

- The elevated dieldrin and chlordane reported in the soil adjacent to the existing house (~80 cubic yards), and within former structures areas S8 (~333 cubic yards) and S9 (~116 cubic yards) should be removed to an approximate depth of 1' to 2.5' and replaced with clean soil. The removed soil should be disposed of per State and Federal regulations.

- The suspected UST adjacent to the small shed should be exposed, cleaned and properly removed per Kern County Environmental Health Services Department regulations. This should include soil sampling to evaluate subsurface soil beneath

the UST once removed.

- The two (2) tank settings on-site do not appear to have impacted the near surface soil adjacent to the tank settings. If these tank settings are ever to be utilized by the client as part of the school campus these areas will need to be thoroughly assessed and remediated, if warranted, prior to development.

- The two (2) suspected areas with petroleum pipelines should be thoroughly assessed and remediated, if warranted, upon removal. Setbacks from these pipelines may be needed if they are to be utilized in the future.

- The neighboring sites appear to be a low environmental risk to the site.

13.0 Conclusions & Deviations

13.1 Conclusions - The results of our investigation indicate a moderately high probability that the site has been contaminated by the use, storage, or transportation of hazardous materials from either on-site or off-site activities.

SEI has performed an Enhanced Phase 1 Environmental Site Assessment, in conformance with the scope and limitations of ASTM Practice E 1527-13, of the property known as the Potential KCCD Site located southwest of Varsity Road and Campus Drive in Arvin, CA. Any exceptions to or deletions from this practice are described in section 13.2 of this report. This assessment has revealed a few significant recognized environmental conditions (RECs) in connection with this property and some cleanup activities are recommended prior to development.

13.2 Deviations – The following deletions or additions to the ASTM E 1527 standard practice were conducted during this investigation.

Deletions

– *None*

13.3 Additional Services

- Reporting of average radon concentrations in the general area of the site.
- Conducting soil sampling and chemical analysis of the near surface soil across the site area.
- Conducting a soil gas survey across the site area.

13.4 Data Gaps

- The Environmental Questionnaire and Disclosure Statement was not completed by the owner by the date of this report.

14.0 Attachments

14.1 Location Map - Plate 1, "Location Map" shows the location of the site with relationship to roads and land features.

14.2.1 Plot Plan Map - Plate 2, Plot Plan shows the location and configuration of the property in relation to nearby roads, canals and other geographical features.

14.3 Sampling Map – Plate 3 shows the location of the soil samples collected and the soil gas survey locations on the site in relationship to local streets.

14.3.1 Plate 3A - Former & Existing Structure Area Sampling Map – shows the location of the soil samples collected within the existing and former structure areas within the Site.

14.4 Photo Vantage Map - Plate 4, "PHOTO VANTAGE MAP" shows the location and direction of photos taken at the site. See attached for pictures.

14.5 Physical Setting Source Map - Plate 5, the property location referenced to major city streets, oil wells, State and Federal public supply wells along with topographic elevations is attached as the "Physical Setting Source Map," Plate 5.

14.6 Overview Map - Plate 6, the property location referenced to neighboring streets and potentially environmental sensitive sites up to 1 mile away is attached as the "OVERVIEW MAP," Plate 6.

14.7 Detail Map - Plate 7, the property location referenced to neighboring streets and potentially environmental sensitive sites within 1/4 mile is attached as the "DETAIL MAP," Plate 7.

14.8 Depth To Water Map – Plate 8, shows the depth to water in the area of the site from the most recent Kern County Water Agency maps.

14.9 DOGGR Map – Plate 9, the property location referenced to oil or gas wells located on or near the site.

14.10 Appendix A - Contains the Environmental Data Base Resources, Inc. (EDR), EDR SUMMARY RADIUS MAP REPORT WITH GEOCHECK - TM, Inquiry No.: TC5027256.2s, August 18, 2017, the Certified Sanborn Map Report; the Historical

Topographic Maps; the EDR-City Directory Abstract and a Vapor Encroachment Screen.

14.11 Appendix B - Contains a copy of the Assessors Map for the property. USER Questionnaire, Table 1 (Soil Sample Analytical Results), Table 2 Soil Gas Survey Results, Table 3 to 5 Risk & Hazard Calculations, Analytical Reports (12) are attached. Soil Gas Boring Logs (6), Stantec Field Data Report dated August 15, 2014. DOGGR records for the on-site oil wells.

14.12 Appendix C - Aerial Photographs contains copies of available recent aerial photographs (1937 to 2017).

14.13 Appendix D - Quality Assurance/Quality Control

14.13.1 A site inspection check list has been completed as a part of the site reconnaissance survey and is attached on QA/QC Form D-1.

14.13.2 Form QA/QC - D-2 provides a checklist of summary of historical research items included in the scope of the investigation.

14.13.3 A list of aerial photographs reviewed are given on QA/QC Form D-3

14.13.4 Areas excluded from review because of inaccessibility or for other causes, not included in the site reconnaissance are listed on QA/QC - D-4.

15.0 Statement of Qualifications

This *Phase 1 Environmental Site Assessment* was prepared by Mr. Robert J. Becker, a California Professional Geologist (PG-5076) and a Certified Engineering Geologist (CEG). Mr. Becker has a Bachelor of Science degree from Oregon State University with a major in geology. Mr. Becker is also registered in the State of Oregon (PG).

Mr. Becker has performed numerous Phase 1 Environmental Site Assessments and site characterizations, and risk assessments for known contamination on raw land, on existing residential, commercial, and industrial properties for public and private sector clientele. Mr. Becker's experience includes; installation of monitoring wells, vapor extraction system installations and operation, bioremediation of contaminated soil, groundwater treatment system installations and operation, and risk assessments.

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 CFR Part 312. I have the specific qualifications based on education, training, and experience to assess property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in

40 CFR Part 312.

16.0 References

- Environmental Data Resources; The EDR-Radius Map with Geo-Check, 2017, Historical Topographic Maps, Sanborn Map Search, City Directory Search, The EDR-City Directory Abstract and the EDR Vapor Encroachment Screen.
- California Division of Oil and Gas, DOGGR Well Finder website.
- Aerial Photographs – EDR, Kern County Engineering and Surveying Services, Google Earth.
- Kern County Environmental Health Services Department.
- City of Arvin Building Department files.
- California Division of Mines and Geology - Geologic Map of California-Bakersfield Sheet.
- Kern County Water Agency maps 1982 to 2015.
- Dept. of Water Resources, water data library.
- GeoTracker website.
- Kern County Department of Agriculture Online Data.
- Stantec, Field Data Report, Nelson Ct., Arvin CA., August 15, 2014.



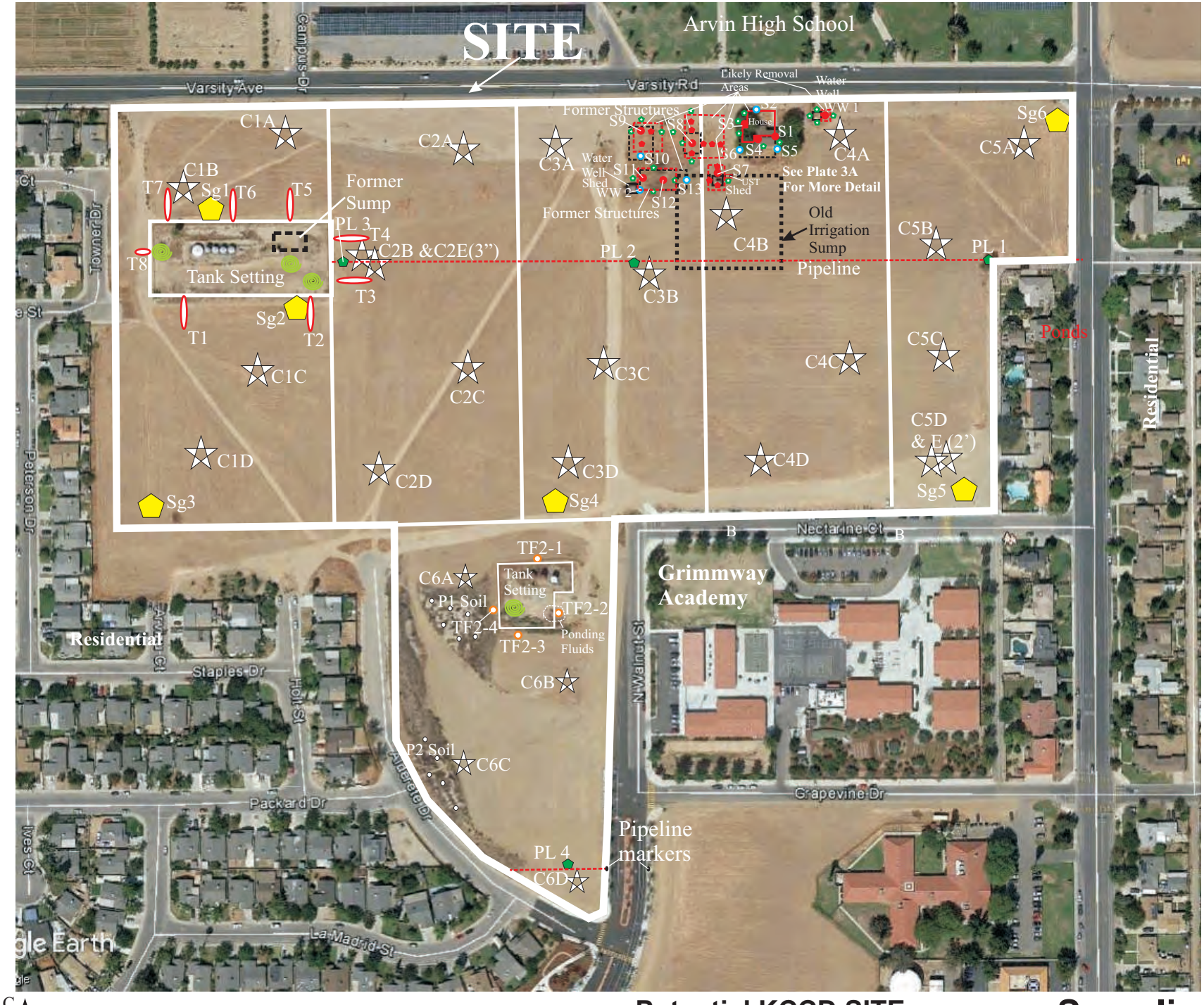
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

Location Map
PLATE 1



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

Plot Plan
PLATE 2



C Sample @ 0-6", 2'-2.5' (arsenic,OCPs)

Sample @ 0-6", 2'-2.5' (arsenic, lead, OCPs, TPH)

Sample with elevated concentrations of concern (OCPs, TPH or Lead)

Soil Gas Survey @ 5', 15' for H2S, Methane & VOCs)

Potential KCCD SITE

Oil Well

T Exploration Trench

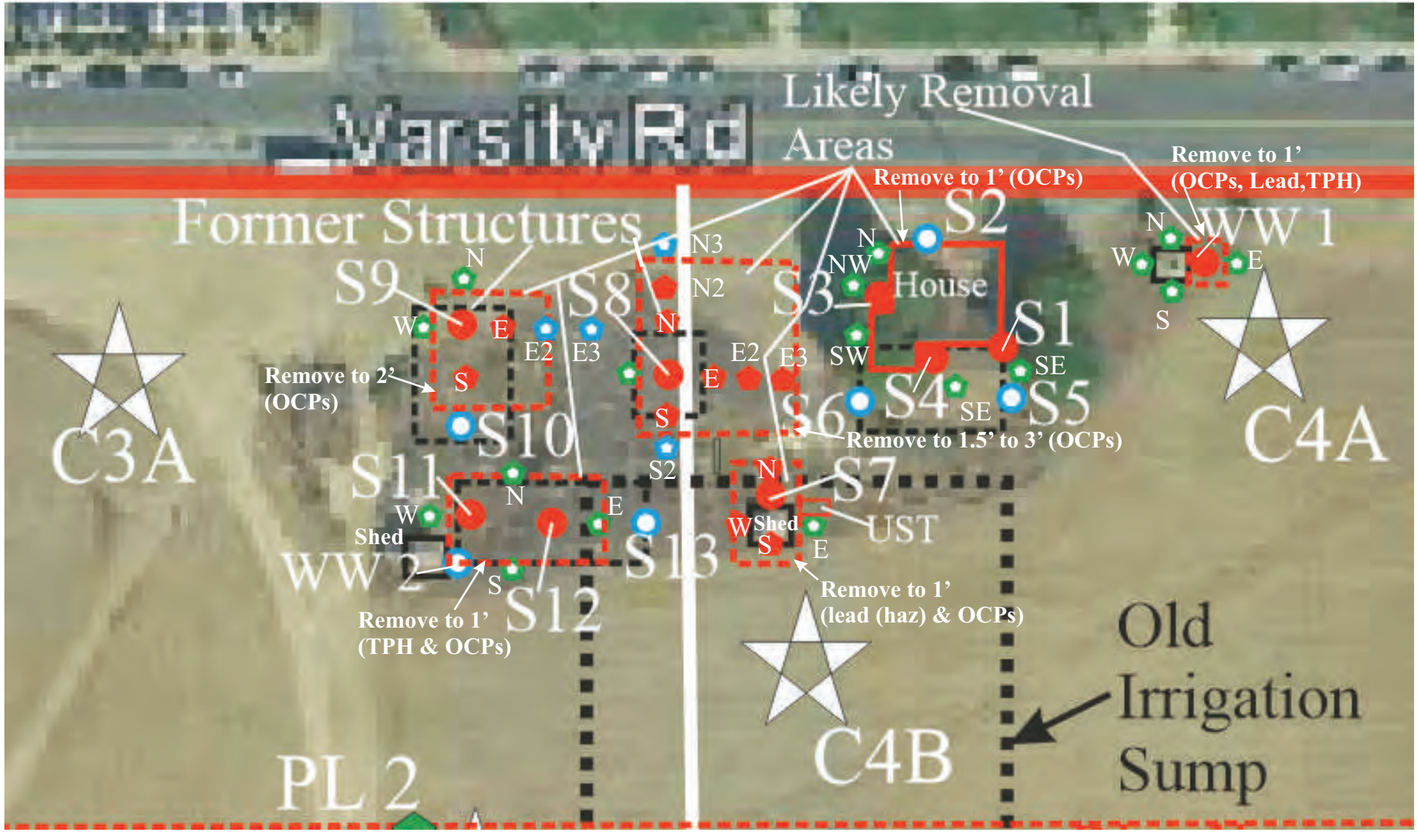
0 50' 100' 200'
Approx. Scale

Step-out Sample with elevated concentrations of concern (OCPs, TPH or Lead)

Step-out Sample with no elevated concentrations of concern

Sample @ 2', 4' (TPH & other)

Sampling Map
PLATE 3



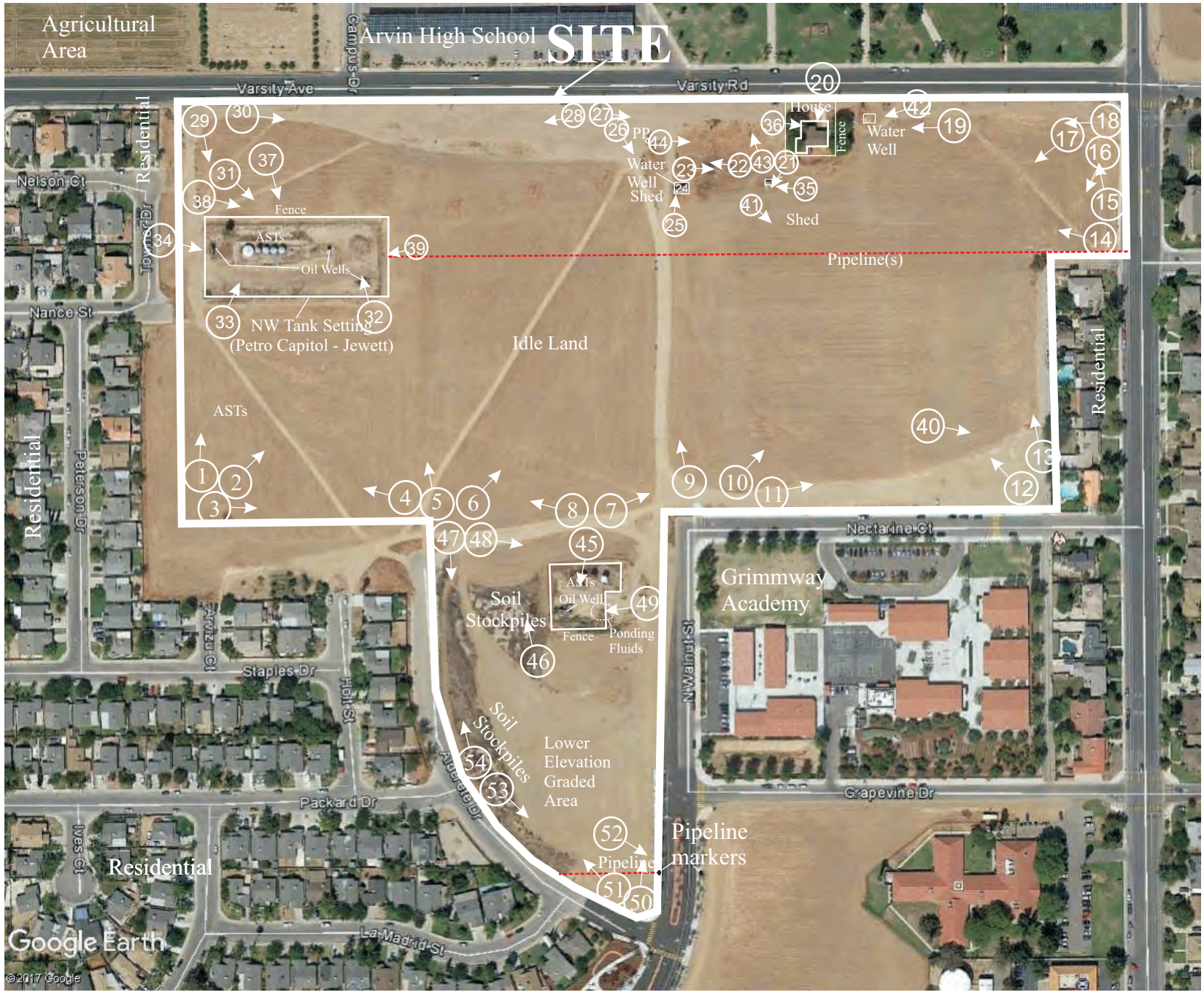
House, Water Well & Former Structure Area Detail

PLATE 3A

- Step-out Sample with elevated concentrations of concern (OCPs, TPH or Lead)
- Step-out Sample with no elevated concentrations of concern
- Sample with no elevated concentrations of concern
- Sample with elevated constituents of concern (OCPs, TPH or Lead)

0 15' 30' 60'
Approx. Scale

Likely Area of Removal (1' to 3' deep)



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

(#) Picture # & Direction

Photo Map
PLATE 4



Picture 1. Looking North from the SW Corner of site.



Picture 2. Looking NE from SW corner of Site.



Picture 3. Looking East from the SW Corner of Site.



Picture 4. Looking West from the South Middle section of the site.



Picture 5. Looking NW from the South Middle section of the site.



Picture 6. Looking NE from the South Middle section of the site.



Picture 7. Looking East from the South Middle section of the site.



Picture 8. Looking West from the Southeastern section of the Site.



Picture 9. Looking NW from the Southeastern section of the site.



Picture 10. Looking NE from the Southeastern section of the site.



Picture 11. Looking East from the Southern border of the site.



Picture 12. Looking NW from the Southern border of the site.



Picture 13. Looking North from the SE corner of the site.



Picture 14. Looking West from the NE portion of the site.



Picture 15. Looking North from the NE portion of the site.



Picture 16. Looking South from the NE corner of the site.



Picture 17. Looking SW from the NE corner of the site.



Picture 18. Looking West from the NE Corner of the site.



Picture 19. Looking at idle water well areas just east of the house



Picture 20. Looking South at the front of the house



Picture 21. Looking at small shed SW of the house & UST



Picture 22. Looking west at former warehouse area NW of the shed



Picture 23. Looking East at former warehouse area



Picture 24. Looking at interior of water well shed



Picture 25. Looking North at water well shed



Picture 26. Looking East at power poles near water well shed



Picture 27. Looking East from North portion of site



Picture 28. Looking West from North portion of site



Picture 29. Looking South from the NW Corner of the site



Picture 30. Looking East from the NW Corner of the site



Picture 31. Looking SE at the Jewett Tank Setting



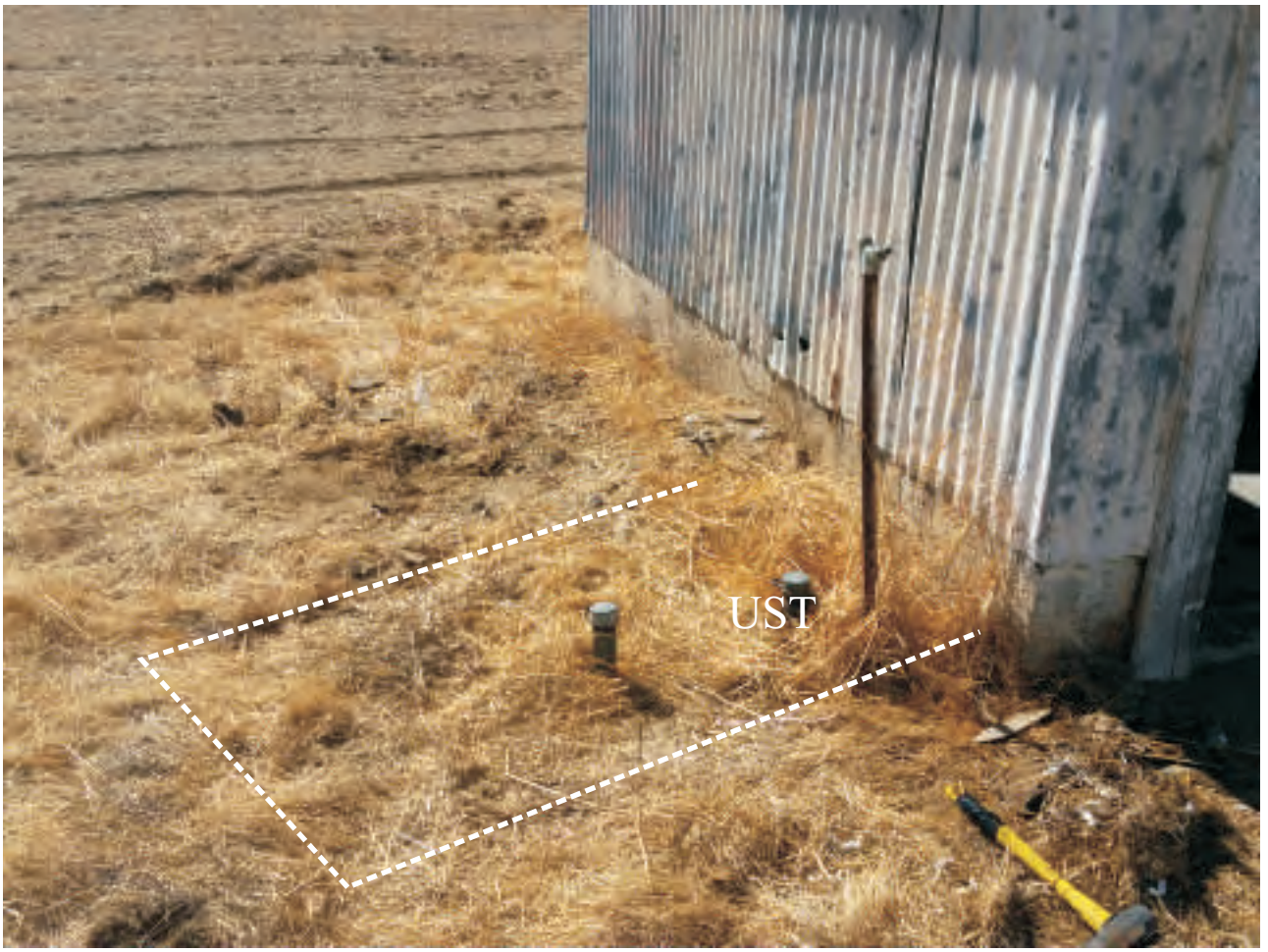
Picture 32. Looking West at Oil Well area



Picture 33. Looking North at stained pad in SW portion of Tank Setting



Picture 34. Looking east at oil drum and staining adjacent to oil well



Picture 35. Looking at suspected UST at NEC of small shed



Picture 36. Looking at Westside of house where step-outs were conducted



Picture 37. Looking at soil gas point SG-1 by Tank Setting



Picture 38. Looking W. at Trenches T5,T6 & T7 on N. side of Tank Setting



Picture 39. Looking at location of petrol. pipeline E. End of Tank Setting



Picture 40. Installing soil gas probes at SG-5



Picture 41. Sampling at SG 12 in former warehouse area



Picture 42. Looking at sampling point WW 1 adjacent to water well



Picture 43. Looking North at area S8 sampling locations



Picture 44. Looking East at Sampling Areas S9 & S8



Picture 45. Looking South at the Southern Tank Setting



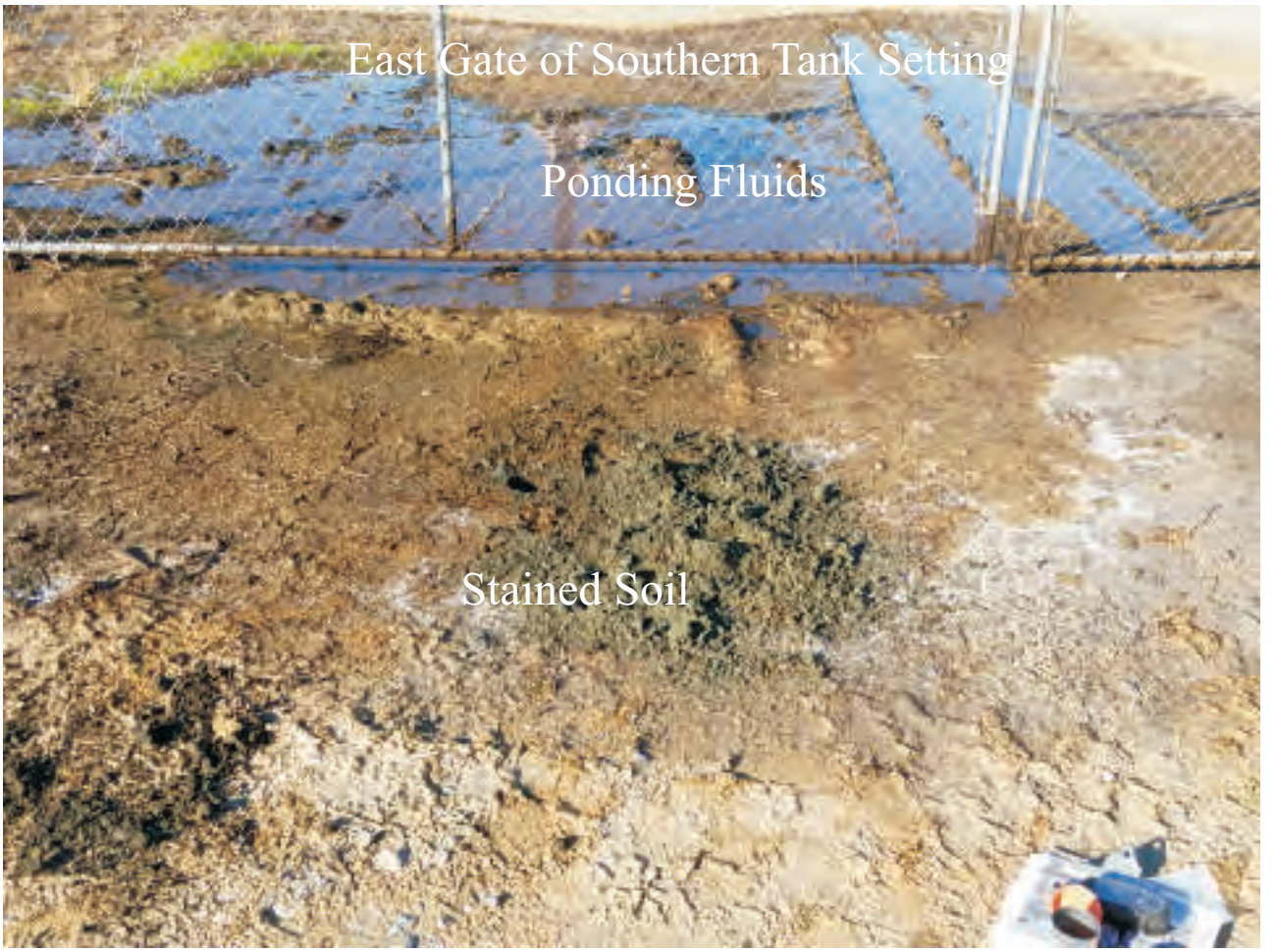
Picture 46. Looking at Stockpiles of Soil just SW of S. Tank Setting



Picture 47. Looking South from Alderete Dr.



Picture 48. Looking East from Alderete Dr. Toward S. Tank Setting



Picture 49. Looking W. at TF2-2 sampling location near E. Gate.



Picture 50. Looking North from the Southern Tip of Site



Picture 51. Looking NW from the Southern Tip of Site



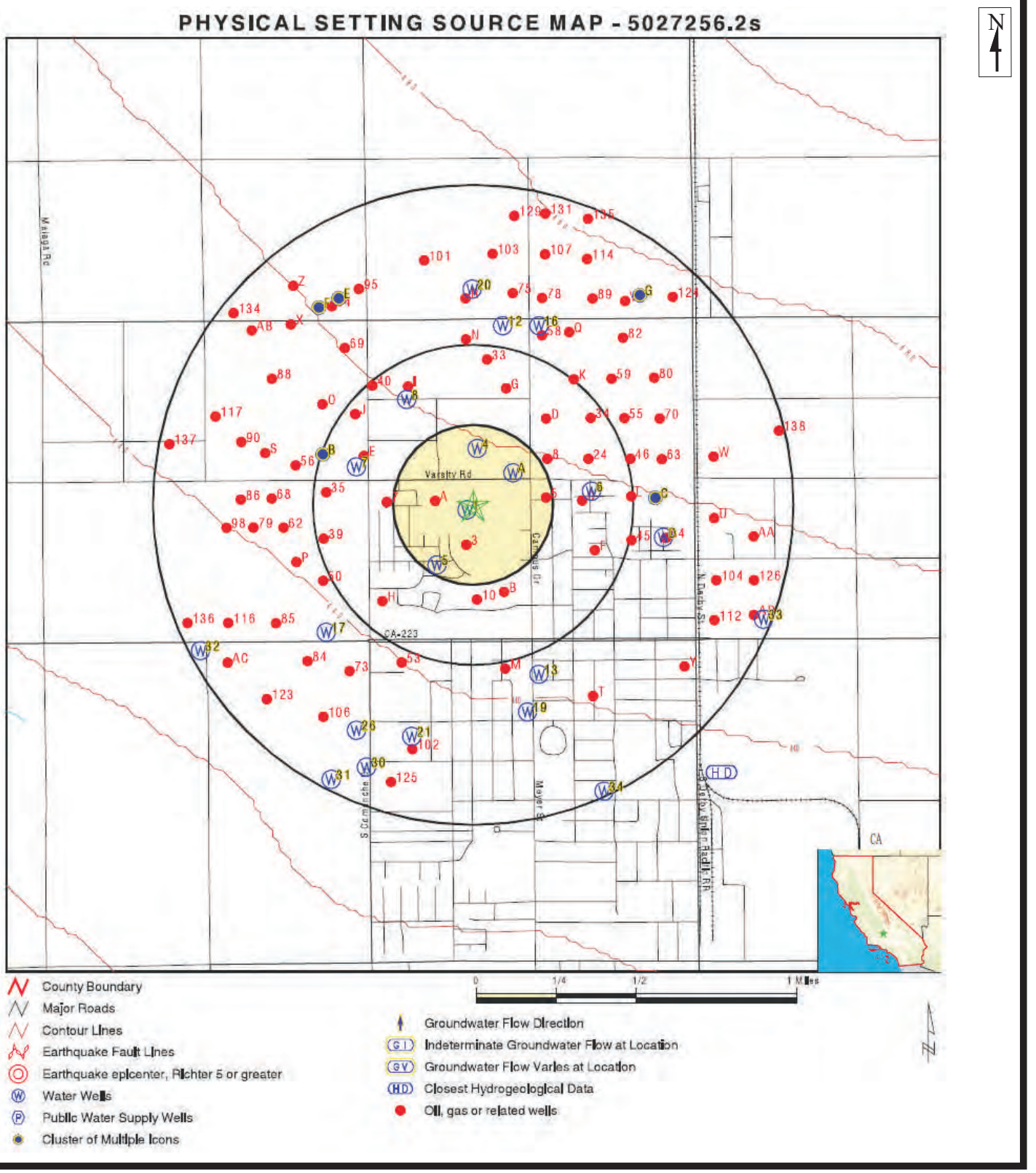
Picture 52. Looking East at 2 Pipeline Markers near Southern Tip of Site



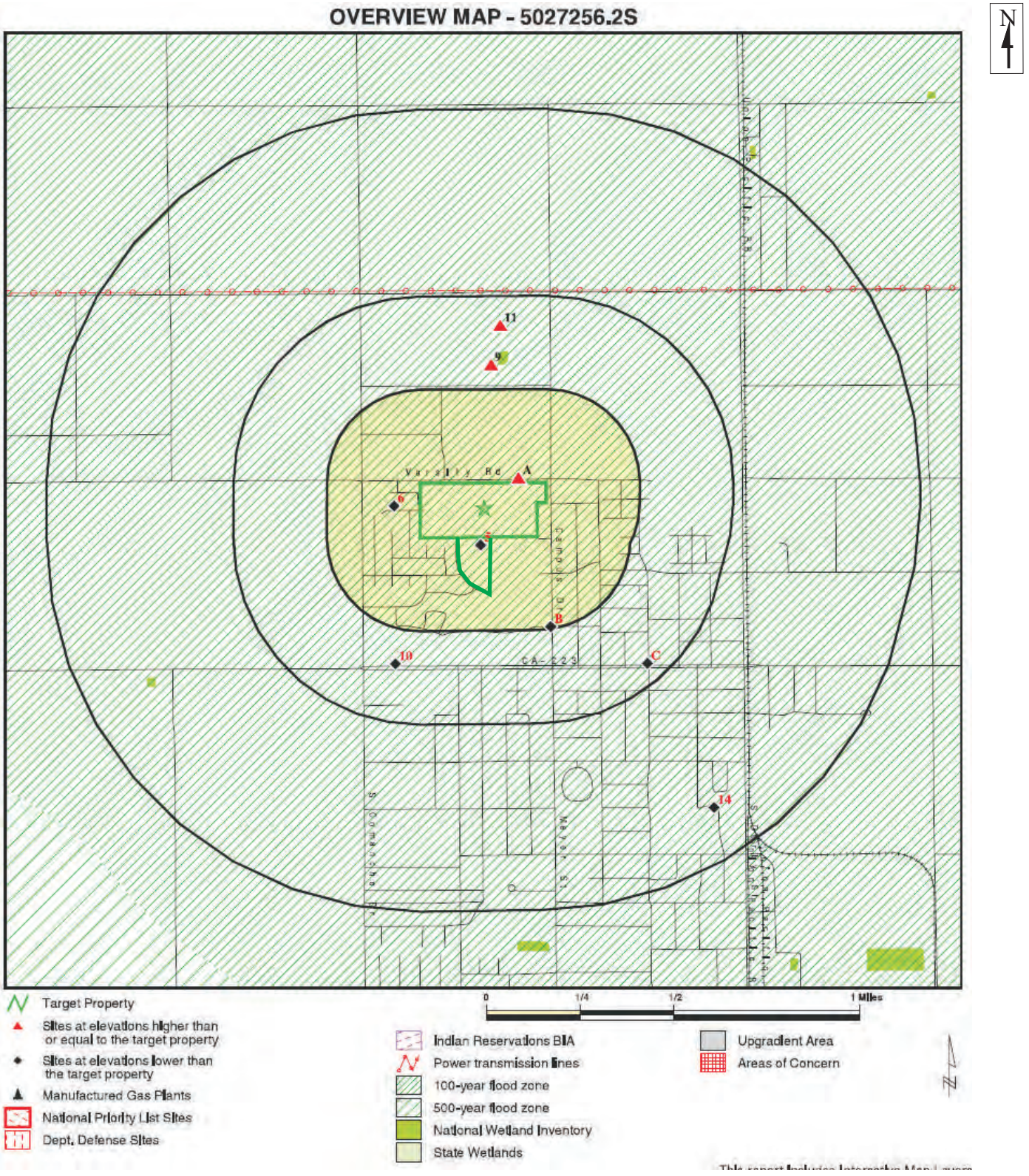
Picture 53. Looking East from the SW portion of the Site



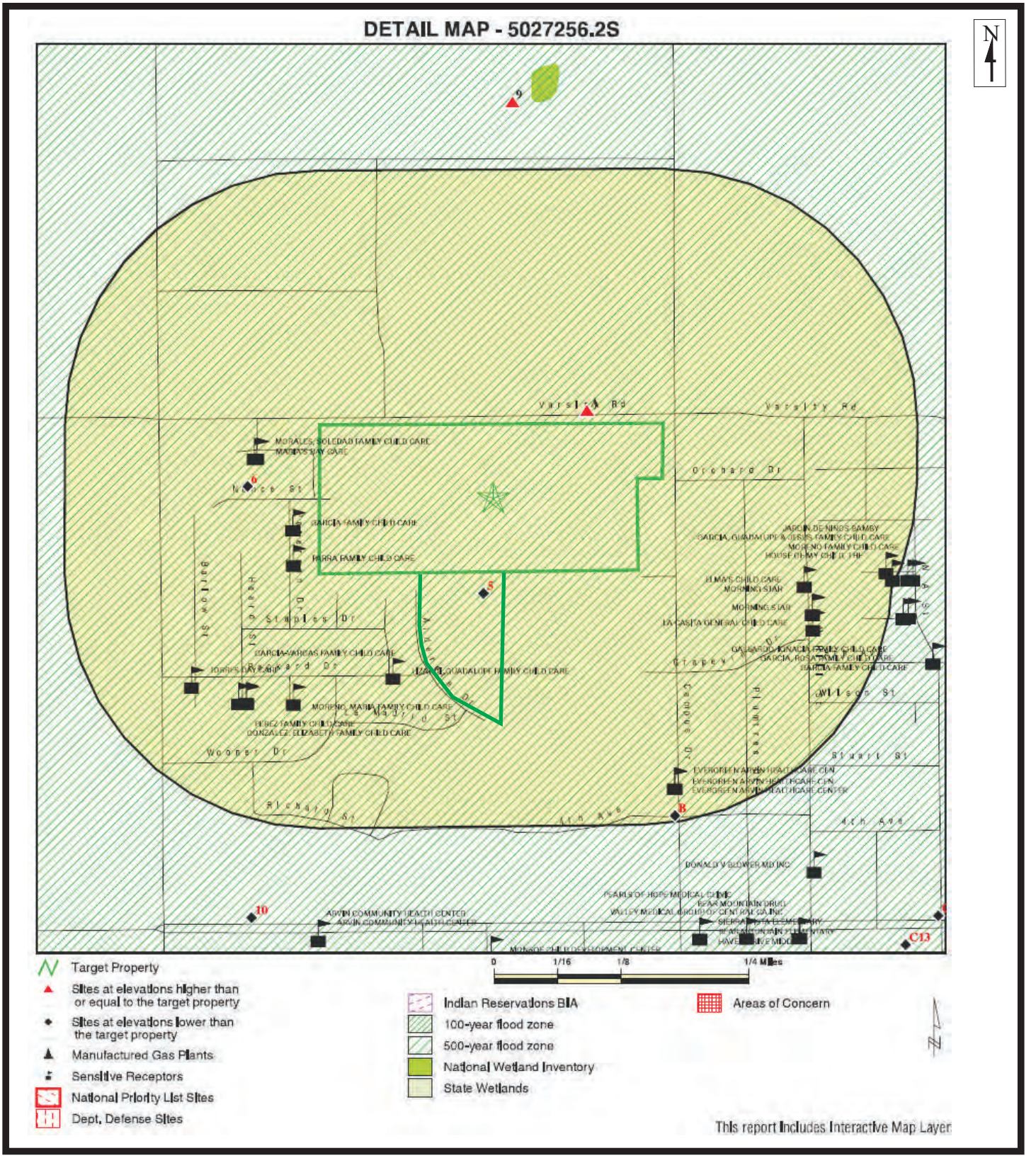
Picture 54. Looking North from the SW Portion of the site



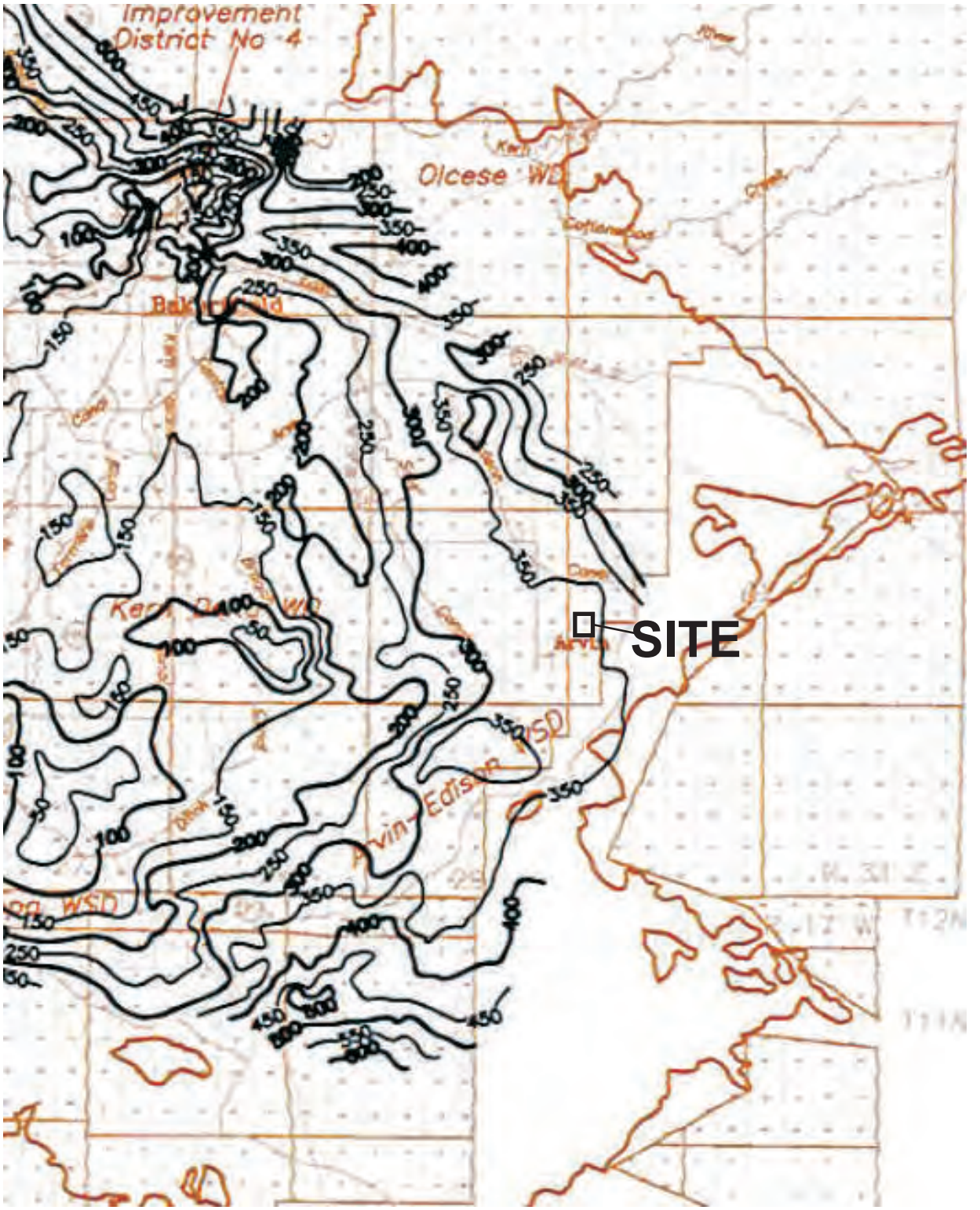
SOILS ENGINEERING, INC. **4400 Yeager Way** **Bakersfield, CA 93313** **(661) 831 - 5100** DATE: 11/17 PROJECT: #16268	**Potential KCCD Site** **SW of Varsity Ave. and Campus Dr.** **Arvin, CA** **Physical Setting Source Map**	**PLATE** **5**



SOILS ENGINEERING, INC. **4400 Yeager Way** **Bakersfield, CA 93313** **(661) 831 - 5100** DATE: 11/17 PROJECT: #16268	**Potential KCCD Site** **SW of Varsity Ave. and Campus Dr.** **Arvin, CA** **Overview Map**	**PLATE** **6**



SOILS ENGINEERING, INC. **4400 Yeager Way** **Bakersfield, CA 93313** **(661) 831 - 5100** DATE: 11/17 PROJECT: #16268	**Potential KCCD Site** **SW of Varsity Ave. and Campus Dr.** **Arvin, CA** **Detail Map**	**PLATE** **7**



KCWA, Depth To Water Map,Spring 2008

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313
(661) 831 - 5100

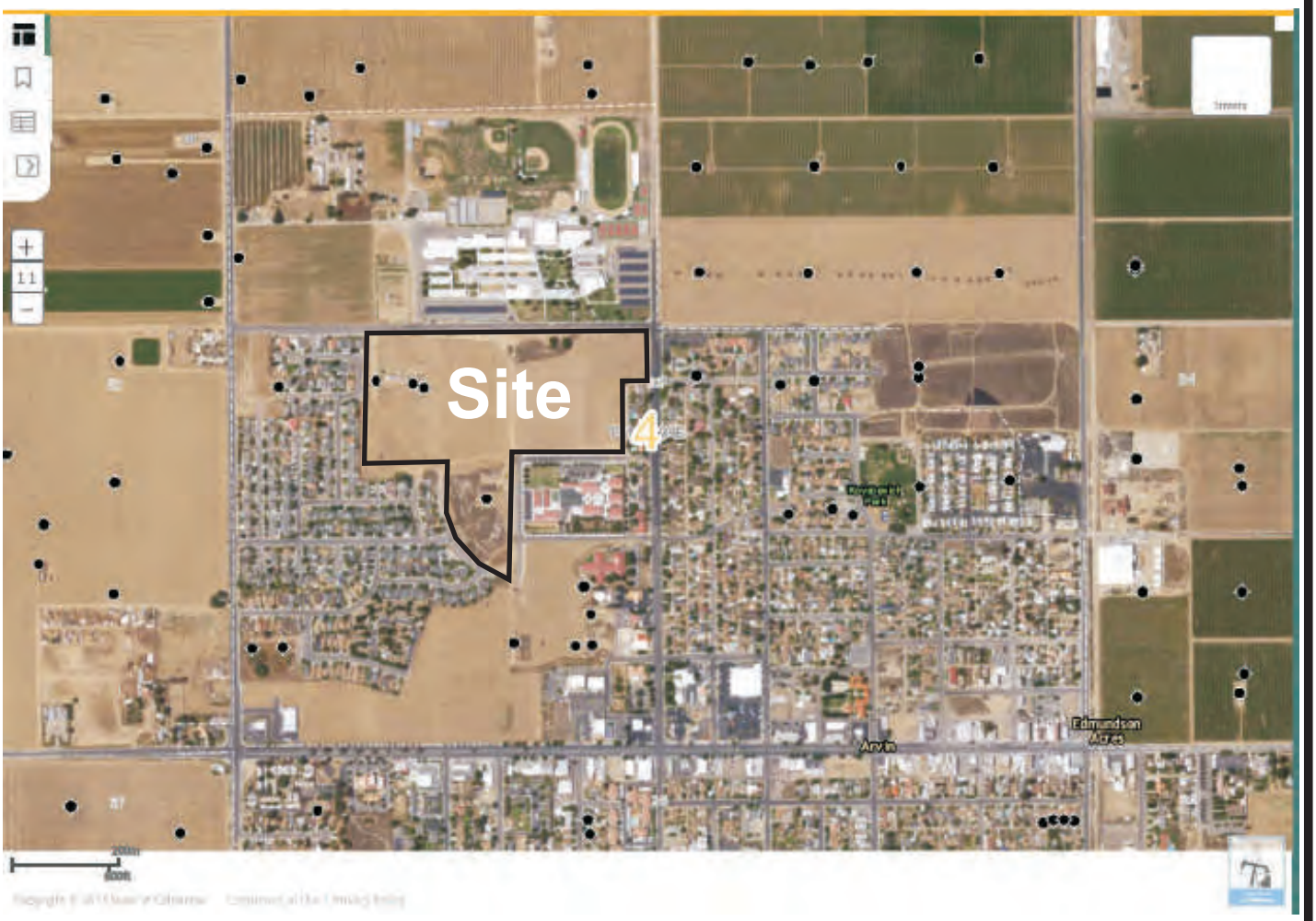
DATE: 11/17
PROJECT: #16268

Potential KCCD Site
SW of Varsity Ave. and Campus Dr.
Arvin, CA

Depth to Water Map

PLATE

8



SOILS ENGINEERING, INC. **4400 Yeager Way** **Bakersfield, CA 93313** **(661) 831 - 5100** DATE: 11/17 PROJECT: #16268	**Potential KCCD Site** **SW of Varsity Ave. and Campus Dr.** **Arvin, CA** **DOGGR Map**	**PLATE** **9**

Appendix A

EDR Summary Radius Map Report, EDR Historical Topographic Map Report, Certified Sanborn Map Report, EDR-City Directory Abstract and EDR Vapor Encroachment Screen.

KCCD Campus Arvin
Varsity and Campus
Arvin, CA 93203

Inquiry Number: 5027256.2s
August 18, 2017

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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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) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

VARSITY AND CAMPUS
ARVIN, CA 93203

COORDINATES

Latitude (North):	35.2151830 - 35° 12' 54.65''
Longitude (West):	118.8364330 - 118° 50' 11.15''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	332848.8
UTM Y (Meters):	3898253.2
Elevation:	455 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5638936 ARVIN, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140617
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
VARSITY AND CAMPUS
ARVIN, CA 93203

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ARVIN HIGH SCHOOL	900 VARSITY AVE	UST	Higher	68, 0.013, NE
A2	ARVIN HIGH SCHOOL	900 VARSITY AVE	AST	Higher	68, 0.013, NE
A3	ARVIN HIGH SCHOOL	900 VARSITY	AST	Higher	68, 0.013, NE
A4	ARVIN HIGH SCHOOL	900 VARSITY RD	SWEEPS UST, HIST UST	Higher	68, 0.013, NE
5	SUN MOUNTAIN OIL AND	S/2 N/2 SW/4 S23 T31	AST	Lower	111, 0.021, South
6	FERNANDEZ TRANSPORT	1312 NANCE ST	RCRA NonGen / NLR	Lower	372, 0.070, West
B7	FIRE STATION 54	301 CAMPUS DR	UST	Lower	1287, 0.244, SSE
B8	ARVIN FIRE STATION	301 CAMPUS DR	SWEEPS UST, CHMIRS, HAZNET	Lower	1287, 0.244, SSE
9	CRUPPER WASTE DISPOS	.25 MI. N OF ARVIN H	SLIC	Higher	1669, 0.316, North
10	ARVIN PUBLIC CEMETER	BEAR MTN BLVD	LUST, HIST CORTESE	Lower	1816, 0.344, SSW
11			WASTEWATER PITS	Higher	2224, 0.421, North
C12	GIUMARRA FARMS INC	BEAR MTN & COMANCHE	LUST, HIST CORTESE	Lower	2373, 0.449, SE
C13	ARVIN MUFFLER	401 BEAR MTN RD	LUST, HIST CORTESE	Lower	2386, 0.452, SE
14	BROWN & BRYANT, ARVI	P.O. BOX 426	Toxic Pits	Lower	4570, 0.866, SE

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-SQG ---------- RCRA - Small 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

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

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
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

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
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

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
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

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
ABANDONED MINES - Abandoned Mines
FINDS - Facility Index System/Facility Registry System
UXO - Unexploded Ordnance Sites
ECHO - Enforcement & Compliance History Information
DOCKET HWC - Hazardous Waste Compliance Docket Listing
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
EMI - Emissions Inventory Data
ENF - Enforcement Action Listing
Financial Assurance - Financial Assurance Information Listing
HAZNET - Facility and Manifest Data
ICE - ICE
HWP - EnviroStor Permitted Facilities Listing
HWT - Registered Hazardous Waste Transporter Database
MINES - Mines Site Location Listing
MWMP - Medical Waste Management Program Listing
NPDES - NPDES Permits Listing
PEST LIC - Pesticide Regulation Licenses Listing
PROC - Certified Processors Database
Notify 65 - Proposition 65 Records
UIC - UIC Listing
WDS - Waste Discharge System
WIP - Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP - EDR Proprietary Manufactured Gas Plants
EDR Hist Auto - EDR Exclusive Historic Gas Stations
EDR Hist Cleaner - EDR Exclusive Historic Dry 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

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 are 3 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARVIN PUBLIC CEMETER	***BEAR MTN BLVD***	***SSW 1/4 - 1/2 (0.344 mi.)***	***10***	***17***
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Case Closed				
GIUMARRA FARMS INC	***BEAR MTN & COMANCHE***	***SE 1/4 - 1/2 (0.449 mi.)***	***C12***	***17***
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Case Closed				
ARVIN MUFFLER	***401 BEAR MTN RD***	***SE 1/4 - 1/2 (0.452 mi.)***	***C13***	***18***
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Database: LUST, Date of Government Version: 03/13/2017				
Status: Completed - Case Closed				
Status: Case Closed				
Global Id: T0602900511				

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 SLIC list, as provided by EDR, has revealed that there is 1 SLIC site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CRUPPER WASTE DISPOS	.25 MI. N OF ARVIN H	N 1/4 - 1/2 (0.316 mi.)	9	16
Database: SLIC, Date of Government Version: 03/13/2017				
Facility Status: Completed - Case Closed				
Global Id: SLT5FU034557				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARVIN HIGH SCHOOL	900 VARSITY AVE	NE 0 - 1/8 (0.013 mi.)	A1	8
Database: KERN CO. UST, Date of Government Version: 02/07/2017				
Facility ID: FA0000086				

Lower Elevation	Address	Direction / Distance	Map ID	Page
FIRE STATION 54	301 CAMPUS DR	SSE 1/8 - 1/4 (0.244 mi.)	B7	13
Database: KERN CO. UST, Date of Government Version: 02/07/2017				
Facility ID: FA0003241				

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 07/06/2016 has revealed that there are 3 AST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARVIN HIGH SCHOOL	900 VARSITY AVE	NE 0 - 1/8 (0.013 mi.)	A2	9
ARVIN HIGH SCHOOL	900 VARSITY	NE 0 - 1/8 (0.013 mi.)	A3	9

Lower Elevation	Address	Direction / Distance	Map ID	Page
SUN MOUNTAIN OIL AND	S/2 N/2 SW/4 S23 T31	S 0 - 1/8 (0.021 mi.)	5	11

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

Toxic Pits: The Toxic Pits Cleanup Act Sites database identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. The data come from the State Water Resources Control Board.

A review of the Toxic Pits list, as provided by EDR, and dated 07/01/1995 has revealed that there is 1 Toxic Pits site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BROWN & BRYANT, ARVI	P.O. BOX 426	SE 1/2 - 1 (0.866 mi.)	14	20
Closure Date: 11/18/91				
Task #: 85115				
Status: CLOSED				

Local Lists of Registered Storage Tanks

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARVIN HIGH SCHOOL	***900 VARSITY RD***	***NE 0 - 1/8 (0.013 mi.)***	***A4***	***10***
Status: A Tank Status: A Comp Number: 23404				

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARVIN FIRE STATION	***301 CAMPUS DR***	***SSE 1/8 - 1/4 (0.244 mi.)***	***B8***	***14***
Status: A Tank Status: A Comp Number: 630025				

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARVIN HIGH SCHOOL	***900 VARSITY RD***	***NE 0 - 1/8 (0.013 mi.)***	***A4***	***10***
Facility Id: 00000023404				

Other Ascertainable Records

RCRA NonGen / NLR: 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.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/12/2016 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FERNANDEZ TRANSPORT	1312 NANCE ST	W 0 - 1/8 (0.070 mi.)	6	12

HIST CORTESE: 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.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 3 HIST CORTESE sites within approximately 0.5 miles of the target property.

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARVIN PUBLIC CEMETER Reg Id: 5T15000191	***BEAR MTN BLVD***	***SSW 1/4 - 1/2 (0.344 mi.)***	***10***	***17***
GIUMARRA FARMS INC Reg Id: 5T15000572	***BEAR MTN & COMANCHE***	***SE 1/4 - 1/2 (0.449 mi.)***	***C12***	***17***
ARVIN MUFFLER Reg Id: 5T15000526	***401 BEAR MTN RD***	***SE 1/4 - 1/2 (0.452 mi.)***	***C13***	***18***

WASTEWATER PITS: 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 board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

A review of the WASTEWATER PITS list, as provided by EDR, and dated 04/15/2015 has revealed that there is 1 WASTEWATER PITS site within approximately 0.5 miles of the target property.

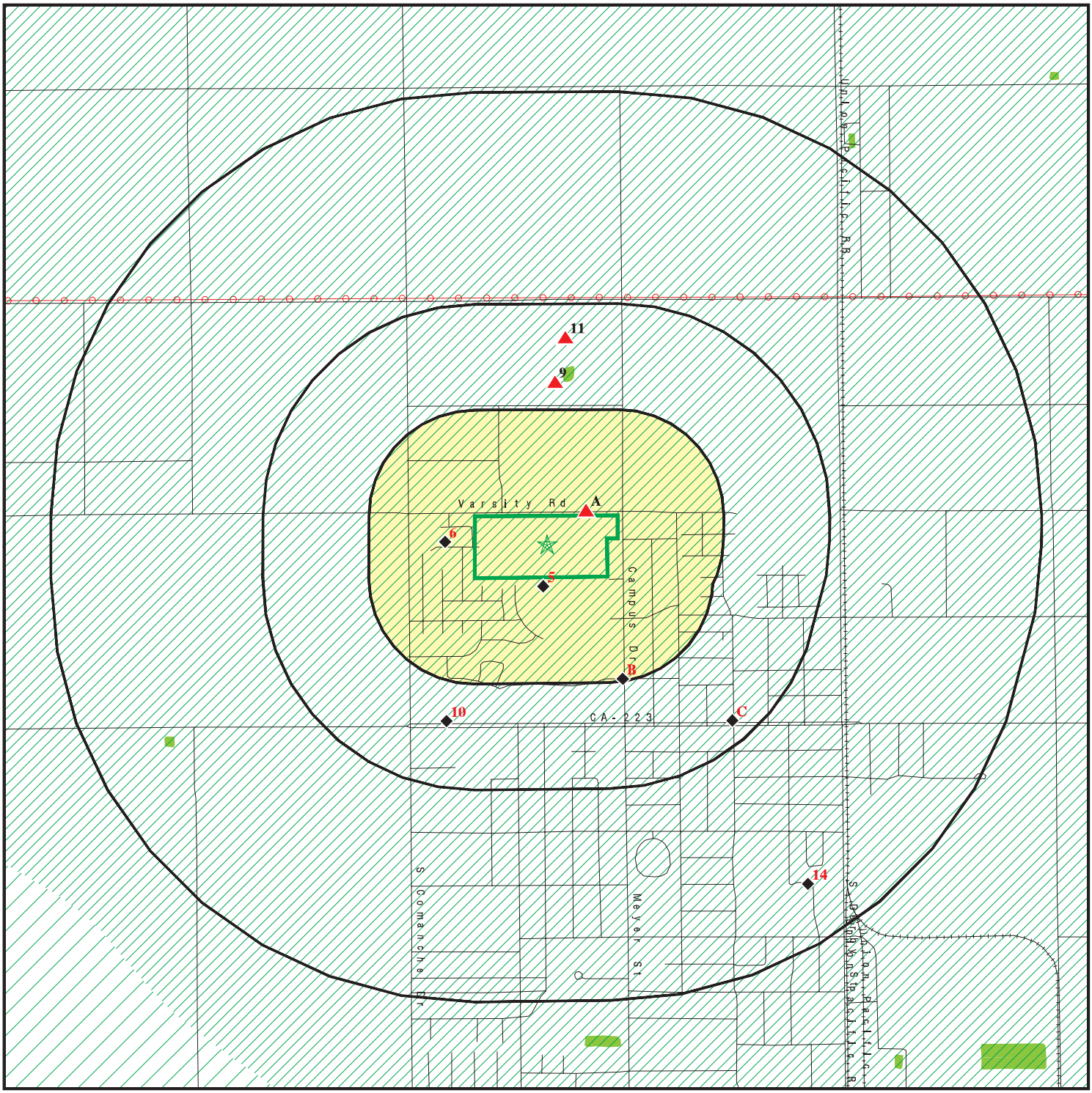
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported		N 1/4 - 1/2 (0.421 mi.)	11	17

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
SOUTH SCHOOL	ENVIROSTOR, SCH
NEW SOUTH SCHOOL PROJECT	ENVIROSTOR, SCH
PROPOSED SCHOOL SITE #5	ENVIROSTOR, SCH

OVERVIEW MAP - 5027256.2S



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 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

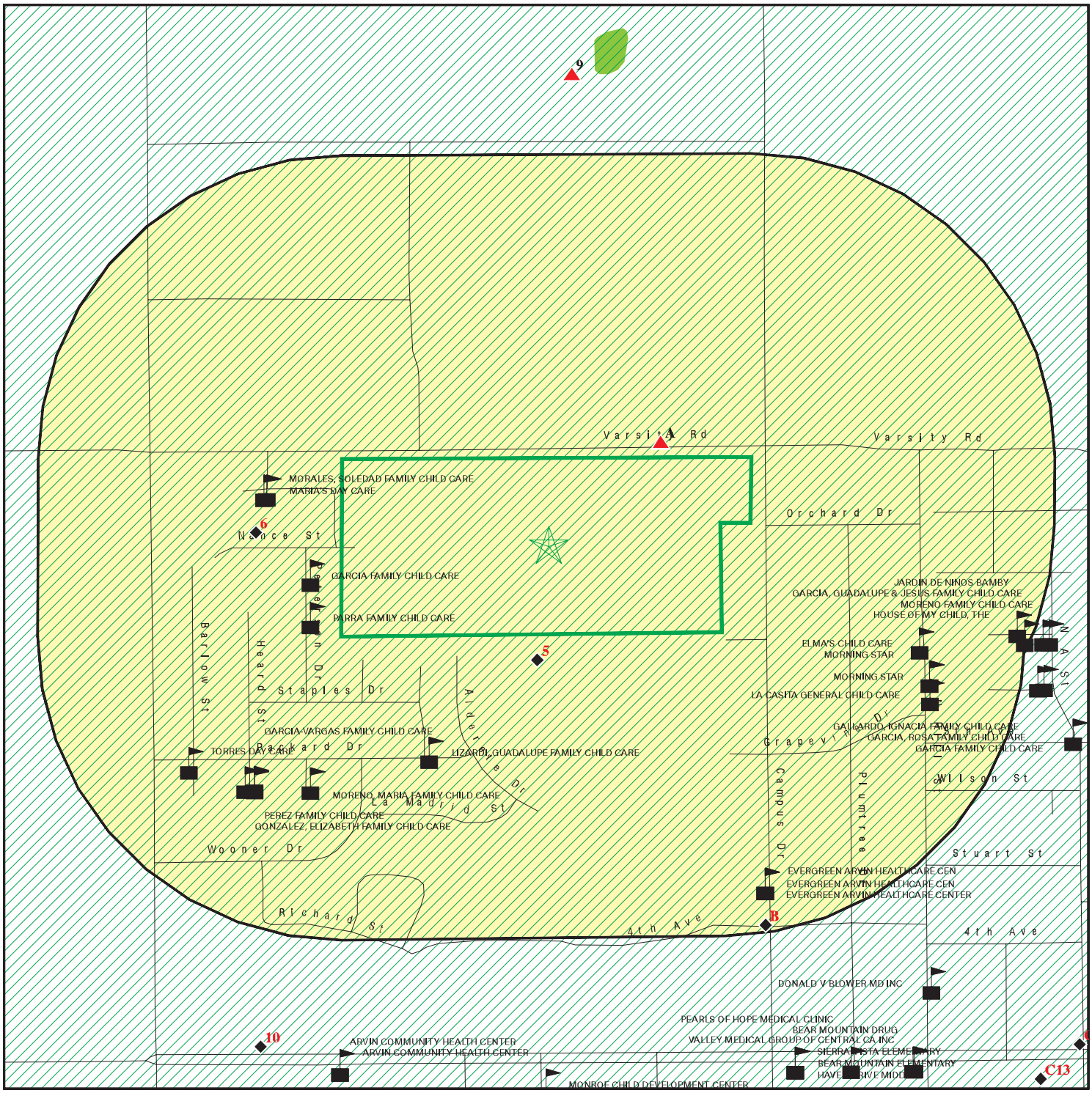
N

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:	KCCD Campus Arvin	CLIENT:	Soils Engineering, Inc.
ADDRESS:	Varsity and Campus Arvin CA 93203	CONTACT:	Bob Becker
		INQUIRY #:	5027256.2s
LAT/LONG:	35.215183 / 118.836433	DATE:	August 18, 2017 6:46 pm

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DETAIL MAP - 5027256.2S



0 1/16 1/8 1/4 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
- Sensitive Receptors
- 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: KCCD Campus Arvin	CLIENT: Soils Engineering, Inc.
ADDRESS: Varsity and Campus Arvin CA 93203	CONTACT: Bob Becker INQUIRY #: 5027256.2s
LAT/LONG: 35.215183 / 118.836433	DATE: August 18, 2017 6:47 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	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	3	NR	NR	3

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	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	1	NR	NR	1
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	1	NR	NR	NR	2
AST	0.250		3	0	NR	NR	NR	3
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	1	NR	1
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		1	1	NR	NR	NR	2
HIST UST	0.250		1	0	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		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
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	0	NR	NR	NR	1
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		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
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	3	NR	NR	3
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	1	NR	NR	1
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	7	2	8	1	0	18

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
NE
< 1/8
0.013 mi.
68 ft.

ARVIN HIGH SCHOOL
900 VARSITY AVE
ARVIN, CA

Site 1 of 4 in cluster A

UST **U004112602**
N/A

Relative:
Higher

Actual:
459 ft.

KERN CO. UST:

Region:	Kern
Facility ID:	Not reported
CERSID:	Not reported
Owner Id:	630005
Owner Name:	KERN HIGH SCHOOL DIST BUSINESS SERV
Tank Num:	1
Tank Capacity:	0
Common Name:	Not reported
Description:	Not reported
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	1
Tank Capacity:	0
Common Name:	Not reported
Description:	Not reported
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	1
Tank Capacity:	0
Common Name:	Not reported
Description:	Not reported
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	1
Tank Capacity:	0
Common Name:	Not reported
Description:	Not reported
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	630005
Tank Capacity:	10000

ARVIN HIGH SCHOOL (Continued) **U004112602**

Common Name:	Not reported
Description:	DIESEL
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported

A2 **ARVIN HIGH SCHOOL** **AST** **A100417223**
NE **900 VARSITY AVE** **N/A**
< 1/8 **ARVIN, CA 93203**
0.013 mi.
68 ft. **Site 2 of 4 in cluster A**

Relative:
Higher

Actual:
459 ft.

AST:

Certified Unified Program Agencies:	Not reported
Owner:	KERN HIGH SCHOOL DISTRICT
Total Gallons:	Not reported
CERSID:	10230676
Facility ID:	Not reported
Business Name:	KERN HIGH SCHOOL DISTRICT
Phone:	(661) 854-5561
Fax:	(661) 854-5943
Mailing Address:	900 VARSITY AVE.
Mailing Address City:	ARVIN
Mailing Address State:	CA
Mailing Address Zip Code:	93203
Operator Name:	ROBERT MOORE
Operator Phone:	(661) 854-5561
Owner Phone:	(661) 827-3190
Owner Mail Address:	5801 SUNDALE AVE
Owner State:	CA
Owner Zip Code:	93309
Owner Country:	United States
Property Owner Name:	Kern High School District
Property Owner Phone:	661-827-3122
Property Owner Mailing Address:	5801 Sundale Ave.
Property Owner City:	Bakersfield
Property Owner Stat :	CA
Property Owner Zip Code:	93309
Property Owner Country:	United States
EPAID:	CAL000033081

A3 **ARVIN HIGH SCHOOL** **AST** **A100340115**
NE **900 VARSITY** **N/A**
< 1/8 **ARVIN, CA**
0.013 mi.
68 ft. **Site 3 of 4 in cluster A**

Relative:
Higher

Actual:
459 ft.

AST:

Certified Unified Program Agencies:	Kern
Owner:	KERN HIGH SCHOOL DISTRICT
Total Gallons:	2,055
CERSID:	Not reported
Facility ID:	Not reported
Business Name:	Not reported

ARVIN HIGH SCHOOL (Continued) **A100340115**

Phone:	Not reported
Fax:	Not reported
Mailing Address:	Not reported
Mailing Address City:	Not reported
Mailing Address State:	Not reported
Mailing Address Zip Code:	Not reported
Operator Name:	Not reported
Operator Phone:	Not reported
Owner Phone:	Not reported
Owner Mail Address:	Not reported
Owner State:	Not reported
Owner Zip Code:	Not reported
Owner Country:	Not reported
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:	Not reported

A4 **ARVIN HIGH SCHOOL** **SWEEPS UST** **U001580766**
NE **900 VARSITY RD** **HIST UST** **N/A**
< 1/8 **ARVIN, CA 93203**
0.013 mi.
68 ft. **Site 4 of 4 in cluster A**

Relative:
Higher

Actual:
459 ft.

SWEEPS UST:

Status:	Active
Comp Number:	23404
Number:	4
Board Of Equalization:	44-006037
Referral Date:	08-18-93
Action Date:	11-24-93
Created Date:	09-30-89
Owner Tank Id:	2
SWRCB Tank Id:	15-000-023404-000002
Tank Status:	A
Capacity:	10000
Active Date:	08-07-91
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	1

Status:	Not reported
Comp Number:	23404
Number:	Not reported
Board Of Equalization:	44-006037
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	15-000-023404-000001
Tank Status:	Not reported
Capacity:	10000
Active Date:	Not reported

ARVIN HIGH SCHOOL (Continued) **U001580766**

Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 1

HIST UST:
File Number: 00024BE2
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00024BE2.pdf
Region: STATE
Facility ID: 00000023404
Facility Type: Other
Other Type: SCHOOL DISTRICT
Contact Name: B.R.SEYKORA
Telephone: 8053272751
Owner Name: KERN HIGH SCHOOL DISTRICT
Owner Address: 2000 24TH STREET
Owner City,St,Zip: BAKERSFIELD, CA 93301
Total Tanks: 0001

Tank Num: 001
Container Num: 11
Year Installed: Not reported
Tank Capacity: 00007000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor, Pressure Test

Click here for Geo Tracker PDF:

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5 **SUN MOUNTAIN OIL AND GAS - JEWETT 1-23** **AST** **A100424957**
South **S/2 N/2 SW/4 S23 T31S R29E** **N/A**
< 1/8 **ARVIN, CA 93203**
0.021 mi.
111 ft.

Relative:
Lower

Actual:
452 ft.

AST:
Certified Unified Program Agencies: Not reported
Owner: SUN MOUNTAIN OIL AND GAS
Total Gallons: Not reported
CERSID: 10237570
Facility ID: Not reported
Business Name: SUN MOUNTAIN OIL AND GAS
Phone: (530) 753-6304
Fax: (530) 753-6304
Mailing Address: 438 ENCINA AVENUE
Mailing Address City: DAVIS
Mailing Address State: CA
Mailing Address Zip Code: 95616
Operator Name: WARREN TREACHER
Operator Phone: 661 444 8843
Owner Phone: (530) 753-6304
Owner Mail Address: 438 ENCINA AVE
Owner State: CA
Owner Zip Code: 95616
Owner Country: United States
Property Owner Name: Not reported

SUN MOUNTAIN OIL AND GAS - JEWETT 1-23 (Continued) **A100424957**

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:	Not reported

---

6 **FERNANDEZ TRANSPORT** **RCRA NonGen / NLR** **1008372178**
West **1312 NANCE ST** **CAR000163915**
< 1/8 **ARVIN, CA 93203**
0.070 mi.
372 ft.

Relative:
Lower

Actual:
452 ft.

RCRA NonGen / NLR:

Date form received by agency:	06/24/2005
Facility name:	FERNANDEZ TRANSPORT
Facility address:	1312 NANCE ST ARVIN, CA 93203
EPA ID:	CAR000163915
Contact:	HERIBERTO FERNANDEZ
Contact address:	1312 NANCE ST ARVIN, CA 93203
Contact country:	US
Contact telephone:	661-220-9358
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	HERIBERTO FERNANDEZ
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	12/03/2002
Owner/Op end date:	Not reported

Owner/operator name:	HERIBERTO FERNANDEZ
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	12/03/2002
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:	Yes
Treater, storer or disposer of HW:	No

FERNANDEZ TRANSPORT (Continued) **1008372178**

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

Violation Status: No violations found

B7 **FIRE STATION 54** **UST** **U004112618**
SSE **301 CAMPUS DR** **N/A**
1/8-1/4 **ARVIN, CA**
0.244 mi.
1287 ft. **Site 1 of 2 in cluster B**

Relative:
Lower

Actual:
449 ft.

KERN CO. UST:

Region:	Kern
Facility ID:	FA0003241
CERSID:	Not reported
Owner Id:	Not reported
Owner Name:	Not reported
Tank Num:	1
Tank Capacity:	1000
Common Name:	Not reported
Description:	REGULAR UNLEADED
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	1
Tank Capacity:	0
Common Name:	Not reported
Description:	Not reported
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported
Tank Num:	2
Tank Capacity:	1000
Common Name:	Not reported
Description:	DIESEL
Number of Compartments:	Not reported
Date of Closure:	Not reported
Mailing Address:	Not reported
Mailing Address (care of):	Not reported
Mailing City/State/Zip:	Not reported

B8 **ARVIN FIRE STATION** **SWEEPS UST** **S106922897**
SSE **301 CAMPUS DR** **CHMIRS** **N/A**
1/8-1/4 **ARVIN, CA 93203** **HAZNET**
0.244 mi.
1287 ft. **Site 2 of 2 in cluster B**

Relative:
Lower

Actual:
449 ft.

SWEEPS UST:

Status:	Active
Comp Number:	630025
Number:	4
Board Of Equalization:	Not reported
Referral Date:	09-04-90
Action Date:	06-08-94
Created Date:	09-04-90
Owner Tank Id:	Not reported
SWRCB Tank Id:	15-000-630025-000001
Tank Status:	A
Capacity:	1000
Active Date:	09-04-90
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	2

Status:	Active
Comp Number:	630025
Number:	4
Board Of Equalization:	Not reported
Referral Date:	09-04-90
Action Date:	06-08-94
Created Date:	09-04-90
Owner Tank Id:	Not reported
SWRCB Tank Id:	15-000-630025-000002
Tank Status:	A
Capacity:	1000
Active Date:	09-04-90
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	Not reported

CHMIRS:

OES Incident Number:	12-3273
OES notification:	06/04/2012
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

ARVIN FIRE STATION (Continued) **S106922897**

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
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:	Road
Cleanup By:	Unrecoverable
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Lbs.
Other:	Not reported
Date/Time:	1225
Year:	2012
Agency:	SoCal Gas
Incident Date:	6/4/2012
Admin Agency:	Kern Co. Environmental Health Services Department
Amount:	Not reported
Contained:	No
Site Type:	Not reported
E Date:	Not reported
Substance:	Natural Gas
Quantity Released:	unknown
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:	Per the caller a third party contractor hit a 2" plastic main which caused the spill

HAZNET:

envid:	S106922897
Year:	2015
GEPAID:	CAC002617602
Contact:	AARON STRAW
Telephone:	6613994456

ARVIN FIRE STATION (Continued) **S106922897**

Mailing Name:	Not reported
Mailing Address:	301 CAMPUS DR
Mailing City,St,Zip:	ARVIN, CA 93203
Gen County:	Kern
TSD EPA ID:	CAL000282598
TSD County:	Kern
Waste Category:	Unspecified aqueous solution
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	1.155
Cat Decode:	Unspecified aqueous solution
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Kern

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9 **CRUPPER WASTE DISPOSAL** **SLIC** **S106486305**
North **.25 MI. N OF ARVIN HIGH SCH.** **N/A**
1/4-1/2 **ARVIN, CA 93203**
0.316 mi.
1669 ft.

Relative:
Higher

Actual:
465 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	06/13/2002
Global Id:	SLT5FU034557
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5F)
Lead Agency Case Number:	Not reported
Latitude:	35.2208
Longitude:	-118.8361
Case Type:	Cleanup Program Site
Case Worker:	JA
Local Agency:	KERN COUNTY
RB Case Number:	SLT5FU003
File Location:	Not reported
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Not reported
Site History:	Crupper Waste Displsa admitted to disposing of photo chemicals to oil field gunite lined sumps. Several sludge and/or liquid samples from the sumps were analyzed and found to be toxic to fish. No hazardous concentrations of constituents of concern were detected. Sludge in the sumps was removed, the gunite ponds and a concrete lined pit removed, and discolored soil underlying the sumps excavated. The excavations were filled with clean soil. RWQCB personnel observed portions of the closure activities. An inspection report dated 13 June 2002 states that no further work is needed at the site.

Click here to access the California GeoTracker records for this facility:

10
SSW
1/4-1/2
0.344 mi.
1816 ft.

ARVIN PUBLIC CEMETERY
BEAR MTN BLVD
ARVIN, CA 93203

Database(s): **LUST, HIST CORTESE**
EDR ID Number: **S103479938**
EPA ID Number: **N/A**

Relative:
Lower

Actual:
442 ft.

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	5T15000191
Case Type:	Soil only
Substance:	GASOLINE
Staff Initials:	JDW
Lead Agency:	Local
Program:	LUST
MTBE Code:	N/A

HIST CORTESE:

Region:	CORTESE
Facility County Code:	15
Reg By:	LTNKA
Reg Id:	5T15000191

11
North
1/4-1/2
0.421 mi.
2224 ft.

, CA

Database(s): **WASTEWATER PITS**
EDR ID Number: **S117718136**
EPA ID Number: **N/A**

Relative:
Higher

Actual:
468 ft.

WASTEWATER PITS:

Latitude:	35.222328
Longitude:	-118.835667
Field:	Mountain View
Lease:	Arvin Waterflood Unit
Operator:	Sunray Petroleum, Inc.
Section Number:	23
Township:	31S
Range:	29E
BM:	MD

C12
SE
1/4-1/2
0.449 mi.
2373 ft.

GIUMARRA FARMS INC
BEAR MTN & COMANCHE
ARVIN, CA 93203

Site 1 of 2 in cluster C

Database(s): **LUST, HIST CORTESE**
EDR ID Number: **S103479987**
EPA ID Number: **N/A**

Relative:
Lower

Actual:
449 ft.

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	5T15000572
Case Type:	Soil only
Substance:	GASOLINE
Staff Initials:	JDW
Lead Agency:	Local
Program:	LUST
MTBE Code:	N/A

GIUMARRA FARMS INC (Continued) **S103479987**

HIST CORTESE:
- Region: CORTESE
- Facility County Code: 15
- Reg By: LTNKA
- Reg Id: 5T15000572

C13 **ARVIN MUFFLER** **LUST** **S104404359**
SE **401 BEAR MTN RD** **HIST CORTESE** **N/A**
1/4-1/2 **ARVIN, CA 93203**
0.452 mi.
2386 ft. **Site 2 of 2 in cluster C**

Relative:
Lower

Actual:
448 ft.

LUST:
- Region: STATE
- Global Id: T0602900511
- Latitude: 35.208801
- Longitude: -118.829013
- Case Type: LUST Cleanup Site
- Status: Completed - Case Closed
- Status Date: 06/09/1995
- Lead Agency: KERN COUNTY
- Case Worker: CAR
- Local Agency: KERN COUNTY
- RB Case Number: 5T15000526
- LOC Case Number: 630018
- File Location: Not reported
- Potential Media Affect: Soil
- Potential Contaminants of Concern: Gasoline
- Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
- Global Id: T0602900511
- Contact Type: Local Agency Caseworker
- Contact Name: CARRIE GEORGI
- Organization Name: KERN COUNTY
- Address: 2700 "M" STREET SUITE 300
- City: BAKERSFIELD
- Email: Not reported
- Phone Number: Not reported

- Global Id: T0602900511
- Contact Type: Regional Board Caseworker
- Contact Name: JOHN WHITING
- Organization Name: CENTRAL VALLEY RWQCB (REGION 5F)
- Address: 1685 E STREET
- City: FRESNO
- Email: jwhiting@waterboards.ca.gov
- Phone Number: Not reported

Status History:
- Global Id: T0602900511
- Status: Completed - Case Closed
- Status Date: 06/09/1995

- Global Id: T0602900511

ARVIN MUFFLER (Continued) **S104404359**

Status: Open - Case Begin Date
Status Date: 07/01/1992

Global Id: T0602900511
Status: Open - Site Assessment
Status Date: 07/01/1992

Global Id: T0602900511
Status: Open - Site Assessment
Status Date: 08/03/1992

Global Id: T0602900511
Status: Open - Site Assessment
Status Date: 07/13/1994

Global Id: T0602900511
Status: Open - Site Assessment
Status Date: 10/05/1994

Regulatory Activities:
Global Id: T0602900511
Action Type: Other
Date: 07/21/1992
Action: Leak Discovery

Global Id: T0602900511
Action Type: Other
Date: 07/01/1992
Action: Leak Stopped

Global Id: T0602900511
Action Type: Other
Date: 07/20/1992
Action: Leak Reported

LUST REG 5:
Region: 5
Status: Case Closed
Case Number: 5T15000526
Case Type: Soil only
Substance: GASOLINE
Staff Initials: JDW
Lead Agency: Local
Program: LUST
MTBE Code: N/A

HIST CORTESE:
Region: CORTESE
Facility County Code: 15
Reg By: LTNKA
Reg Id: 5T15000526

14
SE
1/2-1
0.866 mi.
4570 ft.

BROWN & BRYANT, ARVIN
P.O. BOX 426
ARVIN, CA 93203

Toxic Pits **S100925103**
N/A

Relative:
Lower

Actual:
437 ft.

TOXIC PITS:

Region:	05F
Task #:	85115
Owner:	BROWN AND BRYANT
1/2 Mi Limit:	Y
Num. of Pits:	1
Cease Discharge Due:	06/30/88
Cease Discharge Complete:	06/12/89
Closure Due:	/ /
Closure Completed:	**11/18/91**
Status:	CLOSED
Hydro Geological Assessment Report Due:	/ /
Final Hydro Geological Assessment Review Completed:	/ /

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ARVIN	S105628435	SOUTH SCHOOL	MEYER STREET/EL CAMINO DRIVE	93203	ENVIROSTOR, SCH
ARVIN	S107027240	NEW SOUTH SCHOOL PROJECT	MEYER STREET/EL CAMINO DRIVE	93203	ENVIROSTOR, SCH
BAKERSFIELD	S120714343	PROPOSED SCHOOL SITE #5	NE OF S. FAIRFAX RD. & E. WILS	93307	ENVIROSTOR, SCH

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: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/16/2017
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: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/16/2017
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/16/2017
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: 07/07/2017
Next Scheduled EDR Contact: 10/16/2017
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: 02/07/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 10/30/2017
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: 02/07/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 10/30/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Varies

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: 12/28/2016
Date Data Arrived at EDR: 01/04/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 93

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
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: 02/13/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 06/09/2017
Number of Days to Update: 101

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
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: 02/13/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 06/09/2017
Number of Days to Update: 101

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
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: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/28/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Annually

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: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
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: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
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: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49
Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Quarterly

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 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

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 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 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 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 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 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

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: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

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: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

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: 10/06/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

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: 10/17/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

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: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/14/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 57
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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: 06/21/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

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: 01/14/2017
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

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: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

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: 09/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

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: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

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: 10/17/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

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: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/06/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

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: 06/27/2017
Next Scheduled EDR Contact: 10/09/2017
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

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: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

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: 01/03/2017
Date Data Arrived at EDR: 01/04/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/28/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Varies

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: 03/02/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/20/2017
Next Scheduled EDR Contact: 10/02/2017
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: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 05/31/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 76
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
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: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
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: 07/24/2017
Next Scheduled EDR Contact: 11/08/2017
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: 08/10/2017
Next Scheduled EDR Contact: 11/13/2017
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: 02/09/2017
Date Data Arrived at EDR: 03/08/2017
Date Made Active in Reports: 06/09/2017
Number of Days to Update: 93
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
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: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
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: 12/31/2016
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 54
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/14/2017
Next Scheduled EDR Contact: 10/23/2017
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

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: 02/09/2017
Date Data Arrived at EDR: 03/08/2017
Date Made Active in Reports: 06/09/2017
Number of Days to Update: 93
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
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: 03/09/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 67

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
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

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

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: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
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: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/26/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

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: 06/05/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/10/2017
Number of Days to Update: 65

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/06/2017
Next Scheduled EDR Contact: 09/18/2017
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: 12/28/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 37

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/28/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Annually

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: 12/06/2016
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 105

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/26/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

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: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Varies

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: 02/24/2017
Next Scheduled EDR Contact: 06/05/2017
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: 07/12/2017
Next Scheduled EDR Contact: 10/23/2017
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: 07/14/2017
Next Scheduled EDR Contact: 10/23/2017
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: 05/19/2017
Next Scheduled EDR Contact: 08/28/2017
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: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 86
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

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: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
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: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
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: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/21/2017
Next Scheduled EDR Contact: 10/02/2017
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: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133
Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
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: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
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: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74
Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/18/2017
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: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57
Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/24/2017
Next Scheduled EDR Contact: 11/08/2017
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: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 11/20/2017
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: 01/20/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 127
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
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: 07/28/2017
Next Scheduled EDR Contact: 10/23/2017
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: 05/19/2017
Next Scheduled EDR Contact: 09/04/2017
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: 05/19/2017
Next Scheduled EDR Contact: 09/04/2017
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: 08/01/2017
Next Scheduled EDR Contact: 11/20/2017
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: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
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: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
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: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
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: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 35
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/12/2017
Next Scheduled EDR Contact: 10/16/2017
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: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

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: 09/30/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/21/2017
Next Scheduled EDR Contact: 10/09/2017
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: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
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: 07/11/2017
Next Scheduled EDR Contact: 10/23/2017
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: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
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: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/16/2017
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: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 08/11/2017
Next Scheduled EDR Contact: 10/09/2017
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: 02/08/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 38

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
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: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
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: 06/02/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

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: 03/14/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 21

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/25/2017
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: 04/04/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 35

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/07/2017
Next Scheduled EDR Contact: 09/18/2017
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: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 91

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 03/19/2017
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/07/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 07/17/2017
Next Scheduled EDR Contact: 10/30/2017
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: 02/22/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 79

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 09/04/2017
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: 12/28/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 64

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/28/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

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: 03/09/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 42

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 07/13/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/23/2017
Next Scheduled EDR Contact: 10/02/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 05/01/2017
Date Data Arrived at EDR: 05/03/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 104

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 67

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 10/30/2017
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: 05/16/2017
Date Data Arrived at EDR: 05/19/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 88

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
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: 12/31/2015
Date Data Arrived at EDR: 10/12/2016
Date Made Active in Reports: 12/15/2016
Number of Days to Update: 64

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/12/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

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: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/04/2017
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: 04/11/2017
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 04/26/2017
Number of Days to Update: 13
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/12/2017
Next Scheduled EDR Contact: 10/23/2017
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: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Varies

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: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 86
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/06/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/15/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 107
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 11/27/2017
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: 12/06/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/03/2017
Number of Days to Update: 87
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/07/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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: 12/16/2016
Date Data Arrived at EDR: 12/22/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/16/2017
Next Scheduled EDR Contact: 10/02/2017
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: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
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 board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/14/2017
Next Scheduled EDR Contact: 10/23/2017
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: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

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: 06/27/2017
Next Scheduled EDR Contact: 10/09/2017
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 Historic Gas 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 Historic Dry 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:

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: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 31

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2017
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 49

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/16/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

BUTTE COUNTY:

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: 08/03/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 04/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 104

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/27/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/23/2017
Date Data Arrived at EDR: 02/24/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 77

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/26/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 58

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/31/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 05/04/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 92

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 50

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/31/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

FRESNO COUNTY:

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: 06/30/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 30

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/29/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/20/2017
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 57

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 101

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/07/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 81

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

KINGS COUNTY:

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: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 71

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/09/2017
Date Data Arrived at EDR: 05/11/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 90

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/17/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/13/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 101

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

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: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/16/2017
Next Scheduled EDR Contact: 10/02/2017
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 66
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/17/2017
Date Data Arrived at EDR: 04/18/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 14
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/18/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/13/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/17/2017
Date Data Arrived at EDR: 01/18/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 112
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/13/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Semi-Annually

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: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/10/2017
Date Data Arrived at EDR: 01/13/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 110

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/07/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: Semi-Annually

MADERA COUNTY:

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: 06/01/2017
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 63

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 03/31/2017
Date Data Arrived at EDR: 04/06/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 27

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/29/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 83

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 07/13/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 76

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/22/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 47
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

NAPA COUNTY:

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: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 54
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/08/2017
Date Data Arrived at EDR: 05/09/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 92
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 70
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/04/2016
Date Data Arrived at EDR: 11/11/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 73
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 02/07/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 85
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/09/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 35
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/18/2017
Date Data Arrived at EDR: 04/20/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 1
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/19/2017
Next Scheduled EDR Contact: 10/02/2017
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/19/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 98
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/19/2017
Next Scheduled EDR Contact: 10/02/2017
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 04/04/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 127

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/06/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Quarterly

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: 11/08/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/06/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 105

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

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: 12/09/2016
Date Data Arrived at EDR: 12/13/2016
Date Made Active in Reports: 03/03/2017
Number of Days to Update: 80

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

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: 06/05/2017
Date Data Arrived at EDR: 06/07/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 69

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/07/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

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: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

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: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/28/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 62
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/21/2017
Date Data Arrived at EDR: 03/23/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 47
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/16/2017
Next Scheduled EDR Contact: 10/02/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/16/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 54
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 33
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 14
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

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: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 89
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

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

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: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/04/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 80

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

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: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SHASTA COUNTY:

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: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2016
Date Data Arrived at EDR: 12/21/2016
Date Made Active in Reports: 12/22/2016
Number of Days to Update: 1

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/09/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 06/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 43

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/21/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/21/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 05/10/2017
Date Data Arrived at EDR: 05/16/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 85

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/17/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 93

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/21/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 01/05/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 104

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/27/2017
Date Data Arrived at EDR: 04/27/2017
Date Made Active in Reports: 08/10/2017
Number of Days to Update: 105

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

VENTURA COUNTY:

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: 12/27/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 103

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/24/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

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: 06/29/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Annually

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: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

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: 09/26/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 01/24/2017
Number of Days to Update: 89

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/24/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2017
Date Data Arrived at EDR: 03/15/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/14/2017
Next Scheduled EDR Contact: 09/25/2017
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/31/2017
Date Data Arrived at EDR: 04/06/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 27

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/29/2017
Next Scheduled EDR Contact: 10/16/2017
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
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: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/10/2017
Next Scheduled EDR Contact: 10/23/2017
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: 01/30/2017
Date Data Arrived at EDR: 02/01/2017
Date Made Active in Reports: 02/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/17/2017
Next Scheduled EDR Contact: 10/30/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/12/2017
Next Scheduled EDR Contact: 09/25/2017
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.

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 & Game
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

KCCD CAMPUS ARVIN
VARSITY AND CAMPUS
ARVIN, CA 93203

TARGET PROPERTY COORDINATES

Latitude (North):	35.215183 - 35° 12' 54.66''
Longitude (West):	118.836433 - 118° 50' 11.16''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	332848.8
UTM Y (Meters):	3898253.2
Elevation:	455 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5638936 ARVIN, 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 principal 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).

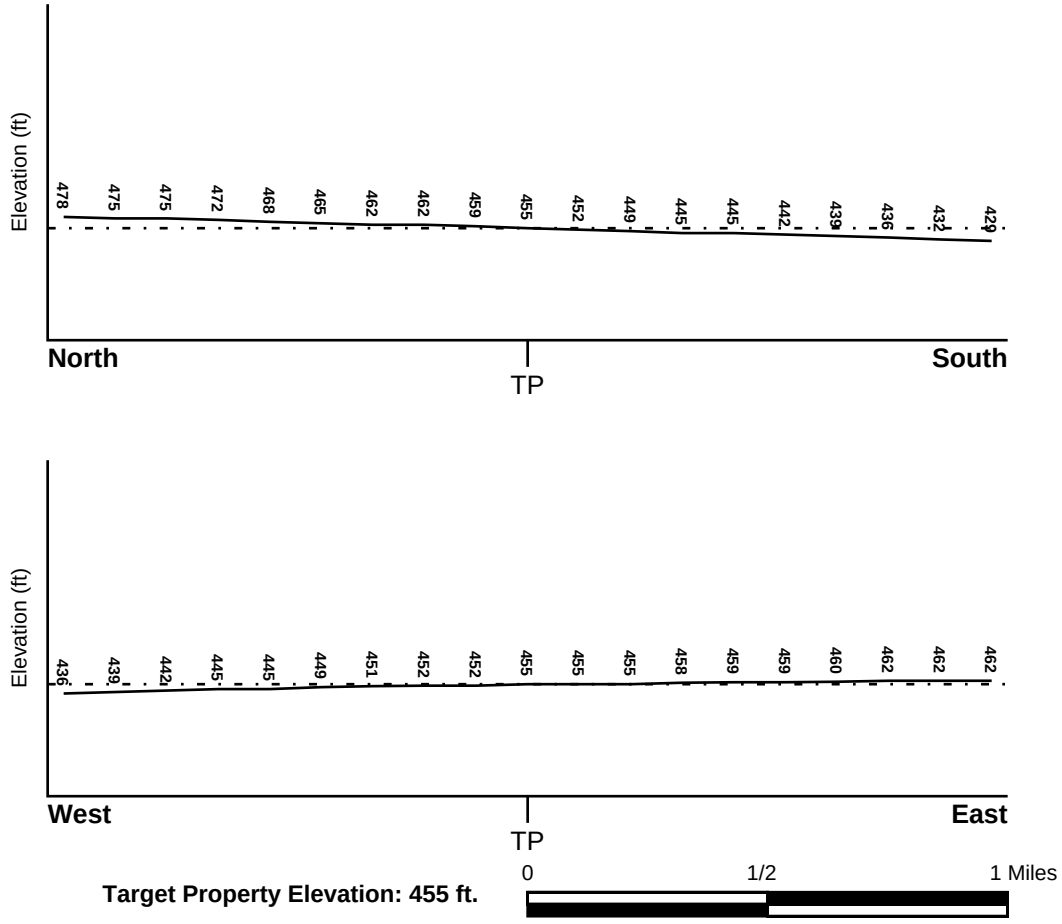
TOPOGRAPHIC INFORMATION

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 SSW

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
06029C2775E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
ARVIN	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
Location Relative to TP:	1 - 2 Miles SE
Site Name:	Brown & Bryant, Inc. (Arvin Plant)
Site EPA ID Number:	CAD052384021
Surficial Aquifer Flow Dir.:	W AND S.
Measured Depth to Water:	65 feet to 72 feet.
Hydraulic Connection:	A thin clay layer that separates the surficial and lower aquifers at the site is not present within 900 feet south of the site. A confining clay layer is located above the deep drinking water aquifer and under the surficial and lower aquifers.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information based on site-specific subsurface investigations is documented in the CERCLIS investigation report(s)

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

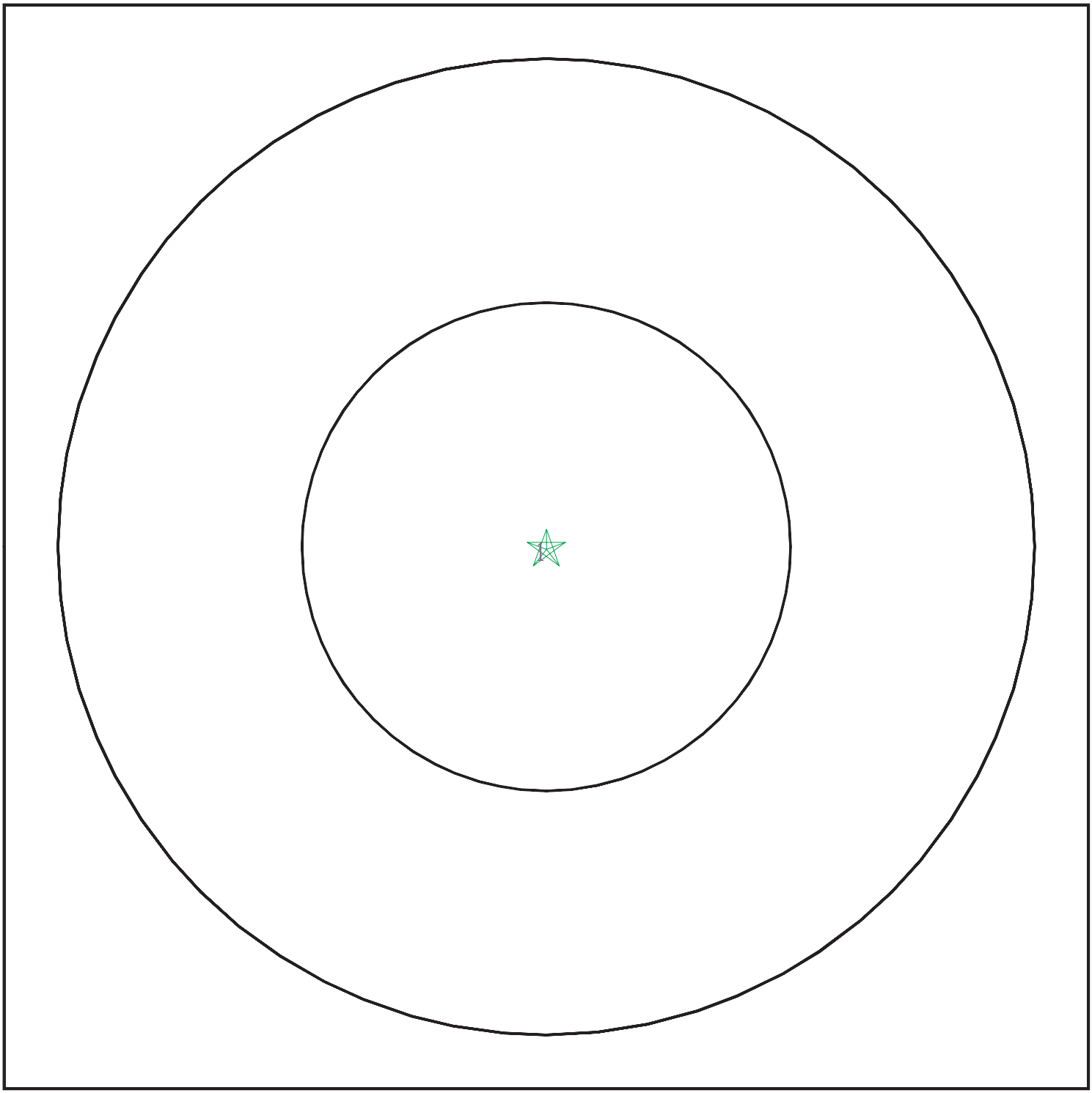
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

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 - 5027256.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	KCCD Campus Arvin	CLIENT:	Soils Engineering, Inc.
ADDRESS:	Varsity and Campus Arvin CA 93203	CONTACT:	Bob Becker
LAT/LONG:	35.215183 / 118.836433	INQUIRY #:	5027256.2s
		DATE:	August 18, 2017 6:47 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: HESPERIA

Soil Surface Texture:

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse 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	18 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4
2	18 inches	33 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4
3	33 inches	70 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4

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.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000161449	0 - 1/8 Mile SW
4	USGS40000161486	1/8 - 1/4 Mile North
7	USGS40000161472	1/4 - 1/2 Mile WNW
8	USGS40000161499	1/4 - 1/2 Mile NNW
B9	USGS40000161480	1/4 - 1/2 Mile WNW
D14	USGS40000161439	1/2 - 1 Mile East
C15	USGS40000161456	1/2 - 1 Mile East
17	USGS40000161394	1/2 - 1 Mile SW
D18	USGS40000161436	1/2 - 1 Mile East
19	USGS40000161355	1/2 - 1 Mile SSE
20	USGS40000161565	1/2 - 1 Mile North
21	USGS40000161352	1/2 - 1 Mile SSW
F23	USGS40000161574	1/2 - 1 Mile NW
E25	USGS40000161556	1/2 - 1 Mile NW
26	USGS40000161353	1/2 - 1 Mile SSW
G29	USGS40000161555	1/2 - 1 Mile NE
30	USGS40000161345	1/2 - 1 Mile SSW
31	USGS40000161334	1/2 - 1 Mile SSW
32	USGS40000161400	1/2 - 1 Mile WSW

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
A2	17873	1/8 - 1/4 Mile NE
A3	17874	1/8 - 1/4 Mile NE
5	17872	1/8 - 1/4 Mile SSW
6	CADW60000000716	1/4 - 1/2 Mile East
B10	CADW60000004540	1/2 - 1 Mile WNW
C11	CADW60000000132	1/2 - 1 Mile East
12	CADW60000004542	1/2 - 1 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
13	CADW60000000134	1/2 - 1 Mile SSE
16	CADW60000004541	1/2 - 1 Mile NNE
E22	17868	1/2 - 1 Mile NNW
F24	12499	1/2 - 1 Mile NW
G27	CADW60000000110	1/2 - 1 Mile NE
F28	CADW60000004539	1/2 - 1 Mile NW
33	CADW60000000133	1/2 - 1 Mile ESE
34	CADW60000004546	1/2 - 1 Mile SSE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CAOG11000058493	0 - 1/8 Mile West
A2	CAOG11000064004	0 - 1/8 Mile West
3	CAOG11000062397	1/8 - 1/4 Mile South
A4	CAOG11000058021	1/8 - 1/4 Mile West
5	CAOG11000017044	1/8 - 1/4 Mile East
B6	CAOG11000017226	1/8 - 1/4 Mile SSE
7	CAOG11000017268	1/4 - 1/2 Mile West
8	CAOG11000017200	1/4 - 1/2 Mile ENE
B9	CAOG11000017224	1/4 - 1/2 Mile SSE
10	CAOG11000017048	1/4 - 1/2 Mile South
B11	CAOG11000017225	1/4 - 1/2 Mile SSE
B12	CAOG11000017223	1/4 - 1/2 Mile SSE
C13	CAOG11000017208	1/4 - 1/2 Mile East
C14	CAOG11000017209	1/4 - 1/2 Mile East
D15	CAOG11000017195	1/4 - 1/2 Mile NE
D16	CAOG11000017196	1/4 - 1/2 Mile NE
E17	CAOG11000064472	1/4 - 1/2 Mile WNW
F18	CAOG11000017189	1/4 - 1/2 Mile ESE
C19	CAOG11000017210	1/4 - 1/2 Mile East
E20	CAOG11000065171	1/4 - 1/2 Mile WNW
G21	CAOG11000017204	1/4 - 1/2 Mile NNE
G23	CAOG11000017206	1/4 - 1/2 Mile NNE
G22	CAOG11000017205	1/4 - 1/2 Mile NNE
24	CAOG11000017197	1/4 - 1/2 Mile ENE
E25	CAOG11000063375	1/4 - 1/2 Mile WNW
H26	CAOG11000017046	1/4 - 1/2 Mile SW
G27	CAOG11000017194	1/4 - 1/2 Mile NNE
F28	CAOG11000017190	1/4 - 1/2 Mile ESE
I29	CAOG11000017212	1/4 - 1/2 Mile NNW
I30	CAOG11000062482	1/4 - 1/2 Mile NNW
H31	CAOG11000017047	1/4 - 1/2 Mile SW
F32	CAOG11000017191	1/4 - 1/2 Mile ESE
33	CAOG11000017193	1/4 - 1/2 Mile North
34	CAOG11000017207	1/4 - 1/2 Mile NE
35	CAOG11000066185	1/4 - 1/2 Mile West
J36	CAOG11000061779	1/4 - 1/2 Mile NW
J37	CAOG11000061780	1/4 - 1/2 Mile NW
J38	CAOG11000017179	1/4 - 1/2 Mile WNW
39	CAOG11000001006	1/4 - 1/2 Mile WSW

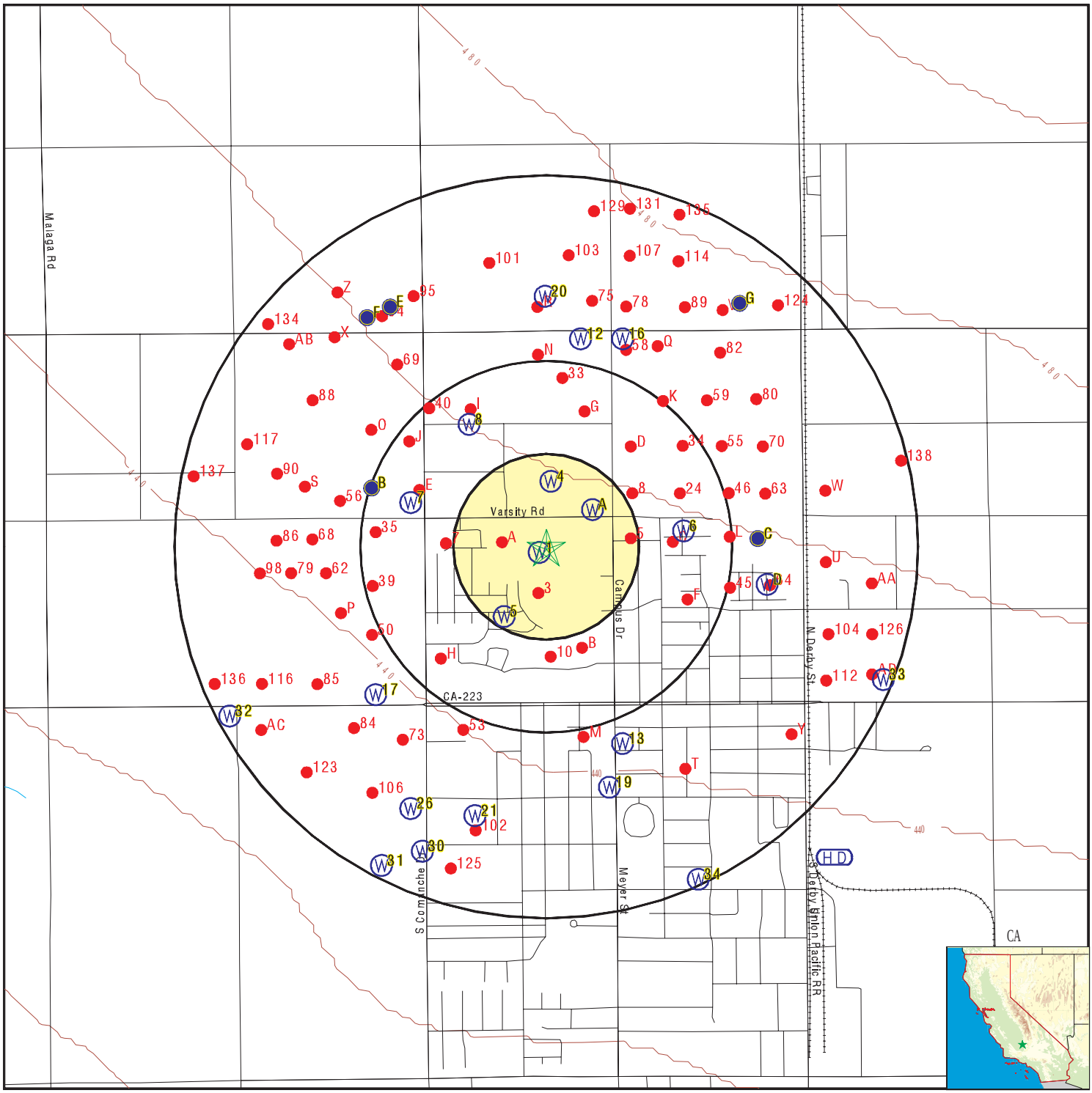
STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
40	CAOG11000017222	1/4 - 1/2 Mile NW
K41	CAOG11000017202	1/4 - 1/2 Mile NE
K42	CAOG11000017203	1/4 - 1/2 Mile NE
L43	CAOG11000017192	1/4 - 1/2 Mile East
L44	CAOG11000017211	1/4 - 1/2 Mile East
45	CAOG11000000810	1/2 - 1 Mile ESE
46	CAOG11000017214	1/2 - 1 Mile ENE
M47	CAOG11000017243	1/2 - 1 Mile South
N48	CAOG11000017198	1/2 - 1 Mile North
N49	CAOG11000017199	1/2 - 1 Mile North
50	CAOG11000009656	1/2 - 1 Mile WSW
M51	CAOG11000017244	1/2 - 1 Mile South
K52	CAOG11000017213	1/2 - 1 Mile NE
53	CAOG11000017049	1/2 - 1 Mile SSW
O54	CAOG11000063902	1/2 - 1 Mile WNW
55	CAOG11000017216	1/2 - 1 Mile ENE
56	CAOG11000017178	1/2 - 1 Mile WNW
P57	CAOG11000001004	1/2 - 1 Mile WSW
58	CAOG11000017201	1/2 - 1 Mile NNE
59	CAOG11000017221	1/2 - 1 Mile NE
P60	CAOG11000009655	1/2 - 1 Mile WSW
O61	CAOG11000063780	1/2 - 1 Mile NW
62	CAOG11000001003	1/2 - 1 Mile West
63	CAOG11000017215	1/2 - 1 Mile ENE
64	CAOG11000017227	1/2 - 1 Mile East
Q65	CAOG11000086153	1/2 - 1 Mile NNE
Q67	CAOG11000017218	1/2 - 1 Mile NNE
Q66	CAOG11000017217	1/2 - 1 Mile NNE
68	CAOG11000017174	1/2 - 1 Mile West
69	CAOG11000017188	1/2 - 1 Mile NW
70	CAOG11000017220	1/2 - 1 Mile ENE
R72	CAOG11000032864	1/2 - 1 Mile North
R71	CAOG11000000473	1/2 - 1 Mile North
73	CAOG11000016847	1/2 - 1 Mile SW
S74	CAOG11000017180	1/2 - 1 Mile West
75	CAOG11000017159	1/2 - 1 Mile North
S76	CAOG11000017183	1/2 - 1 Mile WNW
T77	CAOG11000017237	1/2 - 1 Mile SSE
78	CAOG11000017157	1/2 - 1 Mile NNE
79	CAOG11000001005	1/2 - 1 Mile West
80	CAOG11000075311	1/2 - 1 Mile NE
T81	CAOG11000017235	1/2 - 1 Mile SSE
82	CAOG11000017219	1/2 - 1 Mile NE
T83	CAOG11000017236	1/2 - 1 Mile SSE
84	CAOG11000017284	1/2 - 1 Mile SW
85	CAOG11000017017	1/2 - 1 Mile WSW
86	CAOG11000017176	1/2 - 1 Mile West
T87	CAOG11000017238	1/2 - 1 Mile SSE
88	CAOG11000295965	1/2 - 1 Mile WNW
89	CAOG11000017168	1/2 - 1 Mile NNE
90	CAOG11000017181	1/2 - 1 Mile WNW
U91	CAOG11000017232	1/2 - 1 Mile East
U92	CAOG11000017228	1/2 - 1 Mile East
V93	CAOG11000107722	1/2 - 1 Mile NE
94	CAOG11000017006	1/2 - 1 Mile NW
95	CAOG11000111064	1/2 - 1 Mile NNW

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
W96	CAOG11000017229	1/2 - 1 Mile East
W97	CAOG11000017230	1/2 - 1 Mile ENE
98	CAOG11000017175	1/2 - 1 Mile West
X100	CAOG11000017187	1/2 - 1 Mile NW
X99	CAOG11000017186	1/2 - 1 Mile NW
101	CAOG11000017164	1/2 - 1 Mile NNW
102	CAOG11000066864	1/2 - 1 Mile SSW
103	CAOG11000017160	1/2 - 1 Mile North
104	CAOG11000016998	1/2 - 1 Mile ESE
V105	CAOG11000017165	1/2 - 1 Mile NE
106	CAOG11000100574	1/2 - 1 Mile SW
107	CAOG11000017161	1/2 - 1 Mile NNE
V108	CAOG11000017166	1/2 - 1 Mile NE
Y109	CAOG11000017239	1/2 - 1 Mile SE
Y110	CAOG11000017240	1/2 - 1 Mile SE
Y111	CAOG11000017241	1/2 - 1 Mile SE
112	CAOG11000017231	1/2 - 1 Mile ESE
Y113	CAOG11000017242	1/2 - 1 Mile SE
114	CAOG11000017169	1/2 - 1 Mile NNE
X115	CAOG11000017060	1/2 - 1 Mile NW
116	CAOG11000017177	1/2 - 1 Mile WSW
117	CAOG11000017182	1/2 - 1 Mile WNW
Z118	CAOG11000093819	1/2 - 1 Mile NW
AA119	CAOG11000017234	1/2 - 1 Mile East
AB121	CAOG11000017185	1/2 - 1 Mile NW
AB120	CAOG11000017184	1/2 - 1 Mile NW
AA122	CAOG11000017233	1/2 - 1 Mile East
123	CAOG11000016925	1/2 - 1 Mile SW
124	CAOG11000017167	1/2 - 1 Mile NE
125	CAOG11000016887	1/2 - 1 Mile SSW
126	CAOG11000016996	1/2 - 1 Mile ESE
AC128	CAOG11000016923	1/2 - 1 Mile WSW
AC127	CAOG11000016922	1/2 - 1 Mile WSW
129	CAOG11000017158	1/2 - 1 Mile North
Z130	CAOG11000017007	1/2 - 1 Mile NW
131	CAOG11000017162	1/2 - 1 Mile NNE
AD132	CAOG11000016997	1/2 - 1 Mile ESE
AD133	CAOG11000088130	1/2 - 1 Mile ESE
134	CAOG11000017005	1/2 - 1 Mile NW
135	CAOG11000017170	1/2 - 1 Mile NNE
136	CAOG11000017267	1/2 - 1 Mile WSW
137	CAOG11000050722	1/2 - 1 Mile WNW
138	CAOG11000016710	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 5027256.2s



- 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
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	KCCD Campus Arvin	CLIENT:	Soils Engineering, Inc.
ADDRESS:	Varsity and Campus Arvin CA 93203	CONTACT:	Bob Becker
LAT/LONG:	35.215183 / 118.836433	INQUIRY #:	5027256.2s
		DATE:	August 18, 2017 6:47 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SW
0 - 1/8 Mile
Higher | **FED USGS** | **USGS40000161449**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351254118500901		
Monloc name:	031S029E23L002M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2149622
Longitude:	-118.8367646	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	452.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19580101	Welldepth:	1196
Welldepth units:	ft	Wellholedepth:	1196
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-05-28	272.00	

A2
NE
1/8 - 1/4 Mile
Higher | **CA WELLS** | **17873**

Water System Information:

Prime Station Code:	31S/29E-23R01 M	User ID:	CYA
FRDS Number:	1510001002	County:	Kern
District Number:	12	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	351300.0 1185000.0	Precision:	Undefined
Source Name:	WELL 02 - DESTROYED '95 (NO3)		
System Number:	1510001		
System Name:	ARVIN COMMUNITY SERVICES DIST		
Organization That Operates System:			
	P O BOX 333		
	ARVIN, CA 93203		
Pop Served:	10500	Connections:	2200
Area Served:	ARVIN		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A3
NE **CA WELLS** **17874**
1/8 - 1/4 Mile
Higher

Water System Information:

Prime Station Code:	31S/29E-23R02 M	User ID:	CYA
FRDS Number:	1510001003	County:	Kern
District Number:	12	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	351300.0 1185000.0	Precision:	Undefined
Source Name:	WELL 03 - DESTROYED		
System Number:	1510001		
System Name:	ARVIN COMMUNITY SERVICES DIST		
Organization That Operates System:			
	P O BOX 333		
	ARVIN, CA 93203		
Pop Served:	10500	Connections:	2200
Area Served:	ARVIN		

4
North **FED USGS** **USGS40000161486**
1/8 - 1/4 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351304118500701		
Monloc name:	031S029E23L001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2177399
Longitude:	-118.836209	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	455.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

5
SSW **CA WELLS** **17872**
1/8 - 1/4 Mile
Lower

Water System Information:

Prime Station Code:	31S/29E-23N01 M	User ID:	CYA
FRDS Number:	1510001008	County:	Kern
District Number:	12	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	351245.0 1185015.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 07		
System Number:	1510001		
System Name:	ARVIN COMMUNITY SERVICES DIST		
Organization That Operates System:			
	P O BOX 333		
	ARVIN, CA 93203		
Pop Served:	10500	Connections:	2200
Area Served:	ARVIN		
Sample Collected:	04-AUG-10	Findings:	7. MG/L
Chemical:	NITRATE (AS NO3)		

6
East **CA WELLS** **CADW60000000716**
1/4 - 1/2 Mile
Higher

Objectid:	716
Latitude:	35.2158
Longitude:	-118.8299
Site code:	352158N1188299W001
State well numbe:	31S29E23K001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000000716

7
WNW **FED USGS** **USGS40000161472**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351301118503101		
Monloc name:	031S029E23M001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2169066
Longitude:	-118.8428758	Sourcemap scale:	55000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	449.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19490101	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

8
NNW **FED USGS** **USGS40000161499**
1/4 - 1/2 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351312118502101		
Monloc name:	031S029E23E001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2199621
Longitude:	-118.840098	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	457.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19490101	Welldepth:	1202
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1949-03-28	194.00	

B9
WNW **FED USGS** **USGS40000161480**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351303118503601		
Monloc name:	031S029E22J001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2174621
Longitude:	-118.8442648	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	448.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19560101	Welldepth:	312
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-12-04	261.10	

B10
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADW60000004540**

Objectid:	4540
Latitude:	35.2175
Longitude:	-118.8452
Site code:	352175N1188452W001
State well numbe:	31S29E22J001M
Local well name:	’’
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	’5-22.14’
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000004540

C11
East
1/2 - 1 Mile
Higher

CA WELLS **CADW60000000132**

Objectid:	132
Latitude:	35.2155
Longitude:	-118.8268
Site code:	352155N1188268W001
State well numbe:	31S29E23J001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000000132

12
North **CA WELLS** **CADW60000004542**
1/2 - 1 Mile
Higher

Objectid:	4542
Latitude:	35.2233
Longitude:	-118.8348
Site code:	352233N1188348W001
State well numbe:	31S29E23C001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000004542

13
SSE **CA WELLS** **CADW60000000134**
1/2 - 1 Mile
Lower

Objectid:	134
Latitude:	35.2075
Longitude:	-118.8328
Site code:	352075N1188328W001
State well numbe:	31S29E26B001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern

Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000000134

D14
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000161439**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351250118493101		
Monloc name:	031S029E23R001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2138511
Longitude:	-118.8262087	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	443.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19350101	Welldepth:	556
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

C15
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000161456**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351256118493001		
Monloc name:	031S029E23J001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2155177
Longitude:	-118.8259309	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	455.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-12-04	252.40	

16
NNE **CA WELLS** **CADW60000004541**
1/2 - 1 Mile
Higher

Objectid:	4541
Latitude:	35.2233
Longitude:	-118.8328
Site code:	352233N1188328W001
State well numbe:	31S29E23B001M
Local well name:	’’
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	’5-22.14’
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000004541

17
SW **FED USGS** **USGS40000161394**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351234118503701		
Monloc name:	031S029E27A001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2094068
Longitude:	-118.8445425	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	433.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

D18
East **FED USGS** **USGS40000161436**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351249118492901		
Monloc name:	031S029E23R002M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2135733
Longitude:	-118.825653	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	443.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19410101	Welldepth:	511
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

19
SSE **FED USGS** **USGS40000161355**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351221118495701		
Monloc name:	031S029E26G001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2057958
Longitude:	-118.833431	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	435.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19490101	Welldepth:	811
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1949-06-01	127.00	

20
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000161565**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351330118500801		
Monloc name:	031S029E23C001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2249619
Longitude:	-118.8364868	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	457.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

21
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000161352**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351217118502001		
Monloc name:	031S029E26E001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2046847
Longitude:	-118.8398202	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	433.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	898
Welldepth units:	ft	Wellholedepth:	898
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

E22
NNW
1/2 - 1 Mile
Higher

CA WELLS **17868**

Water System Information:

Prime Station Code:	31S/29E-15R02 M	User ID:	15C
FRDS Number:	1502184001	County:	Kern
District Number:	45	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	351328.0 1185033.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 01		
System Number:	1502184		
System Name:	E.O. MITCHELL		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

F23
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000161574**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351335118504301		
Monloc name:	031S029E15R001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2238508
Longitude:	-118.8448204	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	458.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Alluvium Above and Below E-Clay (Miocene-Pleistocene)		

Aquifer type:	Not Reported		
Construction date:	19510101	Welldepth:	504
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1955-11-23	246.00	

F24
NW
1/2 - 1 Mile
Higher

CA WELLS **12499**

Water System Information:

Prime Station Code:	1503265-001	User ID:	CYA
FRDS Number:	1503265001	County:	Kern
District Number:	12	Station Type:	WELL/AMBNT
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	351326.3 1185038.6	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	1503265		
System Name:	KERN COUNTY AUTISM CENTER		
Organization That Operates System:			
	14150 SUNSET BLVD ARVIN, CA 93203		
Pop Served:	26	Connections:	1
Area Served:	Not Reported		

E25
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000161556**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351329118503601		
Monloc name:	031S029E22A001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2246841
Longitude:	-118.8442648	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	460.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1957-02-27	246.10	

26
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000161353**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351218118503101		
Monloc name:	031S029E27H001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2049625
Longitude:	-118.8428758	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	428.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

G27
NE
1/2 - 1 Mile
Higher

CA WELLS **CADW60000000110**

Objectid:	110
Latitude:	35.2247
Longitude:	-118.8277
Site code:	352247N1188277W001
State well numbe:	31S29E23A001M
Local well name:	’’
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern

Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000000110

F28
NW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000004539**

Objectid:	4539
Latitude:	35.2247
Longitude:	-118.8452
Site code:	352247N1188452W001
State well numbe:	31S29E22A001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000004539

G29
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000161555**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351329118493301		
Monloc name:	031S029E23A001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2246841
Longitude:	-118.8267643	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	474.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19490101	Welldepth:	630
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-01-29	245.20	

30
SSW **FED USGS** **USGS40000161345**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351212118502901		
Monloc name:	031S029E26E002M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2032959
Longitude:	-118.8423202	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	432.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19460101	Welldepth:	220
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

31
SSW **FED USGS** **USGS40000161334**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351210118503601		
Monloc name:	031S029E27J001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2027403
Longitude:	-118.8442647	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	427.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

32
WSW **FED USGS** **USGS40000161400**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-351236118510801		
Monloc name:	031S029E27C001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18030012	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	35.2085735
Longitude:	-118.8514872	Sourcemap scale:	55000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	428.00
Vert measure units:	feet	Vertacc measure val:	52
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	500
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-12-04	157.30	

33
ESE **CA WELLS** **CADW60000000133**
1/2 - 1 Mile
Lower

Objectid:	133
Latitude:	35.21
Longitude:	-118.8204
Site code:	352100N1188204W001
State well numbe:	31S29E25C001M
Local well name:	’’
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern

Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000000133

34
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000004546**

Objectid:	4546
Latitude:	35.2022
Longitude:	-118.8292
Site code:	352022N1188292W001
State well numbe:	31S29E26G002M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	15
County name:	Kern
Basin code:	'5-22.14'
Basin desc:	Kern County
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000004546

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

A1
West
0 - 1/8 Mile

OIL_GAS **CAOG11000058493**

District nun:	4	Api number:	02944679
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	459 KB
Locationde:	Fr W/4 cor 365S 1228E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1-2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000058493		

A2
West
0 - 1/8 Mile

OIL_GAS **CAOG11000064004**

District nun:	4	Api number:	02947703
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	461 KB
Locationde:	Fr W/4 cor 320S 935E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1-3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000064004		

3
South
1/8 - 1/4 Mile

OIL_GAS **CAOG11000062397**

District nun:	4	Api number:	02946808
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	458 KB
Locationde:	Fr W/4 cor 990S 1593E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1-23
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000062397		

A4
West
1/8 - 1/4 Mile

OIL_GAS **CAOG11000058021**

District nun:	4	Api number:	02944449
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	459 KB
Locationde:	Fr W/4 cor 330S 1170E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000058021		

5
East
1/8 - 1/4 Mile

OIL_GAS **CAOG11000017044**

District nun:	4	Api number:	02914427
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 DF
Locationde:	Fr ctr 330S 330E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017044		

B6
SSE **OIL_GAS** **CAOG11000017226**
1/8 - 1/4 Mile

District nun:	4	Api number:	02914600
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr S/4 cor 1000N 415W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	H.S. Jewett	Wellnumber:	5
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017226		

7
West **OIL_GAS** **CAOG11000017268**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914642
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Union Oil Company of California		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr W/4 cor 330S 330E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	15-23
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017268		

Map ID
Direction
Distance

Database EDR ID Number

8
ENE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017200**

District nun:	4	Api number:	02914579
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr ctr 375N 201E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G8
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWF
Site id:	CAOG11000017200		

B9
SSE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017224**

District nun:	4	Api number:	02914598
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	457 KB
Locationde:	Fr S/4 cor 850N 415W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	H. S. Jewett	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017224		

10
South
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017048**

District nun:	4	Api number:	02914431
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	453 KB
Locationde:	Fr S/4 cor 670N 880W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017048		

B11
SSE **OIL_GAS** **CAOG11000017225**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914599
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	455 KB
Locationde:	Fr S/4 cor 675N 515W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	H. S. Jewett	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017225		

B12
SSE **OIL_GAS** **CAOG11000017223**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914597
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Woodward Petroleum		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	455 KB
Locationde:	Fr S/4 cor 675N 415W		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	H. S. Jewett	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017223		

C13
East
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017208**

District nun:	4	Api number:	02914584
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr ctr 330S 771E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	J1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PWF
Site id:	CAOG11000017208		

C14
East
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017209**

District nun:	4	Api number:	02914584
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr ctr 330S 771E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	J1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PWF
Site id:	CAOG11000017209		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

D15
NE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017195**

District nun:	4	Api number:	02914576
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	473 KB
Locationde:	Fr NE cor 1650S 2310W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017195		

D16
NE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017196**

District nun:	4	Api number:	02914576
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	473 KB
Locationde:	Fr NE cor 1650S 2310W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017196		

E17
WNW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000064472**

District nun:	4	Api number:	02947968
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr W/4 cor 525N 100E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Kirkorian	Wellnumber:	14X-23
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000064472		

F18
ESE **OIL_GAS** **CAOG11000017189**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914570
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr ctr 1163S 836E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Two	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017189		

C19
East **OIL_GAS** **CAOG11000017210**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914585
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr ctr 330S 1010E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	K1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017210		

E20
WNW **OIL_GAS** **CAOG11000065171**
1/4 - 1/2 Mile

District nun:	4	Api number:	02948361
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	458 KB
Locationde:	Fr E/4 cor 125N 125W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	1-4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000065171		

G21
NNE **OIL_GAS** **CAOG11000017204**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914582
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr NW cor 1185S 2310E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G11
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017204		

Map ID
Direction
Distance

Database EDR ID Number

G23
NNE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017206**

District nun:	4	Api number:	02914582
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr NW cor 1185S 2310E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G11
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017206		

G22
NNE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017205**

District nun:	4	Api number:	02914582
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr NW cor 1185S 2310E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G11
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017205		

24
ENE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017197**

District nun:	4	Api number:	02914577
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	468 KB
Locationde:	Fr NE cor 2310S 1650W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G5
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017197		

E25
WNW **OIL_GAS** **CAOG11000063375**
1/4 - 1/2 Mile

District nun:	4	Api number:	02947359
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	468 KB
Locationde:	Fr E/4 cor 575N 125W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	1-2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000063375		

H26
SW **OIL_GAS** **CAOG11000017046**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914429
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Blackhawk Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr SW cor 670N 334E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017046		

G27
NNE **OIL_GAS** **CAOG11000017194**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914575
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr NW cor 980S 2310E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017194		

F28
ESE **OIL_GAS** **CAOG11000017190**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914571
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Polaris Production, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	463 KB
Locationde:	Fr ctr 1163S 1126E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Unit Two	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017190		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

I29
NNW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017212**

District nun:	4	Api number:	02914587
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr NW cor 980S 990E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017212		

I30
NNW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000062482**

District nun:	4	Api number:	02946852
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr NW cor 1100S 600E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	20X
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000062482		

H31
SW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017047**

District nun:	4	Api number:	02914430
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Blackhawk Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	453 DF
Locationde:	Fr SW cor 670N 135E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Jewett	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017047		

F32
ESE **OIL_GAS** **CAOG11000017191**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914572
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	462 KB
Locationde:	Fr ctr 1163S 1226E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Two	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017191		

33
North **OIL_GAS** **CAOG11000017193**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914574
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	473 KB
Locationde:	Fr NW cor 660S 2000E		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017193		

34
NE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017207**

District nun:	4	Api number:	02914583
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr ctr 996N 1023E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G13
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017207		

35
West
1/4 - 1/2 Mile

OIL_GAS **CAOG11000066185**

District nun:	4	Api number:	02949003
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Ed Green, Operator		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	462 KB
Locationde:	Fr E/4 cor 175S 700W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauley-Peters	Wellnumber:	1-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000066185		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

J36
NW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000061779**

District nun:	4	Api number:	02946454
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	Not Reported
Locationde:	Fr E/4 cor 1180N 125W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	1-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000061779		

J37
NW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000061780**

District nun:	4	Api number:	02946454
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	Not Reported
Locationde:	Fr E/4 cor 1180N 125W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	1-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000061780		

J38
WNW
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017179**

District nun:	4	Api number:	02914562
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	463 KB
Locationde:	Fr E/4 cor 1000N 330W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	L.W. Richards	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017179		

39
WSW **OIL_GAS** **CAOG11000001006**
1/4 - 1/2 Mile

District nun:	4	Api number:	02900679
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	465 KB
Locationde:	Fr SE cor 1681N 750W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	6
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000001006		

40
NW **OIL_GAS** **CAOG11000017222**
1/4 - 1/2 Mile

District nun:	4	Api number:	02914596
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr NW cor 980S 330E		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	George	Wellnumber:	20
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017222		

K41
NE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017202**

District nun:	4	Api number:	02914581
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	485 KB
Locationde:	Fr N/4 cor 990S 600E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G10
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017202		

K42
NE
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017203**

District nun:	4	Api number:	02914581
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	485 KB
Locationde:	Fr N/4 cor 990S 600E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G10
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017203		

Map ID
Direction
Distance

Database EDR ID Number

L43
East
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017192**

District nun:	4	Api number:	02914573
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Polaris Production, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	468 KB
Locationde:	Fr ctr 330S 1670E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	B1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017192		

L44
East
1/4 - 1/2 Mile

OIL_GAS **CAOG11000017211**

District nun:	4	Api number:	02914586
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Polaris Production, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr E/4 cor 250S 1010W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Brooks	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017211		

45
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000000810**

District nun:	4	Api number:	02900528
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	463 KB
Locationde:	Fr ctr 990S 1650E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	K2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PWF
Site id:	CAOG11000000810		

46
ENE **OIL_GAS** **CAOG11000017214**
1/2 - 1 Mile

District nun:	4	Api number:	02914589
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr E/4 cor 330N 1009W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	12
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017214		

M47
South **OIL_GAS** **CAOG11000017243**
1/2 - 1 Mile

District nun:	4	Api number:	02914617
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr N/4 cor 430S 420W		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Arvin Unit Four	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017243		

N48
North
1/2 - 1 Mile

OIL_GAS **CAOG11000017198**

District nun:	4	Api number:	02914578
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	474 KB
Locationde:	Fr NW cor 330s 1650E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G7
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017198		

N49
North
1/2 - 1 Mile

OIL_GAS **CAOG11000017199**

District nun:	4	Api number:	02914578
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	474 KB
Locationde:	Fr NW cor 330s 1650E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G7
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017199		

Map ID
Direction
Distance

Database EDR ID Number

50
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000009656**

District nun:	4	Api number:	02908057
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Atlantic Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	439 GL
Locationde:	Fr SE cor 990N 750W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Krauter	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000009656		

M51
South
1/2 - 1 Mile

OIL_GAS **CAOG11000017244**

District nun:	4	Api number:	02914618
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	450 KB
Locationde:	Fr N/4 cor 500S 420W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Four	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017244		

K52
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000017213**

District nun:	4	Api number:	02914588
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	487 KB
Locationde:	Fr NE cor 990S 1650W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	6
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017213		

53
SSW **OIL_GAS** **CAOG11000017049**
1/2 - 1 Mile

District nun:	4	Api number:	02914432
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	440 GL
Locationde:	Fr NW cor 330S 530E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Simpson	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017049		

O54
WNW **OIL_GAS** **CAOG11000063902**
1/2 - 1 Mile

District nun:	4	Api number:	02947652
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Petro Capital Resources, LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr NE cor 1550S 725W		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	1-3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000063902		

55
ENE **OIL_GAS** **CAOG11000017216**
1/2 - 1 Mile

District nun:	4	Api number:	02914591
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	474 KB
Locationde:	Fr ctr 990N 1650E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	15
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017216		

56
WNW **OIL_GAS** **CAOG11000017178**
1/2 - 1 Mile

District nun:	4	Api number:	02914561
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	457 KB
Locationde:	Fr ctr 280N 1490E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	L.W. Richards	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017178		

Map ID
Direction
Distance

Database EDR ID Number

P57
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000001004**

District nun:	4	Api number:	02900677
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	450 KB
Locationde:	Fr ctr 1180S 1490E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000001004		

58
NNE
1/2 - 1 Mile

OIL_GAS **CAOG11000017201**

District nun:	4	Api number:	02914580
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	480 KB
Locationde:	Fr N/4 cor 330S 230E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G9
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017201		

59
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000017221**

District nun:	4	Api number:	02914595
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	479 KB
Locationde:	Fr NE cor 990S 1340W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	19
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWD
Site id:	CAOG11000017221		

P60
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000009655**

District nun:	4	Api number:	02908056
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Atlantic Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	450 KB
Locationde:	Fr SE cor 1183N 1200W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Krauter	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000009655		

O61
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000063780**

District nun:	4	Api number:	02947579
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	ABA Energy Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr NE cor 1195S 762W		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	Richards	Wellnumber:	72X-22
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000063780		

62
West
1/2 - 1 Mile

OIL_GAS **CAOG11000001003**

District nun:	4	Api number:	02900676
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr ctr 730S 1290E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000001003		

63
ENE
1/2 - 1 Mile

OIL_GAS **CAOG11000017215**

District nun:	4	Api number:	02914590
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr E/4 cor 330N 450W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	14
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017215		

Map ID
Direction
Distance

Database EDR ID Number

64
East **OIL_GAS** **CAOG11000017227**
1/2 - 1 Mile

District nun:	4	Api number:	02914601
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr E/4 cor 990S 450W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Ellen Kovacevich	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017227		

Q65
NNE **OIL_GAS** **CAOG11000086153**
1/2 - 1 Mile

District nun:	4	Api number:	02960590
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	482 KB
Locationde:	Fr NE cor 200S 2030W		
Gissourcec:	hud		
Comments:	FR NE COR 200S 2030W		
Leasename:	Arvin Waterflood Unit	Wellnumber:	G-22
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000086153		

Q67
NNE **OIL_GAS** **CAOG11000017218**
1/2 - 1 Mile

District nun:	4	Api number:	02914592
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	478 KB
Locationde:	Fr N/4 cor 330S 910E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	16
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017218		

Q66
NNE **OIL_GAS** **CAOG11000017217**
1/2 - 1 Mile

District nun:	4	Api number:	02914592
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	478 KB
Locationde:	Fr N/4 cor 330S 910E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	16
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017217		

68
West **OIL_GAS** **CAOG11000017174**
1/2 - 1 Mile

District nun:	4	Api number:	02914557
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	453 KB
Locationde:	Fr ctr 280S 1090E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	04-MAR-52
Welldeptha:	7053		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017174		

69
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017188**

District nun:	4	Api number:	02914569
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	ABA Energy Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	469 KB
Locationde:	Fr NE cor 360S 500W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	8
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017188		

70
ENE
1/2 - 1 Mile

OIL_GAS **CAOG11000017220**

District nun:	4	Api number:	02914594
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	475 KB
Locationde:	Fr E/4 cor 990N 450W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	18
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017220		

Map ID
Direction
Distance

Database EDR ID Number

R72
North
1/2 - 1 Mile

OIL_GAS **CAOG11000032864**

District nun:	4	Api number:	03029812
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Lost Hills
Area name:	Any Area	Section:	29
Township:	26S	Range:	21E
Base meridian:	MD	Elevation:	410 KB
Locationde:	Fr SW cor 1159Ely 774Nly		
Gissourcec:	unk		
Comments:	Converted Lat/Long NAD27 to NAD83		
Leasename:	Not Reported	Wellnumber:	3-11WA
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AWF
Site id:	CAOG11000032864		

R71
North
1/2 - 1 Mile

OIL_GAS **CAOG11000000473**

District nun:	4	Api number:	02900226
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	479 KB
Locationde:	Fr SW cor 330N 1650E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	Y1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000000473		

73
SW
1/2 - 1 Mile

OIL_GAS **CAOG11000016847**

District nun:	4	Api number:	02914282
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	441 DF
Locationde:	Fr NE cor 465S 330W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Houchin	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016847		

S74
West
1/2 - 1 Mile

OIL_GAS **CAOG11000017180**

District nun:	4	Api number:	02914563
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	455 KB
Locationde:	Fr ctr 280N 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017180		

75
North
1/2 - 1 Mile

OIL_GAS **CAOG11000017159**

District nun:	4	Api number:	02914542
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	482 KB
Locationde:	Fr S/4 cor 400N 230W		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	Y3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017159		

S76
WNW **OIL_GAS** **CAOG11000017183**
1/2 - 1 Mile

District nun:	4	Api number:	02914566
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	457 KB
Locationde:	Fr ctr 680N 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	5
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017183		

T77
SSE **OIL_GAS** **CAOG11000017237**
1/2 - 1 Mile

District nun:	4	Api number:	02914611
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr NE cor 767S 1670W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit One	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017237		

Map ID
Direction
Distance

Database EDR ID Number

78
NNE **OIL_GAS** **CAOG11000017157**
1/2 - 1 Mile

District nun:	4	Api number:	02914540
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	478 KB
Locationde:	Fr S/4 cor 330N 230E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	D1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017157		

79
West **OIL_GAS** **CAOG11000001005**
1/2 - 1 Mile

District nun:	4	Api number:	02900678
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	450 KB
Locationde:	Fr ctr 730S 790E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	5
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000001005		

80
NE **OIL_GAS** **CAOG11000075311**
1/2 - 1 Mile

District nun:	4	Api number:	02954044
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	480 KB
Locationde:	Fr NE cor 990S 600W		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	George	Wellnumber:	21
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000075311		

T81
SSE **OIL_GAS** **CAOG11000017235**
1/2 - 1 Mile

District nun:	4	Api number:	02914609
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr NE cor 820S 1670W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit One	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017235		

82
NE **OIL_GAS** **CAOG11000017219**
1/2 - 1 Mile

District nun:	4	Api number:	02914593
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	23
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	479 KB
Locationde:	Fr N/4 cor 330S 1570E		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	George	Wellnumber:	17
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017219		

T83
SSE **OIL_GAS** **CAOG11000017236**
1/2 - 1 Mile

District nun:	4	Api number:	02914610
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr NE cor 941S 1670W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit One	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017236		

84
SW **OIL_GAS** **CAOG11000017284**
1/2 - 1 Mile

District nun:	4	Api number:	02914697
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Petro Resources, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	439 DF
Locationde:	Fr NE cor 330S 991W		
Gissourcec:	unk		
Comments:	Not Reported		
Leasename:	Houchin	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017284		

Map ID
Direction
Distance

Database EDR ID Number

85
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000017017**

District nun:	4	Api number:	02914400
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Mobil Oil Corporation		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	440 DF
Locationde:	Fr SE cor 330N 1532W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017017		

86
West
1/2 - 1 Mile

OIL_GAS **CAOG11000017176**

District nun:	4	Api number:	02914559
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	452 KB
Locationde:	Fr ctr 280S 590E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017176		

T87
SSE
1/2 - 1 Mile

OIL_GAS **CAOG11000017238**

District nun:	4	Api number:	02914612
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	451 KB
Locationde:	Fr NE cor 1061S 1670W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit One	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017238		

88
WNW **OIL_GAS** **CAOG11000295965**
1/2 - 1 Mile

District nun:	4	Api number:	03049716
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	N
Operator name:	ABA Energy Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Not Reported		
Gissourcec:	noi		
Comments:	Not Reported		
Leasename:	Sandy	Wellnumber:	1-22
Epawell:	N	Hydraulica:	Not Reported
Confidenti:	Y	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Not Reported	Gissymbol:	AOG
Site id:	CAOG11000295965		

89
NNE **OIL_GAS** **CAOG11000017168**
1/2 - 1 Mile

District nun:	4	Api number:	02914551
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	I
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	480 KB
Locationde:	Fr S/4 cor 330N 1044E		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	Portman	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017168		

90
WNW **OIL_GAS** **CAOG11000017181**
1/2 - 1 Mile

District nun:	4	Api number:	02914564
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	455 KB
Locationde:	Fr ctr 680N 590E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017181		

U91
East **OIL_GAS** **CAOG11000017232**
1/2 - 1 Mile

District nun:	4	Api number:	02914606
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	468 KB
Locationde:	Fr W/4 cor 460S 350E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Chuchian Unit	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017232		

Map ID
Direction
Distance

Database EDR ID Number

U92
East **OIL_GAS** **CAOG11000017228**
1/2 - 1 Mile

District nun:	4	Api number:	02914602
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr W/4 cor 860S 350E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Five	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017228		

V93
NE **OIL_GAS** **CAOG11000107722**
1/2 - 1 Mile

District nun:	4	Api number:	02974093
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Nordic Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	492 KB
Locationde:	Fr SE cor 150N 1170W		
Gissourcec:	hud		
Comments:	FR SE COR 150N 1170W		
Leasename:	Mitchell	Wellnumber:	14-1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000107722		

94
NW **OIL_GAS** **CAOG11000017006**
1/2 - 1 Mile

District nun:	4	Api number:	02914389
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Fred A. Miller		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr SE cor 255N 550W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Mitchell	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017006		

95
NNW **OIL_GAS** **CAOG11000111064**
1/2 - 1 Mile

District nun:	4	Api number:	02976079
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Bennett Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr SE cor 568N 125W		
Gissourcec:	hud		
Comments:	FR SE COR 568N 125W		
Leasename:	Mitchell Community	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000111064		

W96
East **OIL_GAS** **CAOG11000017229**
1/2 - 1 Mile

District nun:	4	Api number:	02914603
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Polaris Production, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	483 KB
Locationde:	Fr W/4 cor 350N 350E		
Gissourcec:	gps		

Comments:	Not Reported		
Leasename:	Brandt-Kirkorian	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017229		

W97
ENE **OIL_GAS** **CAOG11000017230**
1/2 - 1 Mile

District nun:	4	Api number:	02914604
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Polaris Production, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	485 KB
Locationde:	Fr W/4 cor 375N 350E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Brandt-Kirkorian	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017230		

98
West **OIL_GAS** **CAOG11000017175**
1/2 - 1 Mile

District nun:	4	Api number:	02914558
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	443 DF
Locationde:	Fr ctr 746S 330E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	1X
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017175		

Map ID
Direction
Distance

Database EDR ID Number

X100
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017187**

District nun:	4	Api number:	02914568
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	SJM Oil LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	465 KB
Locationde:	Not Reported		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	7
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	02-AUG-55
Welldeptha:	6330		
Redrillfoo:	0		
Abandonedd:	02-JAN-14	Completion:	20-AUG-55
Directiona:	Not Directionally drilled	Gissymbol:	PWD
Site id:	CAOG11000017187		

X99
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017186**

District nun:	4	Api number:	02914568
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	SJM Oil LLC		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	465 KB
Locationde:	Not Reported		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	7
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	02-AUG-55
Welldeptha:	6330		
Redrillfoo:	0		
Abandonedd:	02-JAN-14	Completion:	20-AUG-55
Directiona:	Not Directionally drilled	Gissymbol:	PWD
Site id:	CAOG11000017186		

101
NNW
1/2 - 1 Mile

OIL_GAS **CAOG11000017164**

District nun:	4	Api number:	02914547
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	476 KB
Locationde:	Fr SW cor 990N 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Yaussy	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017164		

102
SSW **OIL_GAS** **CAOG11000066864**
1/2 - 1 Mile

District nun:	4	Api number:	02949407
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Howard H. Bell, Jr.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	452 KB
Locationde:	Fr NW cor 1616S 640E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000066864		

103
North **OIL_GAS** **CAOG11000017160**
1/2 - 1 Mile

District nun:	4	Api number:	02914543
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	483 KB
Locationde:	Fr S/4 cor 1055N 550W		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	Y4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017160		

104
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000016998**

District nun:	4	Api number:	02914381
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	William E. Butler		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr SW cor 990N 376E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kirkorian-Brandt	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016998		

V105
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000017165**

District nun:	4	Api number:	02914548
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	483 KB
Locationde:	Fr S/4 cor 330N 1665E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	McKinney	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017165		

Map ID
Direction
Distance

Database EDR ID Number

106
SW
1/2 - 1 Mile

OIL_GAS **CAOG11000100574**

District nun:	4	Api number:	02969635
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Pacific Tin Consolidated Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	446 KB
Locationde:	Fr NE cor 1240S 773W		
Gissourcec:	hud		
Comments:	FR NE COR 1240S 773W		
Leasename:	Guimarra Bros.	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000100574		

107
NNE
1/2 - 1 Mile

OIL_GAS **CAOG11000017161**

District nun:	4	Api number:	02914544
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	485 KB
Locationde:	Fr S/4 cor 990N 360E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Durr	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017161		

V108
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000017166**

District nun:	4	Api number:	02914549
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	483 KB
Locationde:	Fr S/4 cor 345N 1665E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	McKinney	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017166		

Y109
SE **OIL_GAS** **CAOG11000017239**
1/2 - 1 Mile

District nun:	4	Api number:	02914613
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	454 KB
Locationde:	Fr NE cor 425S 210W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Three	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017239		

Y110
SE **OIL_GAS** **CAOG11000017240**
1/2 - 1 Mile

District nun:	4	Api number:	02914614
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	453 KB
Locationde:	Fr NE cor 425S 190W		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Arvin Unit Three	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017240		

Y111
SE
1/2 - 1 Mile

OIL_GAS **CAOG11000017241**

District nun:	4	Api number:	02914615
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	Not Reported
Locationde:	Fr NE cor 425S 170W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Three	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017241		

112
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000017231**

District nun:	4	Api number:	02914605
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	460 KB
Locationde:	Fr SW cor 330N 330E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Brandt (NCT-1)	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017231		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

Y113
SE
1/2 - 1 Mile

OIL_GAS **CAOG11000017242**

District nun:	4	Api number:	02914616
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	454 KB
Locationde:	Fr NE cor 425S 150W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Unit Three	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017242		

114
NNE
1/2 - 1 Mile

OIL_GAS **CAOG11000017169**

District nun:	4	Api number:	02914552
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	486 KB
Locationde:	Fr S/4 cor 990N 970E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Portman	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017169		

X115
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017060**

District nun:	4	Api number:	02914443
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Randall E. Presley		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	468 KB
Locationde:	Fr S/4 cor 160N 1170E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Yaussy	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017060		

116
WSW **OIL_GAS** **CAOG11000017177**
1/2 - 1 Mile

District nun:	4	Api number:	02914560
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	443 KB
Locationde:	Fr S/4 cor 330N 330E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Pauly	Wellnumber:	7
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017177		

117
WNW **OIL_GAS** **CAOG11000017182**
1/2 - 1 Mile

District nun:	4	Api number:	02914565
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	455 KB
Locationde:	Fr ctr 1080N 190E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017182		

Z118
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000093819**

District nun:	4	Api number:	02965300
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Green Oil Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	470 KB
Locationde:	Fr SE cor 458N 1174W		
Gissourcec:	hud		
Comments:	FR SE COR 458N 1174W		
Leasename:	Showers Community	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000093819		

AA119
East
1/2 - 1 Mile

OIL_GAS **CAOG11000017234**

District nun:	4	Api number:	02914608
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	Not Reported
Locationde:	Fr W/4 cor 965S 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	S. Chuchian	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017234		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

AB121
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017185**

District nun:	4	Api number:	02914567
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	ABA Energy Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr N/4 cor 160S 810E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	6
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017185		

AB120
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017184**

District nun:	4	Api number:	02914567
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	ABA Energy Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr N/4 cor 160S 810E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Richards Estate	Wellnumber:	6
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017184		

AA122
East
1/2 - 1 Mile

OIL_GAS **CAOG11000017233**

District nun:	4	Api number:	02914607
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	466 KB
Locationde:	Fr W/4 cor 990S 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	S. Chuchian	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017233		

123
SW
1/2 - 1 Mile

OIL_GAS **CAOG11000016925**

District nun:	4	Api number:	02914671
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	The Termo Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	440 KB
Locationde:	Fr N/4 cor 952S 991E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Houchin-Giumarra	Wellnumber:	62-27
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016925		

124
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000017167**

District nun:	4	Api number:	02914550
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	485 KB
Locationde:	Fr S/4 cor 330N 2378E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Mitchell	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017167		

125
SSW
1/2 - 1 Mile

OIL_GAS **CAOG11000016887**

District nun:	4	Api number:	02914321
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	26
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	445 KB
Locationde:	Fr W/4 cor 390N 330E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin B	Wellnumber:	14A-26
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016887		

126
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000016996**

District nun:	4	Api number:	02914379
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	William E. Butler		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	459 KB
Locationde:	Fr SW cor 990N 985E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kirkorian	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016996		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

AC128
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000016923**

District nun:	4	Api number:	02914669
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	The Termo Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	439 KB
Locationde:	Fr N/4 cor 326S 334E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Houchin-Giumarra	Wellnumber:	51-27
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016923		

AC127
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000016922**

District nun:	4	Api number:	02914669
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	The Termo Company		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	27
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	439 KB
Locationde:	Fr N/4 cor 326S 334E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Houchin-Giumarra	Wellnumber:	51-27
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016922		

129
North
1/2 - 1 Mile

OIL_GAS **CAOG11000017158**

District nun:	4	Api number:	02914541
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Frank Goldman		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	486 KB
Locationde:	Fr S/4 cor 1655N 200W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Arvin Waterflood Unit	Wellnumber:	Kr1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017158		

Z130
NW **OIL_GAS** **CAOG11000017007**
1/2 - 1 Mile

District nun:	4	Api number:	02914390
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Fred A. Miller		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	465 KB
Locationde:	Fr SE cor 760N 1182W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Mitchell	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017007		

131
NNE **OIL_GAS** **CAOG11000017162**
1/2 - 1 Mile

District nun:	4	Api number:	02914545
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Tri-Union Development Corp.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	487 KB
Locationde:	Fr S/4 cor 1650N 360E		
Gissourcec:	hud		

Comments:	Not Reported		
Leasename:	Durr	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000017162		

AD132
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000016997**

District nun:	4	Api number:	02914380
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	William E. Butler		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	448 GL
Locationde:	Fr SW cor 480N 990E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kirkorian	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000016997		

AD133
ESE
1/2 - 1 Mile

OIL_GAS **CAOG11000088130**

District nun:	4	Api number:	02961844
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sun Mountain Oil & Gas		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	459 KB
Locationde:	Fr SW cor 340N 980E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Brandt-Kirkorian Unit	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000088130		

Map ID
Direction
Distance

Database EDR ID Number

134
NW
1/2 - 1 Mile

OIL_GAS **CAOG11000017005**

District nun:	4	Api number:	02914388
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Fred A. Miller		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	15
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	472 KB
Locationde:	Fr S/4 cor 150N 510E		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	McKinney	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017005		

135
NNE
1/2 - 1 Mile

OIL_GAS **CAOG11000017170**

District nun:	4	Api number:	02914553
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Sunray Petroleum, Inc.		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	14
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	490 KB
Locationde:	Fr S/4 cor 1650N 990E		
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Portman	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000017170		

136
WSW
1/2 - 1 Mile

OIL_GAS **CAOG11000017267**

District nun:	4	Api number:	02914641
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Union Oil Company of California		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	441 KB
Locationde:	Fr S/4 cor 330N 331W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Tupman	Wellnumber:	48-22
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000017267		

137
WNW **OIL_GAS** **CAOG11000050722**
1/2 - 1 Mile

District nun:	4	Api number:	02940423
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	W. E. David		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin, West,	Section:	22
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	464 KB
Locationde:	Fr ctr 695N 560W		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Bianco	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000050722		

138
ENE **OIL_GAS** **CAOG11000016710**
1/2 - 1 Mile

District nun:	4	Api number:	02914148
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Henry F. Bloomfield, Trustee		
County name:	Kern	Fieldname:	Mountain View
Area name:	Arvin	Section:	24
Township:	31S	Range:	29E
Base meridian:	MD	Elevation:	Not Reported
Locationde:	Fr ctr 760N 1220W		
Gissourcec:	hud		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Comments:	Not Reported		
Leasename:	Berge	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000016710		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93203	6	0

Federal EPA Radon Zone for KERN 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 KERN COUNTY, CA

Number of sites tested: 94

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.422 pCi/L	98%	2%	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 & Game
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.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
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.

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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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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KCCD Campus Arvin

Varsity and Campus

Arvin, CA 93203

Inquiry Number: 5027256.4

August 18, 2017

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

08/18/17

Site Name:

KCCD Campus Arvin
Varsity and Campus
Arvin, CA 93203
EDR Inquiry # 5027256.4

Client Name:

Soils Engineering, Inc.
4400 Yeager Way
Bakersfield, CA 93313
Contact: Bob Becker

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Soils 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.# 17-350-EDR
Project: KCCD Arvin Campus

Coordinates:

Latitude:	35.215183 35° 12' 55" North
Longitude:	-118.836433 -118° 50' 11" West
UTM Zone:	Zone 11 North
UTM X Meters:	332852.67
UTM Y Meters:	3898451.44
Elevation:	455.00' above sea level

Maps Provided:

2012	1914
1995	
1973	
1968	
1955	
1941	
1933	
1930	

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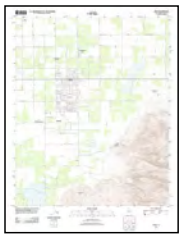
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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



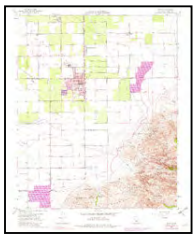
Arvin
2012
7.5-minute, 24000

1995 Source Sheets



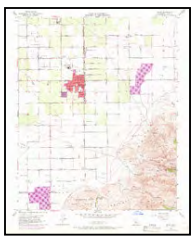
Arvin
1995
7.5-minute, 24000
Aerial Photo Revised 1992

1973 Source Sheets



Arvin
1973
7.5-minute, 24000
Aerial Photo Revised 1968

1968 Source Sheets

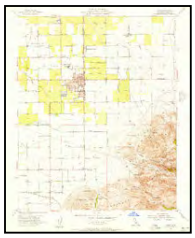


Arvin
1968
7.5-minute, 24000
Aerial Photo Revised 1968

Topo Sheet Key

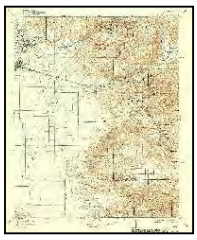
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1955 Source Sheets



Arvin
1955
7.5-minute, 24000
Aerial Photo Revised 1952

1941 Source Sheets



CALIENTE
1941
30-minute, 125000

1933 Source Sheets



Arvin
1933
7.5-minute, 31680

1930 Source Sheets

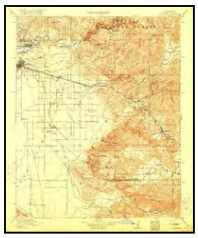


Arvin
1930
7.5-minute, 31680

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

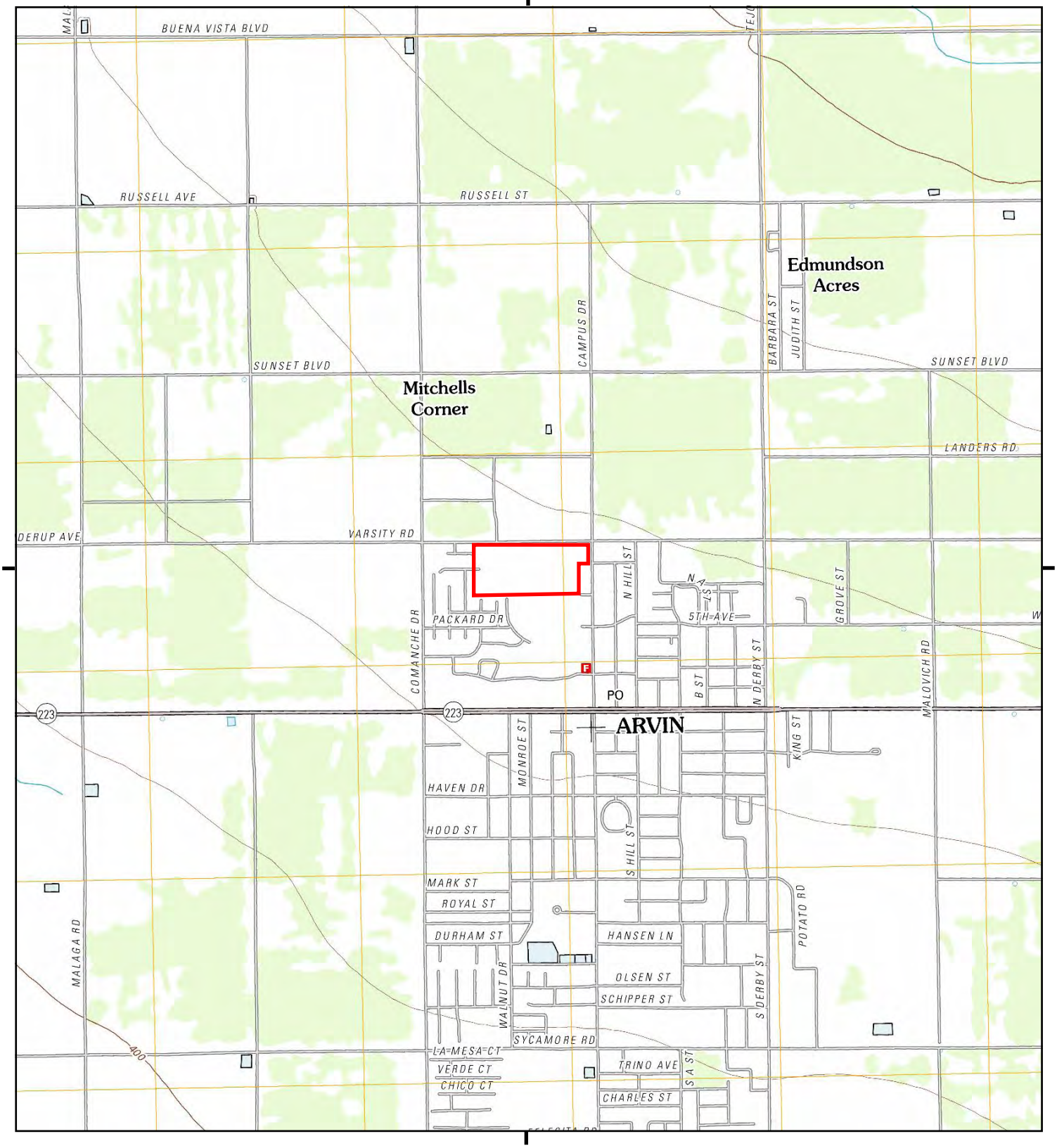
1914 Source Sheets



Caliente
1914
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

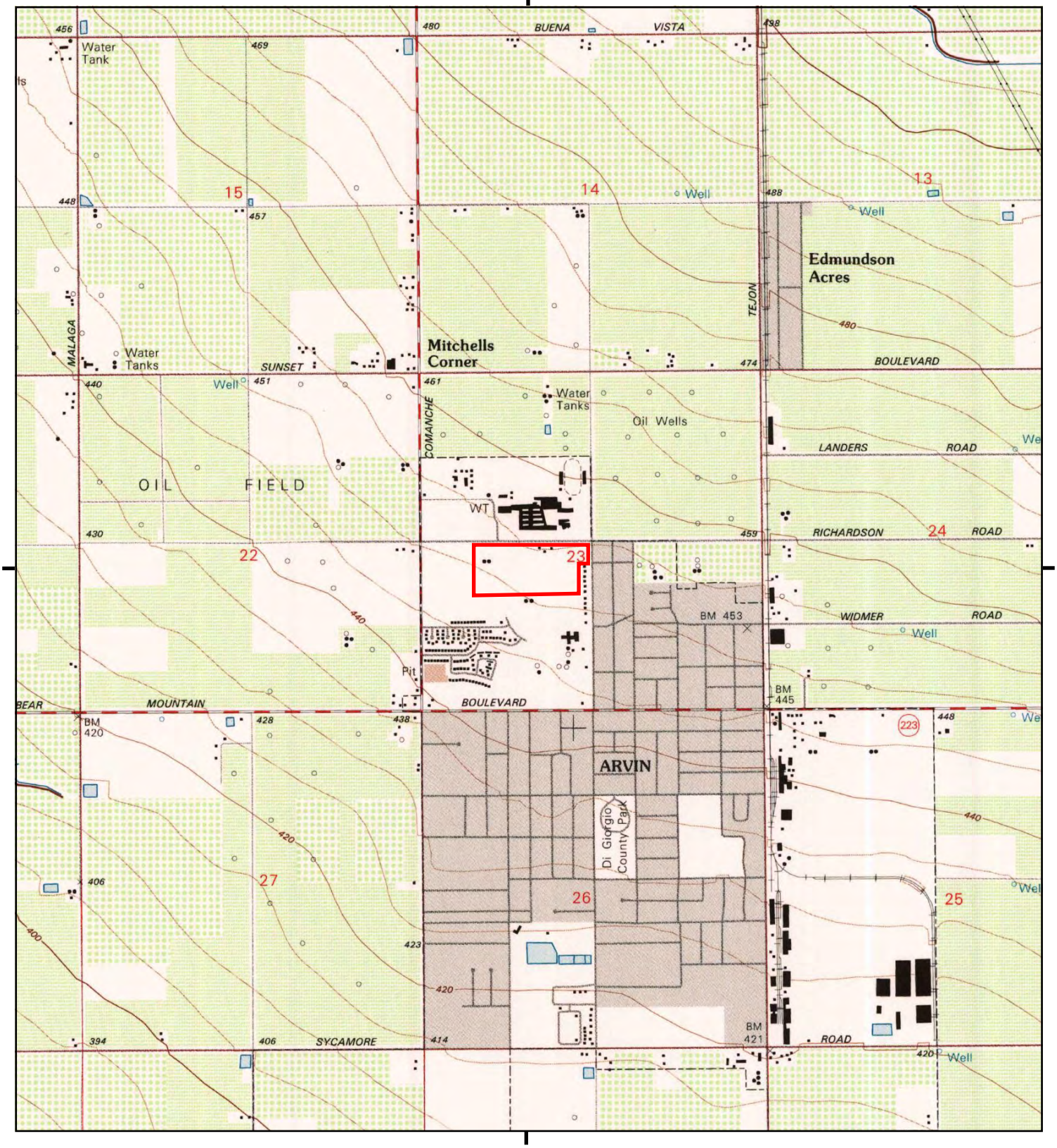
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Arvin, 2012, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils 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

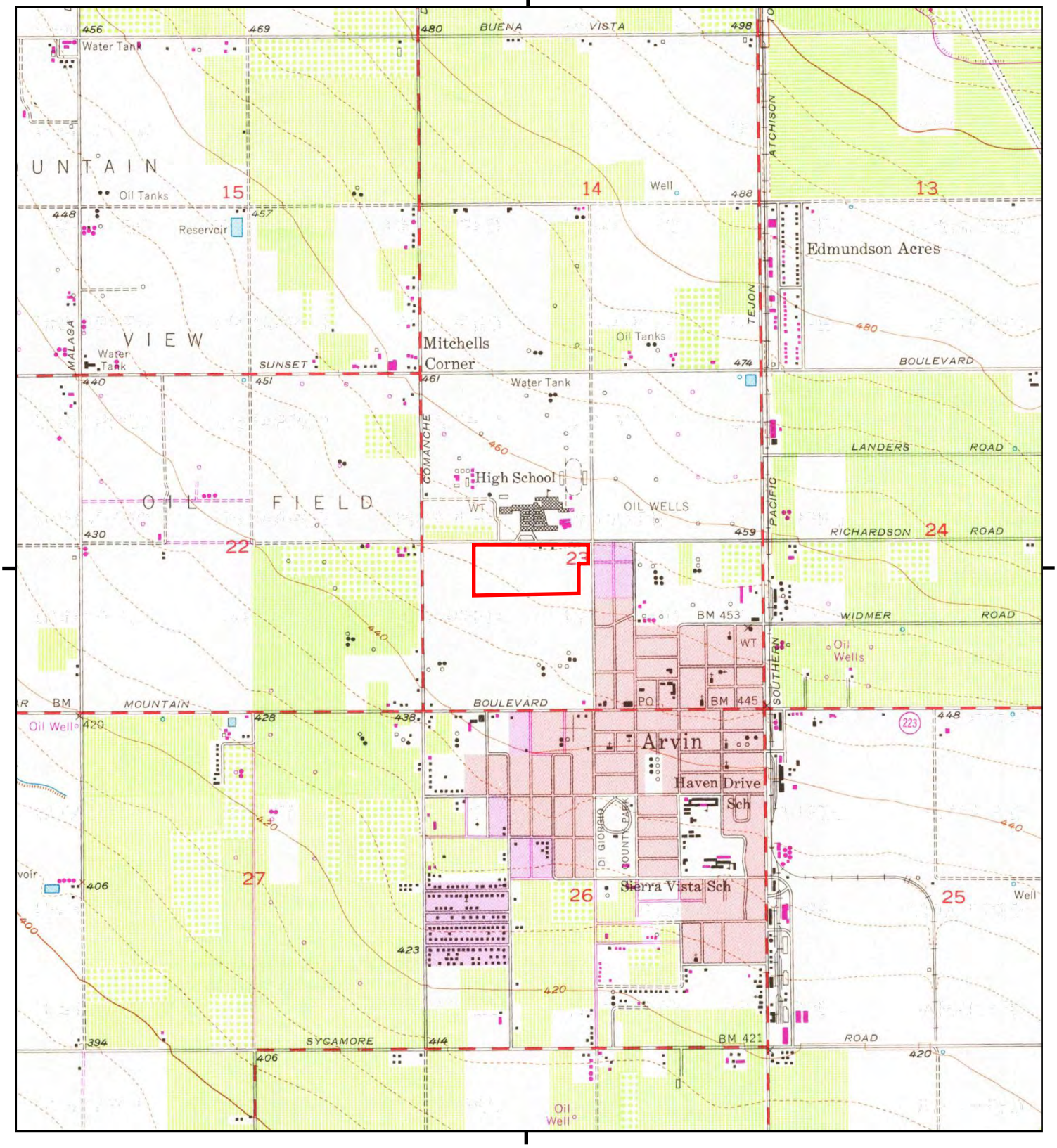
TP, Arvin, 1995, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N

Historical Topo Map

1973



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

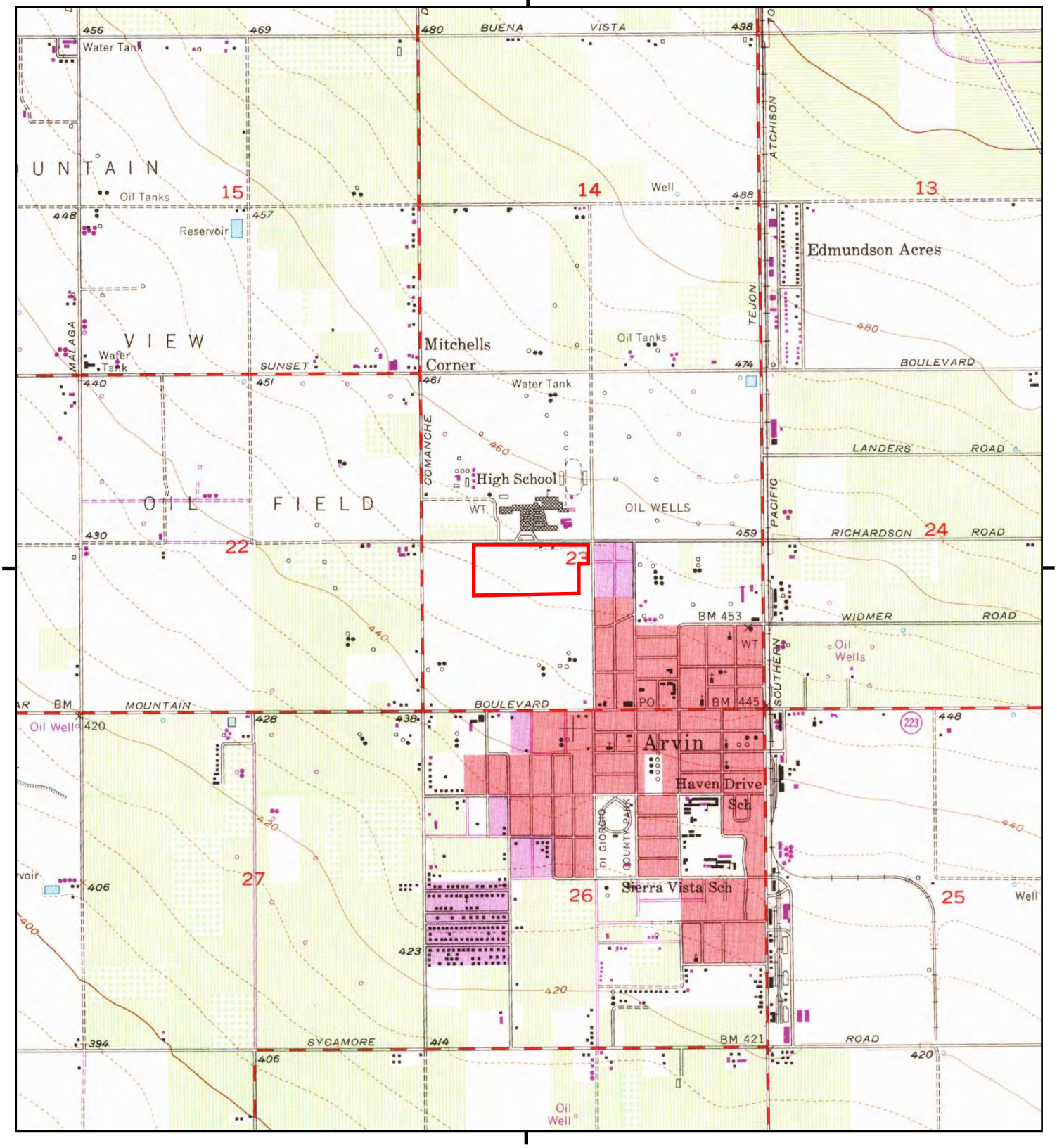
TP, Arvin, 1973, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N

Historical Topo Map

1968



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

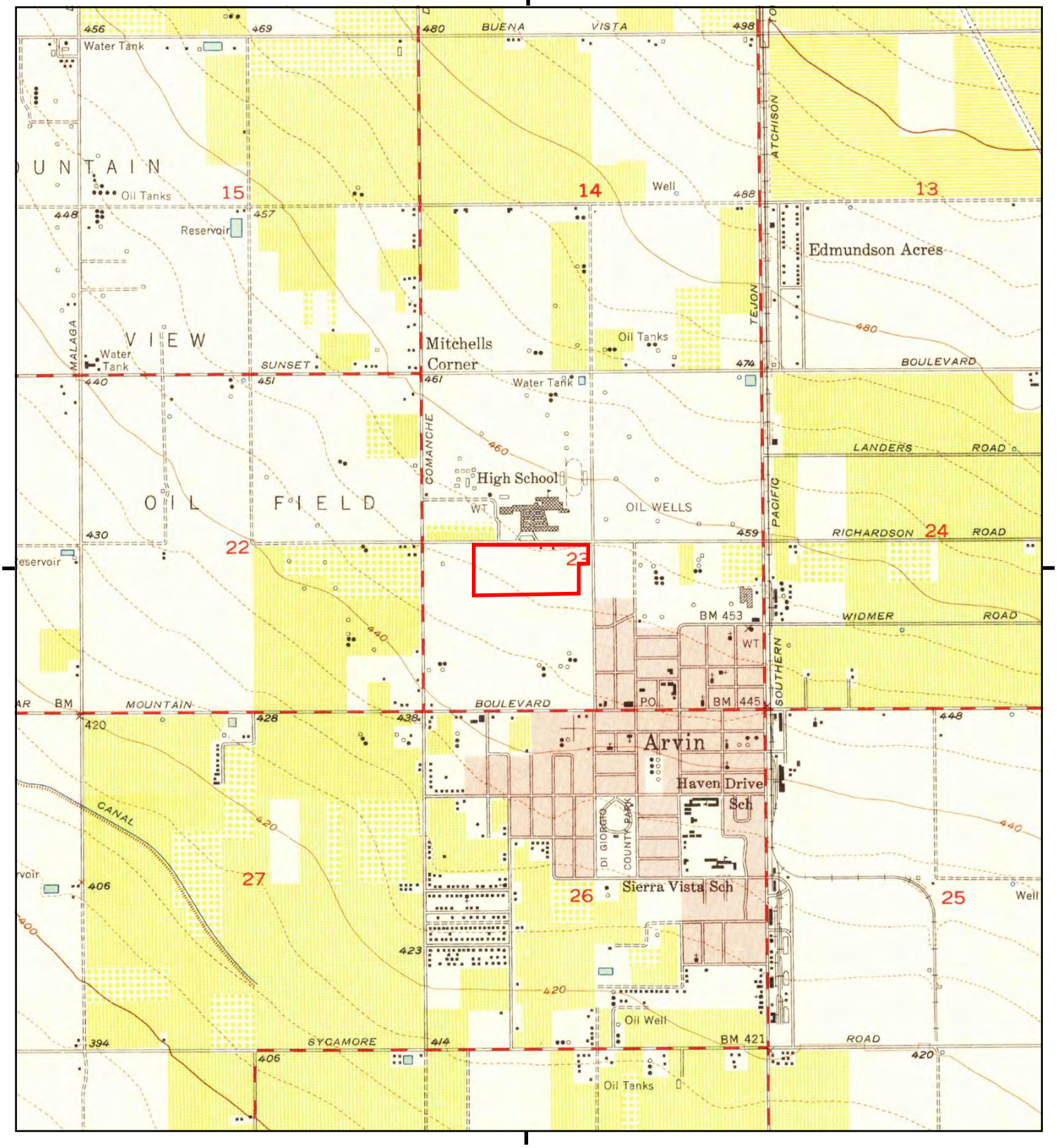
TP, Arvin, 1968, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N

Historical Topo Map

1955



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, Arvin, 1955, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N



This report includes information from the following map sheet(s).

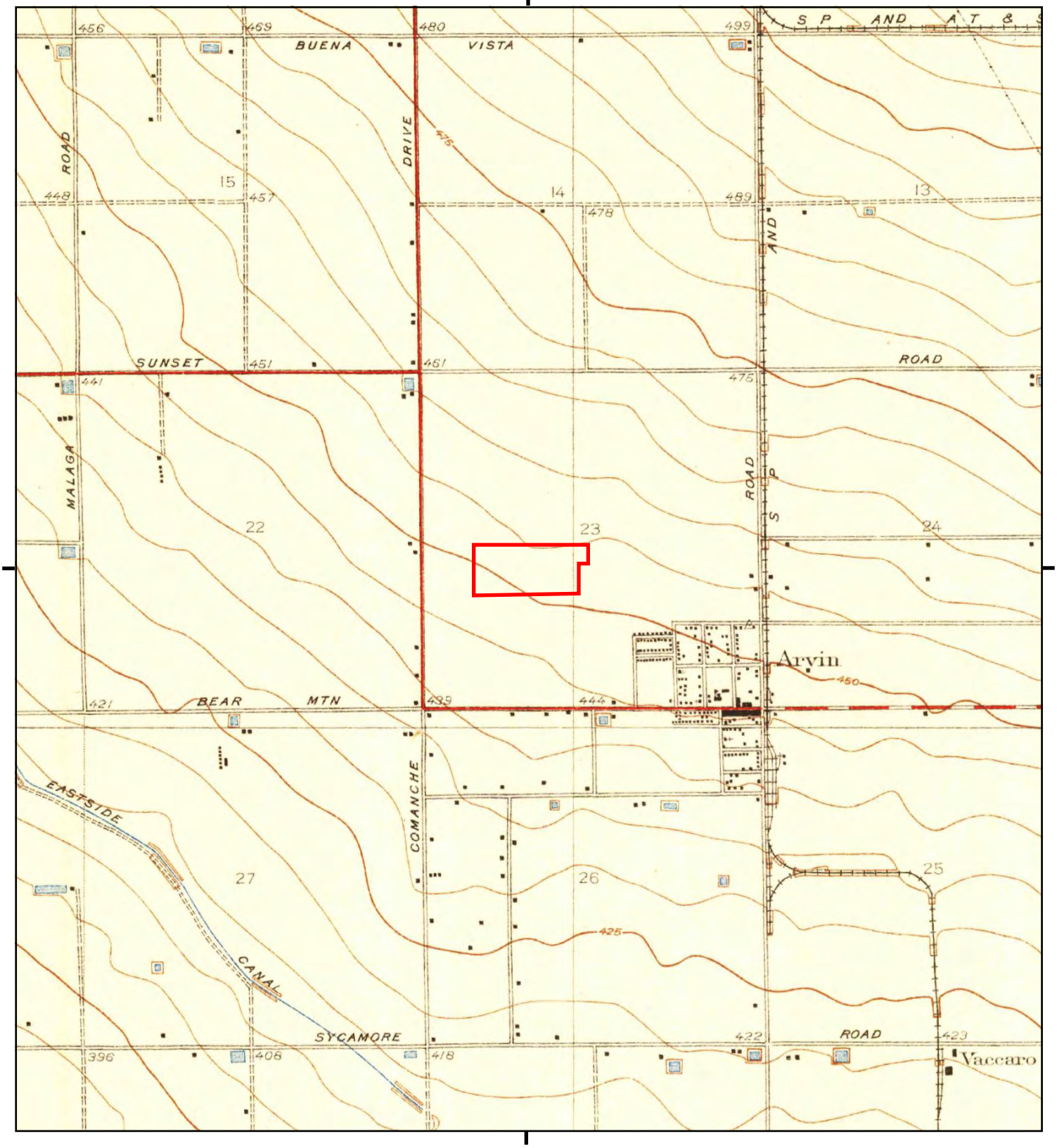
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CALIENTE, 1941, 30-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils 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

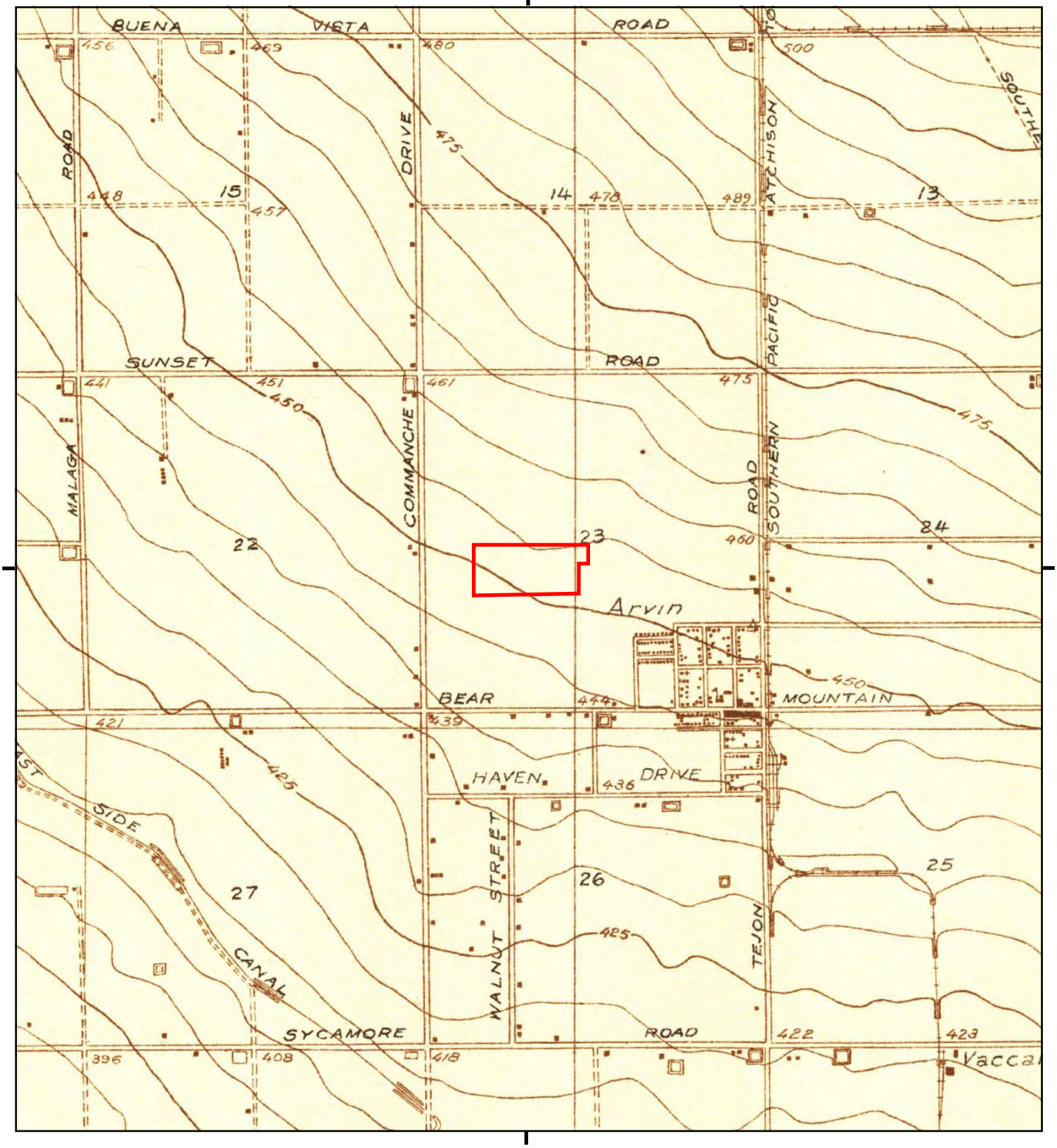
TP, Arvin, 1933, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N

Historical Topo Map

1930



This report includes information from the following map sheet(s).

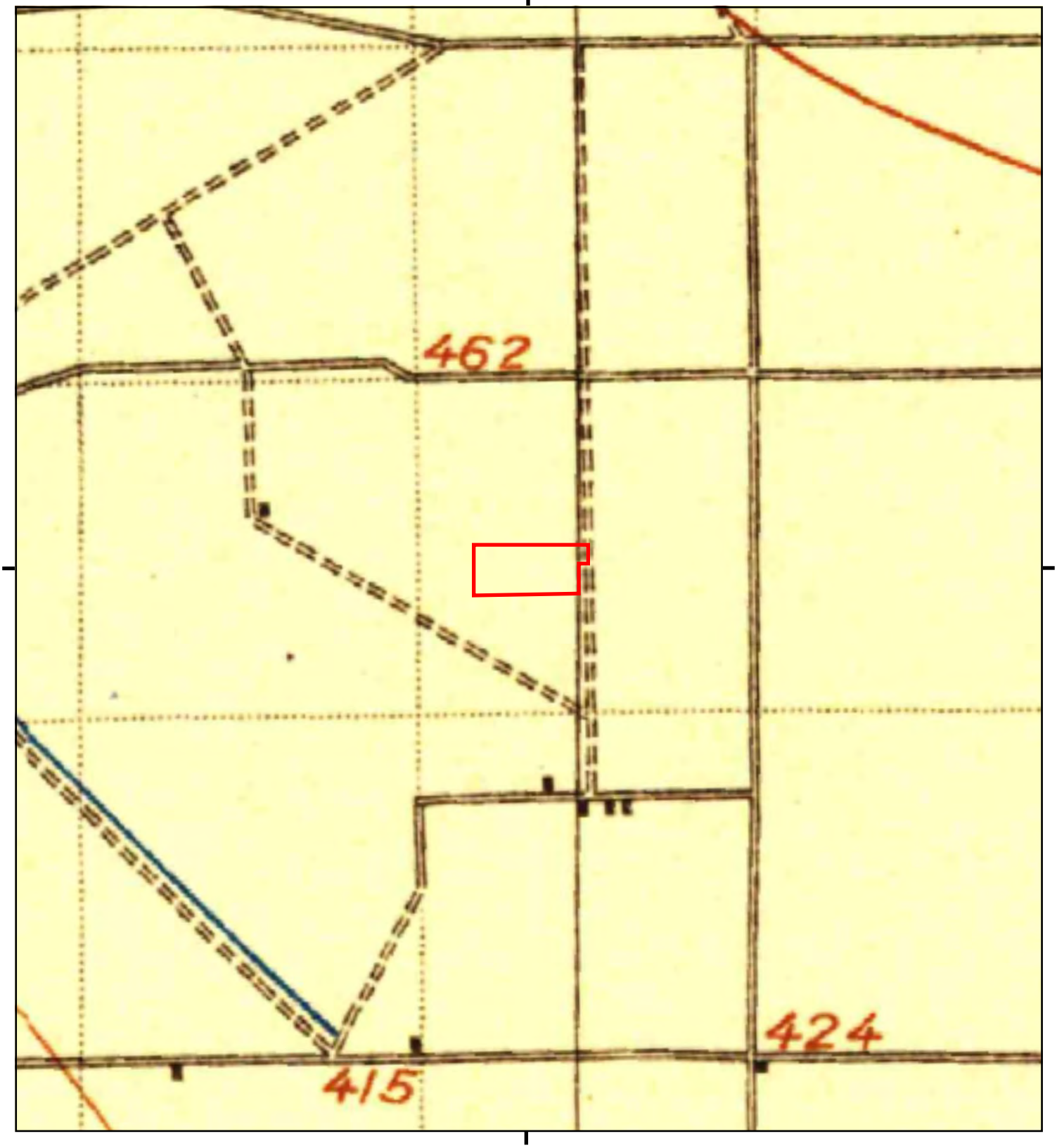
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Arvin, 1930, 7.5-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils 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, Caliente, 1914, 30-minute

SITE NAME: KCCD Campus Arvin
ADDRESS: Varsity and Campus
Arvin, CA 93203
CLIENT: Soils Engineering, Inc.

N

KCCD Campus Arvin

Varsity and Campus

Arvin, CA 93203

Inquiry Number: 5027256.3

August 18, 2017

Certified Sanborn® Map Report

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Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/18/17

Site Name:

KCCD Campus Arvin
Varsity and Campus
Arvin, CA 93203
EDR Inquiry # 5027256.3

Client Name:

Soils Engineering, Inc.
4400 Yeager Way
Bakersfield, CA 93313
Contact: Bob Becker

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Certified Sanborn Results:

Certification # DF79-4ED5-8D64

PO # 17-350-EDR

Project KCCD Arvin Campus

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: DF79-4ED5-8D64

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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KCCD Campus Arvin
Varsity and Campus
Arvin, CA 93203

Inquiry Number: 5027256.5
August 23, 2017

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Findings

City Directory Images

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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.

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*
2013	☑	☐	Cole Information Services
2008	☑	☐	Cole Information Services
2003	☑	☐	Cole Information Services
1999	☑	☐	Cole Information Services
1995	☑	☐	Cole Information Services
1992	☑	☐	Cole Information Services
1990	☑	☐	Haines Criss-Cross Directory
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1975	☑	☐	Haines Criss-Cross Directory

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FINDINGS

TARGET PROPERTY STREET

Varsity and Campus
Arvin, CA 93203

Year	*CD Image*	*Source*
CAMPUS DR		
1990	pg A7	Haines Criss-Cross Directory
1990	pg A8	Haines Criss-Cross Directory
1985	pg A10	Haines Criss-Cross Directory
1980	pg A12	Haines Criss-Cross Directory
1975	pg A14	Haines Criss-Cross Directory
VARSITY RD		
2013	pg A1	Cole Information Services
2008	pg A2	Cole Information Services
2003	pg A3	Cole Information Services
1999	pg A4	Cole Information Services
1995	pg A5	Cole Information Services
1992	pg A6	Cole Information Services
1990	pg A9	Haines Criss-Cross Directory
1985	pg A11	Haines Criss-Cross Directory
1980	pg A13	Haines Criss-Cross Directory
1975	pg A15	Haines Criss-Cross Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 2013

401	OCCUPANT UNKNOWN
405	OCCUPANT UNKNOWN
409	OCCUPANT UNKNOWN
413	OCCUPANT UNKNOWN
417	OCCUPANT UNKNOWN
501	OCCUPANT UNKNOWN
505	OCCUPANT UNKNOWN
509	INTERSTATE MANAGEMENT GROUP LLC
	OCCUPANT UNKNOWN
513	INTERSTATE MANAGEMENT GROUP LLC
	OCCUPANT UNKNOWN
611	OCCUPANT UNKNOWN
621	ISAIAS VALDEZ
631	JORGE COSS
633	WESLEY THOMAS
900	ARVIN HIGH SCHOOL
935	PHILLIP DEGADILLO
943	OCCUPANT UNKNOWN

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 2008

611	FLORENCIO PEREZ
621	ISAIAS VALDEZ
631	JORGE COSS
633	WESLEY THOMAS
900	KERN HIGH SCHOOL DISTRICT
925	GEORGE TAPIA
935	PHILLIP DEGADILLO

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 2003

621	ISAIAS VALDEZ
631	MICHAEL MCGUIRE
633	WESLEY THOMAS
900	ARVIN HIGH SCHOOL ATTENDANCE
	OCCUPANT UNKNOWN

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 1999

611	FELIPE MENDOZA
621	ISAIAS VALDEZ
631	JORGE COSS
633	WESLEY THOMAS
900	ARVIN HIGH SCHOOL
	ARVIN HIGH SCHOOL ATTENDANCE
	ARVIN HIGH SCHOOL ATTENDANCE CODE A PHONE
925	GEORGE TAPIA
935	PHILLIP DEGADILLO

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 1995

611	RENFROW, GENE
621	HIGGINS, JACK R
631	MCGUIRE, MICHAEL E
633	THOMAS, MILDRED
900	ARVIN HIGH SCHOOL

Target Street	Cross Street	Source
✓	-	Cole Information Services

VARSITY RD 1992

611	RENFROW, GENE
621	HIGGINS, JACK R
633	THOMAS, MILDRED
900	ARVIN HIGH SCHOOL

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

CAMPUS DR 1990

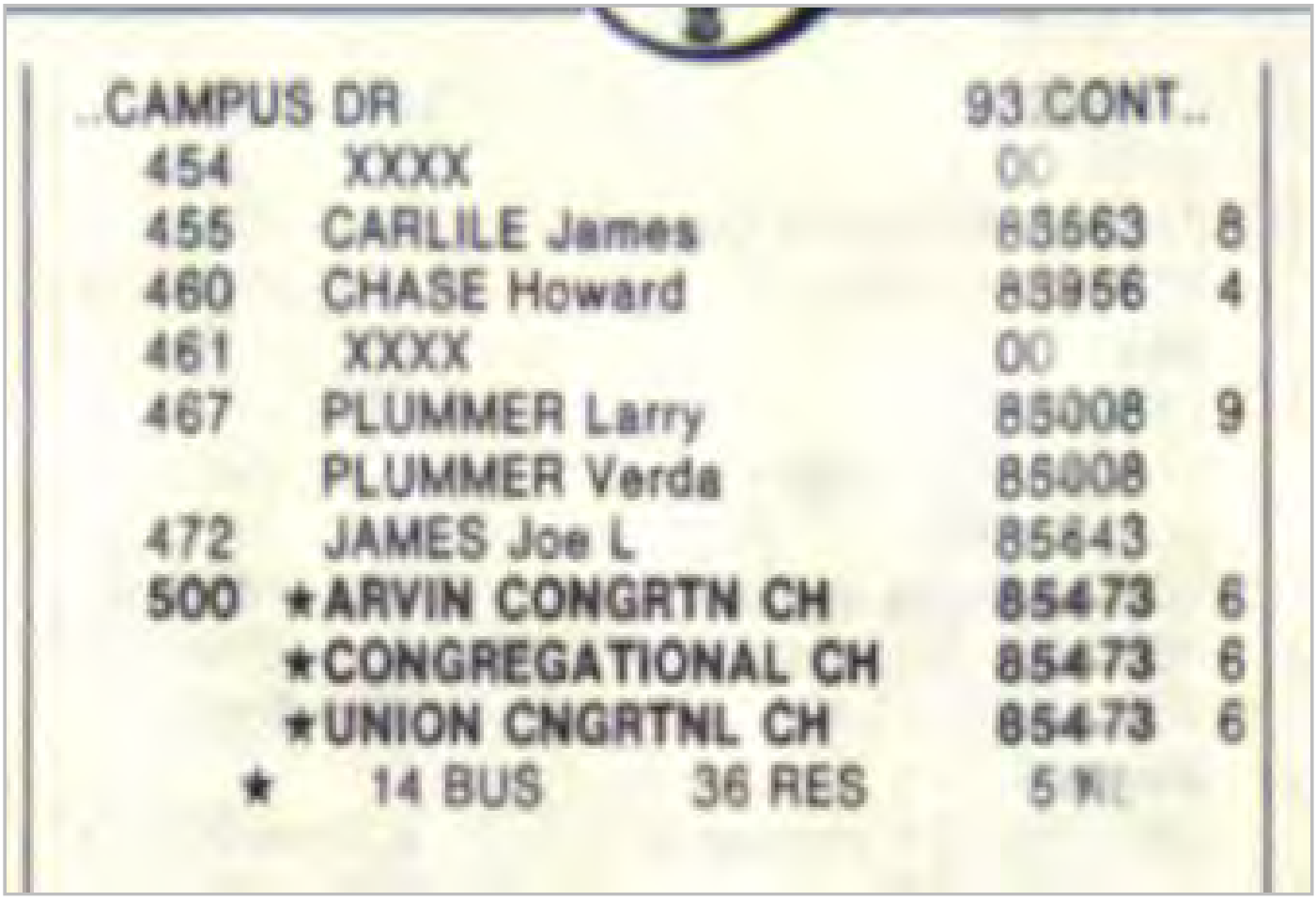


CAMPUS DR 93203 ARVIN

200	★ARVIN CTY ANIMAL	854-3128	
	★ARVIN CTY HALL	854-3134	
	★ARVIN CTY INSPECTN	854-2822	2
	★ARVIN CTY PLNG DIR	854-5881	
	★ARVIN CTY POLICE	854-3128	
	★ARVIN DEVLPMNT CORP	854-5881	
300	HAVENS Robert C	854-5008	7
301	★ARVIN CTY FIRE DEPT	854-5517	9
	★KERN CO FIRE DEPT	854-5517	9
304	XXXX	00	
308	XXXX	00	
312	COLLINS Wylie W	854-2357	
316	OWEN Jimmy G	854-2264	8
320	BRATTON Bill	854-2738	
323	FERGUSON Hazel C	854-4250	+0
	★PAC REGENCY ARVIN	854-4475	9
	PULTZ Lyle	854-4206	+0
324	SHOWERS L H	854-2809	1
328	FELIX Hector	854-2532	+0
332	CARTER V M	854-5739	
400	XXXX	00	
408	XXXX	00	
412	XXXX	00	
413	★SALCIDO CONSTR	854-5230	9
	SALCIDO Gus	854-3283	+0
	★SALCIDO GUS	854-5230	
	SALCIDO Mary	854-3283	+0
416	XXXX	00	
417	OWENS Loretta	854-3334	8
	OWENS Tim	854-3334	
420	CALLOWAY Eugene	854-2772	4
	HENSON Theresa G	854-2772	3
424	XXXX	00	
430	MARTIN John Randall	854-2333	2
436	NEWTON Grace	854-5083	6
437	XXXX	00	
442	EBERLE Harry W	854-5413	5
443	SCOTT Dean	854-2107	5
448	BROYLES Ellis	854-3054	5
449	YARBROUGH Randy	854-5757	5

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

CAMPUS DR 1990

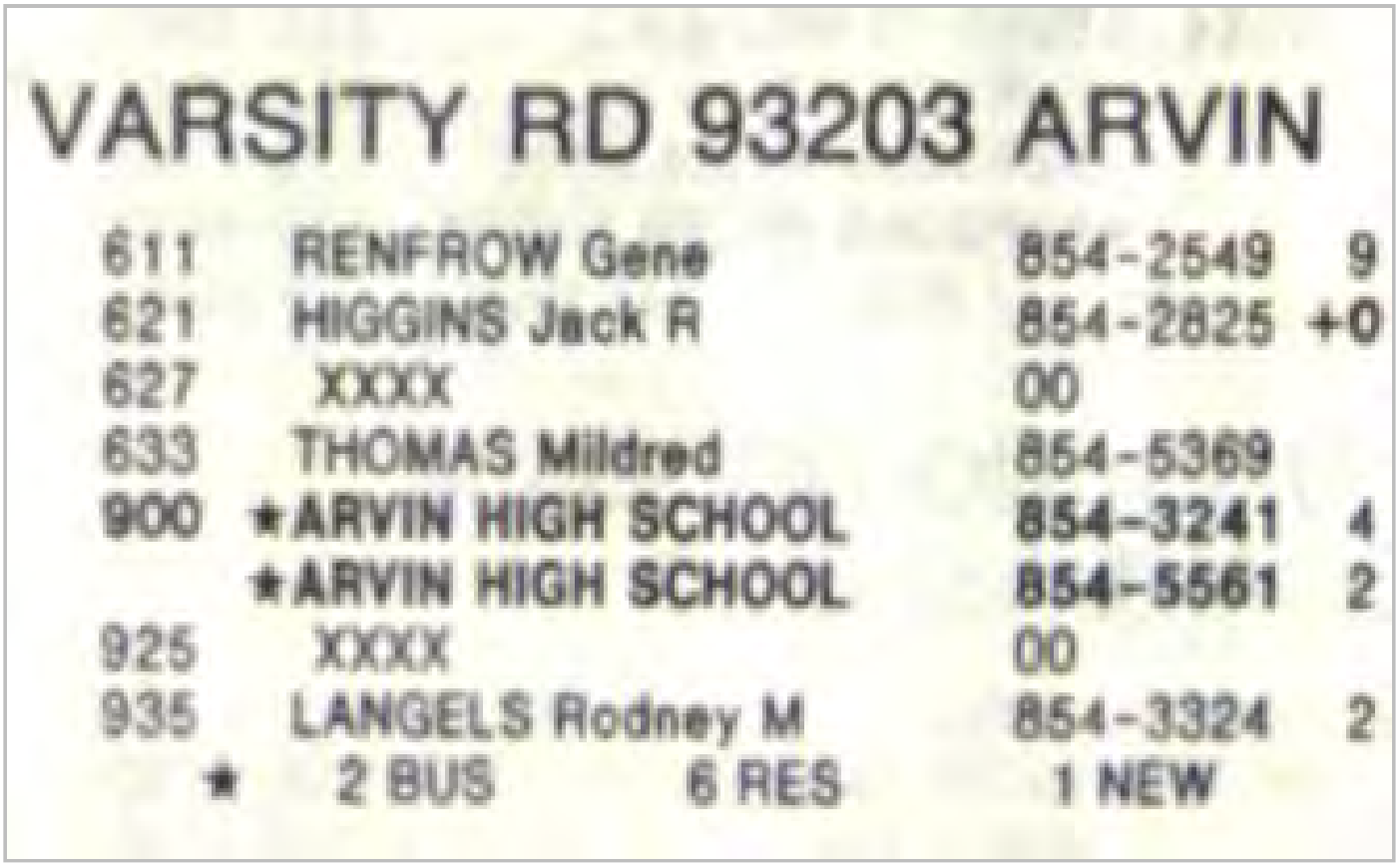


..CAMPUS DR 93 CONT..

454	XXXX	00	
455	CARLILE James	83563	8
460	CHASE Howard	83956	4
461	XXXX	00	
467	PLUMMER Larry	85008	9
	PLUMMER Verda	85008	
472	JAMES Joe L	85643	
500	*ARVIN CONGRTN CH	85473	6
	*CONGREGATIONAL CH	85473	6
	*UNION CNGRTNL CH	85473	6
*	14 BUS 36 RES	5 M	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

VARSITY RD 1990



VARSITY RD 93203 ARVIN

611	RENFROW Gene	854-2549	9
621	HIGGINS Jack R	854-2825	+0
627	XXXX	00	
633	THOMAS Mildred	854-5369	
900	*ARVIN HIGH SCHOOL	854-3241	4
	*ARVIN HIGH SCHOOL	854-5561	2
925	XXXX	00	
935	LANGELS Rodney M	854-3324	2
*	2 BUS 6 RES	1 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

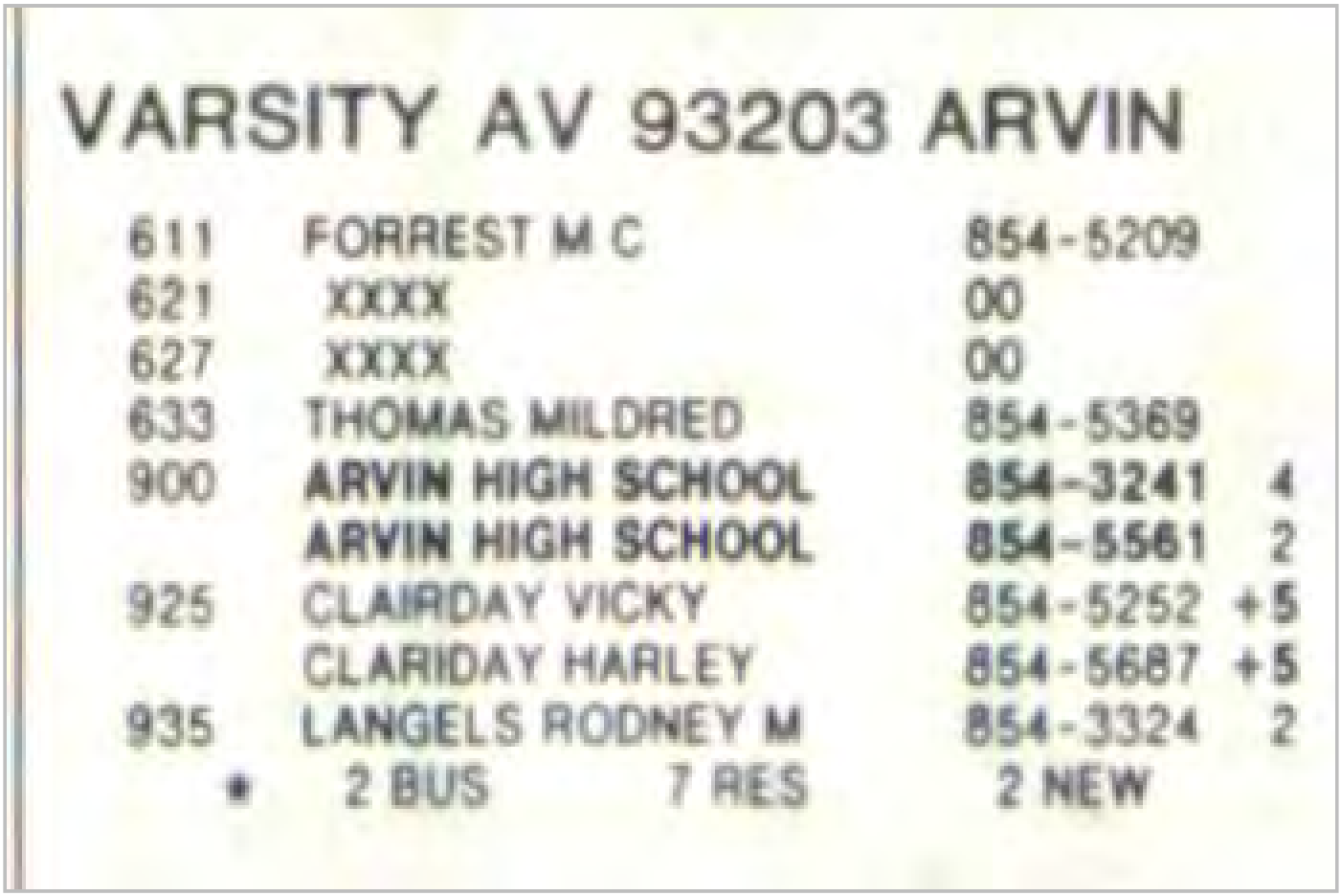
CAMPUS DR 1985

CAMPUS DR 93203 ARVIN

200	ARVIN CTY ANIMAL	854-3128	7
	ARVIN CTY HALL	854-3134	
	ARVIN CTY INSPECTN	854-2822	2
	ARVIN CTY JVNL DLNQ	854-5568	
	ARVIN CTY PLNG DIR	854-5881	3
	ARVIN CTY POLICE	854-3128	
	ARVIN DEVLPMNT CORP	854-5881	
300	WILLIFORD MELVIN D	854-3327	
304	XXXX	00	
308	COMBS EDGAR	854-5488	
312	COLLINS WYLIE W	854-2357	
316	SCHULZE HARRY E	854-2501	
320	BRATTON BILL	854-2738	
323	ARVIN CARE CENTER	854-4475	+5
324	SHOWERS L H	854-2809	1
328	CAPPS GERALD S	854-3855	+5
332	CARTER JOHN F	854-5739	
400	SMITH JOHN B	854-2622	
408	WATTS AUDIE	854-2238	
412	SCHNEIDER I C	854-3690	7
416	XXXX	00	
420	CALLOWAY EUGENE	854-2772	4
	HENSON THERESA G	854-2772	3
424	THOMPSON DAN	854-5515	3
430	MARTIN JOHN REV	854-2333	2
436	JONES GENEVA	854-5846	0
	JONES GENEVA	854-3383	1
437	NORRIS ALLAN	854-4370	4
442	EBERLE HARRY W	854-5413	+5
443	SCOTT DEAN	854-2107	+5
448	BROYLES ELLIS	854-3054	+5
449	YARBROUGH RANDY	854-5757	+5
454	ANDERSON DALE R	854-2388	
	ANDERSON NORMA	854-2388	
460	CHASE HOWARD	854-3956	4
472	JAMES JOE L	854-5643	
500	ARVIN UN CNGRGTN CH	854-2145	
	CONGREGATIONAL CH	854-2145	
	UNION CNGRGTNL CH	854-2145	2
	VILLAGE CNGRTNL CMN	854-4413	+5
NO #	KILLEN ENTP	854-4196	+5
★	13 BUS 28 RES	8 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

VARSITY RD 1985

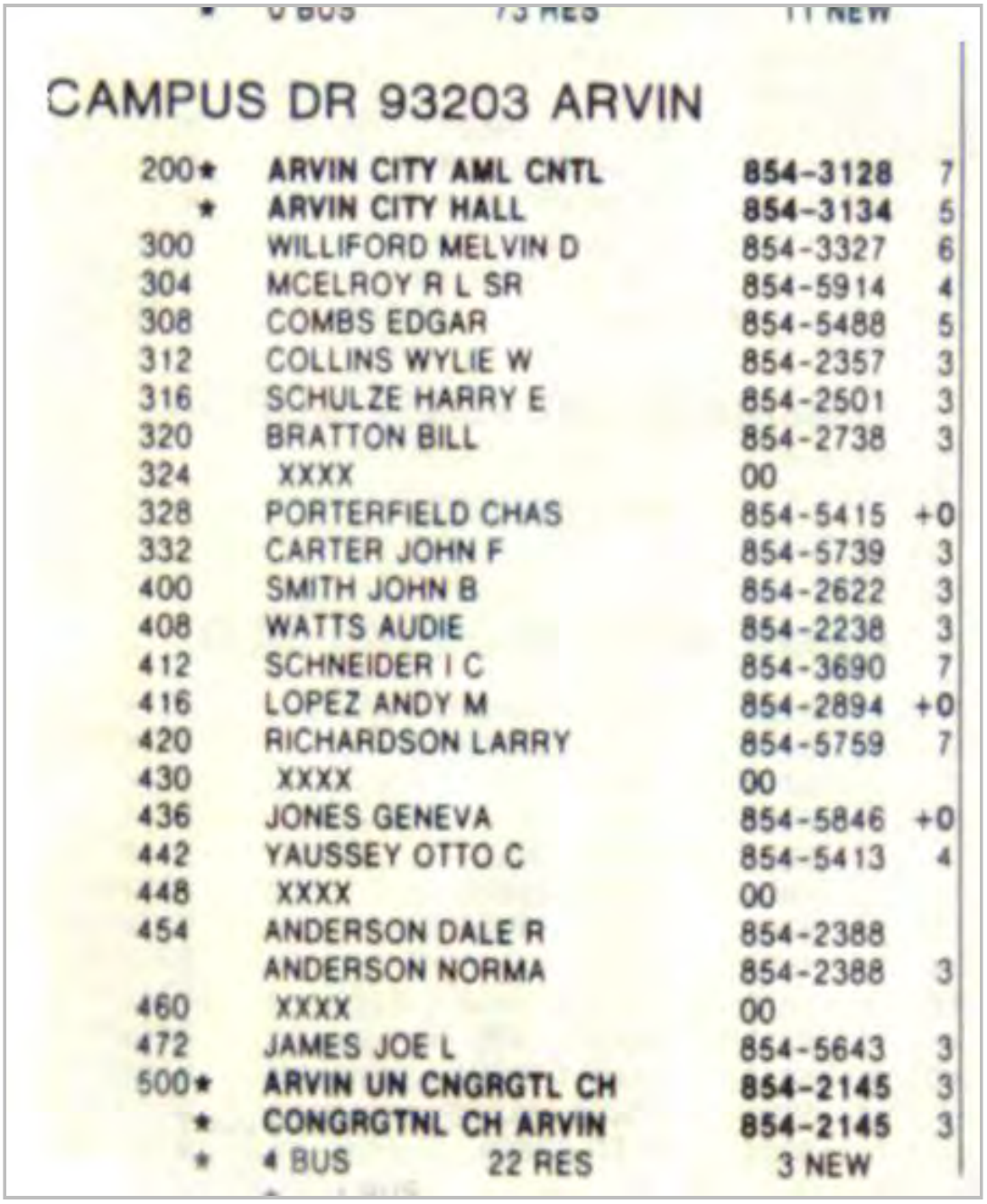


VARSITY AV 93203 ARVIN

611	FORREST M C	854-5209	
621	XXXX	00	
627	XXXX	00	
633	THOMAS MILDRED	854-5369	
900	ARVIN HIGH SCHOOL	854-3241	4
	ARVIN HIGH SCHOOL	854-5561	2
925	CLAIRDAY VICKY	854-5252	+5
	CLARIDAY HARLEY	854-5687	+5
935	LANGELS RODNEY M	854-3324	2
*	2 BUS 7 RES	2 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

CAMPUS DR 1980

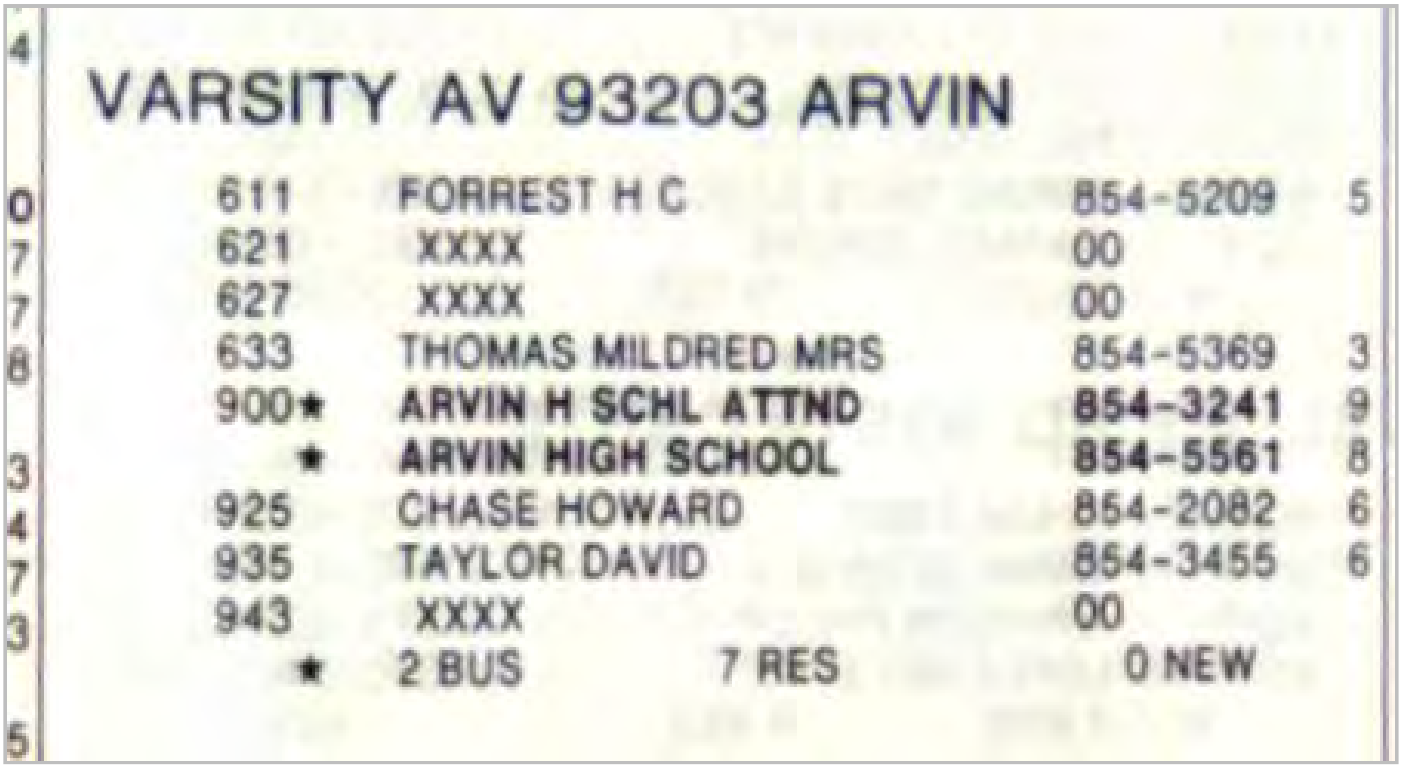


CAMPUS DR 93203 ARVIN

200★	**ARVIN CITY AML CNTL**	**854-3128**	7
★	**ARVIN CITY HALL**	**854-3134**	5
300	WILLIFORD MELVIN D	854-3327	6
304	MCELROY R L SR	854-5914	4
308	COMBS EDGAR	854-5488	5
312	COLLINS WYLIE W	854-2357	3
316	SCHULZE HARRY E	854-2501	3
320	BRATTON BILL	854-2738	3
324	XXXX	00	
328	PORTERFIELD CHAS	854-5415	+0
332	CARTER JOHN F	854-5739	3
400	SMITH JOHN B	854-2622	3
408	WATTS AUDIE	854-2238	3
412	SCHNEIDER I C	854-3690	7
416	LOPEZ ANDY M	854-2894	+0
420	RICHARDSON LARRY	854-5759	7
430	XXXX	00	
436	JONES GENEVA	854-5846	+0
442	YAUSSEY OTTO C	854-5413	4
448	XXXX	00	
454	ANDERSON DALE R	854-2388	
	ANDERSON NORMA	854-2388	3
460	XXXX	00	
472	JAMES JOE L	854-5643	3
500★	**ARVIN UN CNGRGTL CH**	**854-2145**	3
★	**CONGRGTNL CH ARVIN**	**854-2145**	3
★	4 BUS 22 RES	3 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

VARSITY RD 1980



VARSITY AV 93203 ARVIN

611	FORREST H C	854-5209
621	XXXX	00
627	XXXX	00
633	THOMAS MILDRED MRS	854-5369
900★	ARVIN H SCHL ATTND	854-3241
★	ARVIN HIGH SCHOOL	854-5561
925	CHASE HOWARD	854-2082
935	TAYLOR DAVID	854-3455
943	XXXX	00
★	2 BUS 7 RES	0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

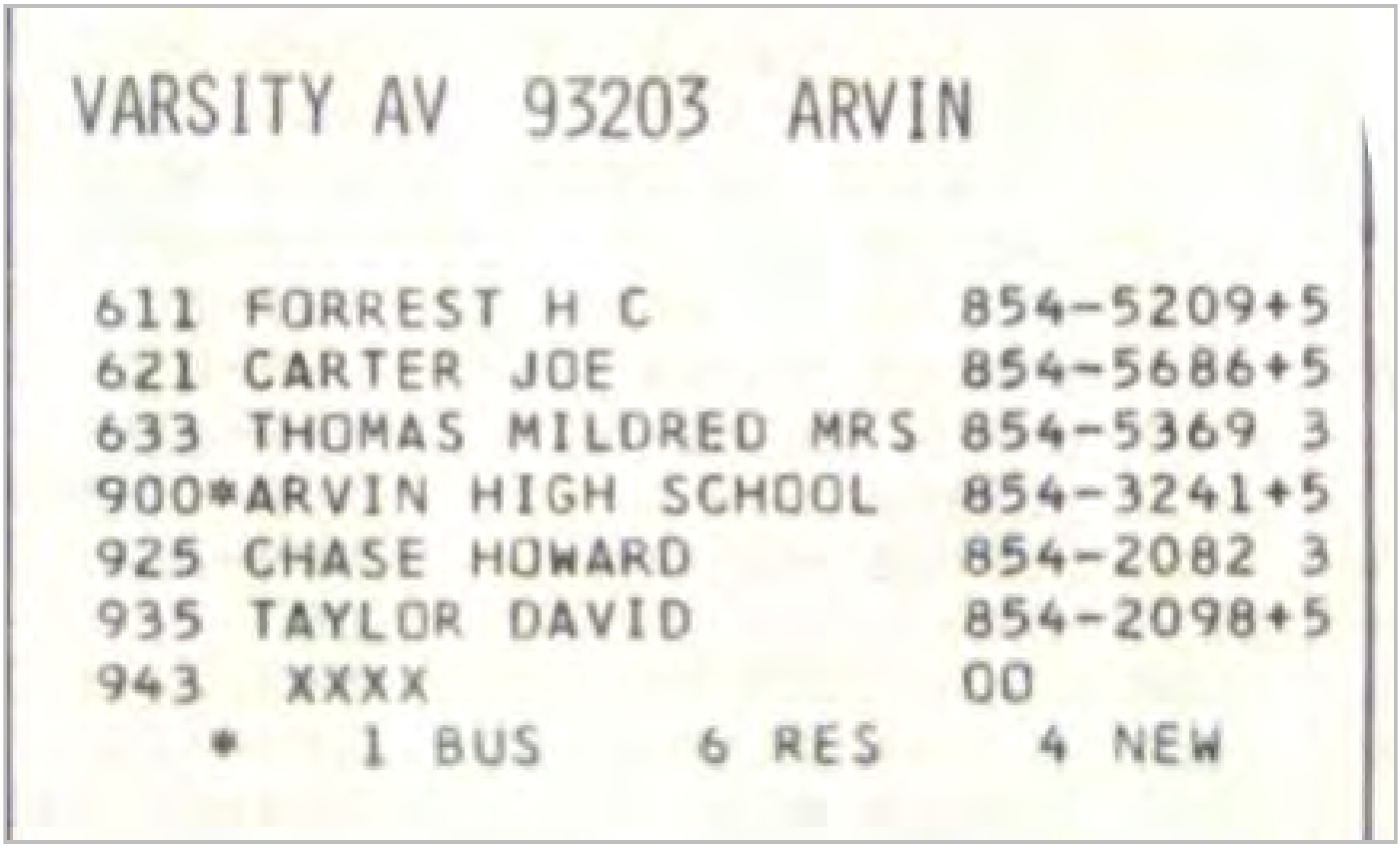
CAMPUS DR 1975

CAMPUS DR 93203 ARVIN

200	*ARVIN CITY HALL	854-3134+5
	*ARVIN DOG POUND	854-5583 3
300	WILLIFORD MELVIN C	854-2043 3
304	MCELROY R L SR	854-5914 4
308	COMBS EDGAR	854-5488+5
312	COLLINS WYLIE W	854-2357 3
316	SCHULZE HARRY E	854-2501 3
320	BRATTON BILL	854-2738 3
324	ARNOLD J G	854-2694+5
328	BEARD VIRGIL	854-2564 3
332	CARTER JOHN F	854-5739 3
400	SMITH JOHN B	854-2622 3
408	WATTS AUDIE	854-2238 3
412	JOHNSON LEONARD	854-2749 3
416	LAKIN TRUMAN C	854-2300 3
420	BRYANT JEROME C JR	854-5680 3
430	ZOPPEL RICHARD R	854-2333+5
436	JONES GENEVA	854-5846 3
	JONES PAUL E	854-5846 3
442	YAUSSEY OTTO C	854-5413 4
448	JOHNSON ALLEN	854-2923 3
454	ANDERSON DALE R	854-2388 3
	ANDERSON NORMA	854-2388 3
460	PLUMMER LARRY	854-2773 4
472	JAMES JOE L	854-5643 3
500	*ARVIN UN CNGRGTL CH	854-2145 3
	*CONGRGTNL CH ARVIN	854-2145 3
	* 4 BUS 23 RES 4 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

VARSITY RD 1975



VARSITY AV 93203 ARVIN

611	FORREST H C	854-5209+5
621	CARTER JOE	854-5686+5
633	THOMAS MILDRED MRS	854-5369 3
900*	ARVIN HIGH SCHOOL	854-3241+5
925	CHASE HOWARD	854-2082 3
935	TAYLOR DAVID	854-2098+5
943	XXXX	OO

* 1 BUS 6 RES 4 NEW

VAPOR ENCROACHMENT SCREEN

Prepared by: Soils Engineering, Inc.

11/8/2017

TABLE OF CONTENTS

Executive Summary

Primary Map

Map Findings

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The EDR Vapor Encroachment Worksheet enables EDR's customers to make certain online modifications that effects maps, text and calculations contained in this Report. As a result, maps, text and calculations contained in this Report may have been so modified. EDR has not taken any action to verify any such modifications, and this report and the findings set forth herein must be read in light of this fact. Environmental Data Resources shall not be responsible for any customer's decision to include or not include in any final report any records determined to be within the relevant minimum search distances.

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ARVIN HIGH SCHOOL 900 VARSITY AVE, ARVIN, CA,	U004112602
Impact on Target Property: VEC does not exist	

ARVIN HIGH SCHOOL 900 VARSITY AVE, ARVIN, CA, 93203	A100417223
Impact on Target Property: VEC does not exist	

ARVIN HIGH SCHOOL 900 VARSITY RD, ARVIN, CA, 93203	U001580766
Impact on Target Property: VEC does not exist	

SUN MOUNTAIN OIL AND GAS - JEWETT 1-23 S/2 N/2 SW/4 S23 T31S R29E, ARVIN, CA, 93203	A100424957
Impact on Target Property: VEC does not exist	

FERNANDEZ TRANSPORT 1312 NANCE ST, ARVIN, CA, 93203	1008372178
Impact on Target Property: VEC does not exist	

ARVIN FIRE STATION 301 CAMPUS DR, ARVIN, CA, 93203	S106922897
Impact on Target Property: VEC does not exist	

CRUPPER WASTE DISPOSAL .25 MI. N OF ARVIN HIGH SCH., ARVIN, CA, 93203	S106486305
Impact on Target Property: VEC does not exist	

ARVIN PUBLIC CEMETERY BEAR MTN BLVD, ARVIN, CA, 93203	S103479938
Impact on Target Property: VEC does not exist	

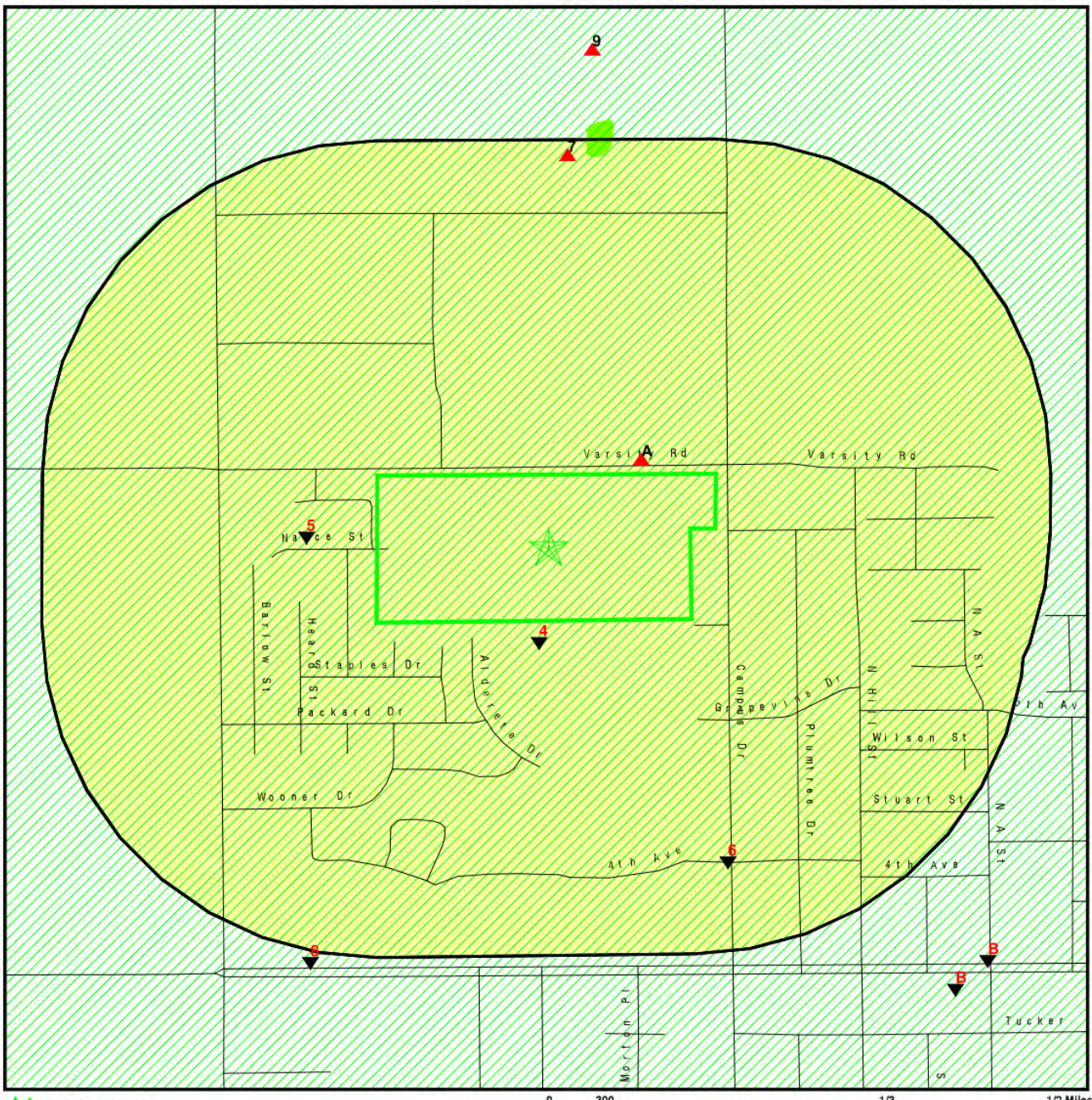
Not Reported, , CA,	S117718136
Impact on Target Property: VEC does not exist	

GIUMARRA FARMS INC BEAR MTN & COMANCHE, ARVIN, CA, 93203	S103479987
Impact on Target Property: VEC does not exist	

ARVIN MUFFLER 401 BEAR MTN RD, ARVIN, CA, 93203	S104404359
Impact on Target Property: VEC does not exist	

BROWN & BRYANT, ARVIN P.O. BOX 426, ARVIN, CA, 93203-0426	S100925103
Impact on Target Property: VEC does not exist	

PRIMARY MAP - 5027256.2S



- 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
- 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: KCCD Campus Arvin	CLIENT: Soils Engineering, Inc.
ADDRESS: Varsity and Campus Arvin CA 93203	CONTACT: Bob Becker
LAT/LONG: 35.215183 / 118.836433	INQUIRY #: 5027256.2s DATE: August 18, 2017 6:46 pm

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ARVIN HIGH SCHOOL 900 VARSITY AVE, ARVIN, CA,			U004112602
Map ID: **A1**	Distance: NE <1/10 (68 ft. / 0.013 mi.)	Elevation: 4 ft. Higher Elevation 459 ft. Above Sea Level	State and tribal registered storage tank lists

Worksheet:

Impact on Target Property: VEC does not exist

Comments: Chemicals of concern are not likely to be present at this source.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

ARVIN HIGH SCHOOL 900 VARSITY AVE, ARVIN, CA, 93203			A100417223
Map ID: **A2**	Distance: NE <1/10 (68 ft. / 0.013 mi.)	Elevation: 4 ft. Higher Elevation 459 ft. Above Sea Level	State and tribal registered storage tank lists

Worksheet:

Impact on Target Property: VEC does not exist

Comments: Chemicals of concern are not likely to be present at this source.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

ARVIN HIGH SCHOOL 900 VARSITY RD, ARVIN, CA, 93203			U001580766
Map ID: **A3**	Distance: NE <1/10 (68 ft. / 0.013 mi.)	Elevation: 4 ft. Higher Elevation 459 ft. Above Sea Level	Local Lists of Registered Storage Tanks

Worksheet:

Impact on Target Property: VEC does not exist

Comments: Chemicals of concern are not likely to be present at this source.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

SUN MOUNTAIN OIL AND GAS - JEWETT 1-23 S/2 N/2 SW/4 S23 T31S R29E, ARVIN, CA, 93203			A100424957
Map ID: **4**	Distance: S <1/10 (111 ft. / 0.021 mi.)	Elevation: 3 ft. Lower Elevation 452 ft. Above Sea Level	State and tribal registered storage tank lists

Worksheet:

Impact on Target Property: VEC does not exist

Comments: Chemicals of concern are not likely to be present at this source.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

FERNANDEZ TRANSPORT 1312 NANCE ST, ARVIN, CA, 93203			1008372178
Map ID: **5**	Distance: W <1/10 (372 ft. / 0.07 mi.)	Elevation: 3 ft. Lower Elevation 452 ft. Above Sea Level	Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Not Applicable: YES

ARVIN FIRE STATION 301 CAMPUS DR, ARVIN, CA, 93203			S106922897
Map ID: **6**	Distance: SSE 1/10 - 1/3 (1287 ft. / 0.244 mi.)	Elevation: 6 ft. Lower Elevation 449 ft. Above Sea Level	Local Lists of Registered Storage Tanks Records of Emergency Release Reports Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

CRUPPER WASTE DISPOSAL .25 MI. N OF ARVIN HIGH SCH., ARVIN, CA, 93203			S106486305
Map ID: **7**	Distance: N 1/10 - 1/3 (1669 ft. / 0.316 mi.)	Elevation: 10 ft. Higher Elevation 465 ft. Above Sea Level	State and tribal leaking storage tank lists

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Chemicals of Concern: YES

Not Reported, , CA,			S117718136
Map ID: **9**	Distance: N 1/3 - 1/2 (2224 ft. / 0.421 mi.)	Elevation: 13 ft. Higher Elevation 468 ft. Above Sea Level	Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Chemicals of Concern: YES

GIUMARRA FARMS INC BEAR MTN & COMANCHE, ARVIN, CA, 93203			S103479987
Map ID: **B10**	Distance: SE 1/3 - 1/2 (2373 ft. / 0.449 mi.)	Elevation: 6 ft. Lower Elevation 449 ft. Above Sea Level	State and tribal leaking storage tank lists Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Chemicals of Concern: YES

ARVIN MUFFLER 401 BEAR MTN RD, ARVIN, CA, 93203			S104404359
Map ID: **B11**	Distance: SE 1/3 - 1/2 (2386 ft. / 0.452 mi.)	Elevation: 7 ft. Lower Elevation 448 ft. Above Sea Level	State and tribal leaking storage tank lists Other Ascertainable Records

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Petroleum Hydrocarbon Chemicals of Concern: YES

BROWN & BRYANT, ARVIN P.O. BOX 426, ARVIN, CA, 93203-0426			S100925103
Map ID: **12**	Distance: SE 1/2 - 1 (4570 ft. / 0.865 mi.)	Elevation: 18 ft. Lower Elevation 437 ft. Above Sea Level	Local Lists of Hazardous waste / Contaminated Sites

Worksheet:

Impact on Target Property: VEC does not exist

Comments: The source is not within the area of concern, based on its distance, gradient and suspected chemical of concern.

Conditions:
Chemicals of Concern: YES

Appendix B

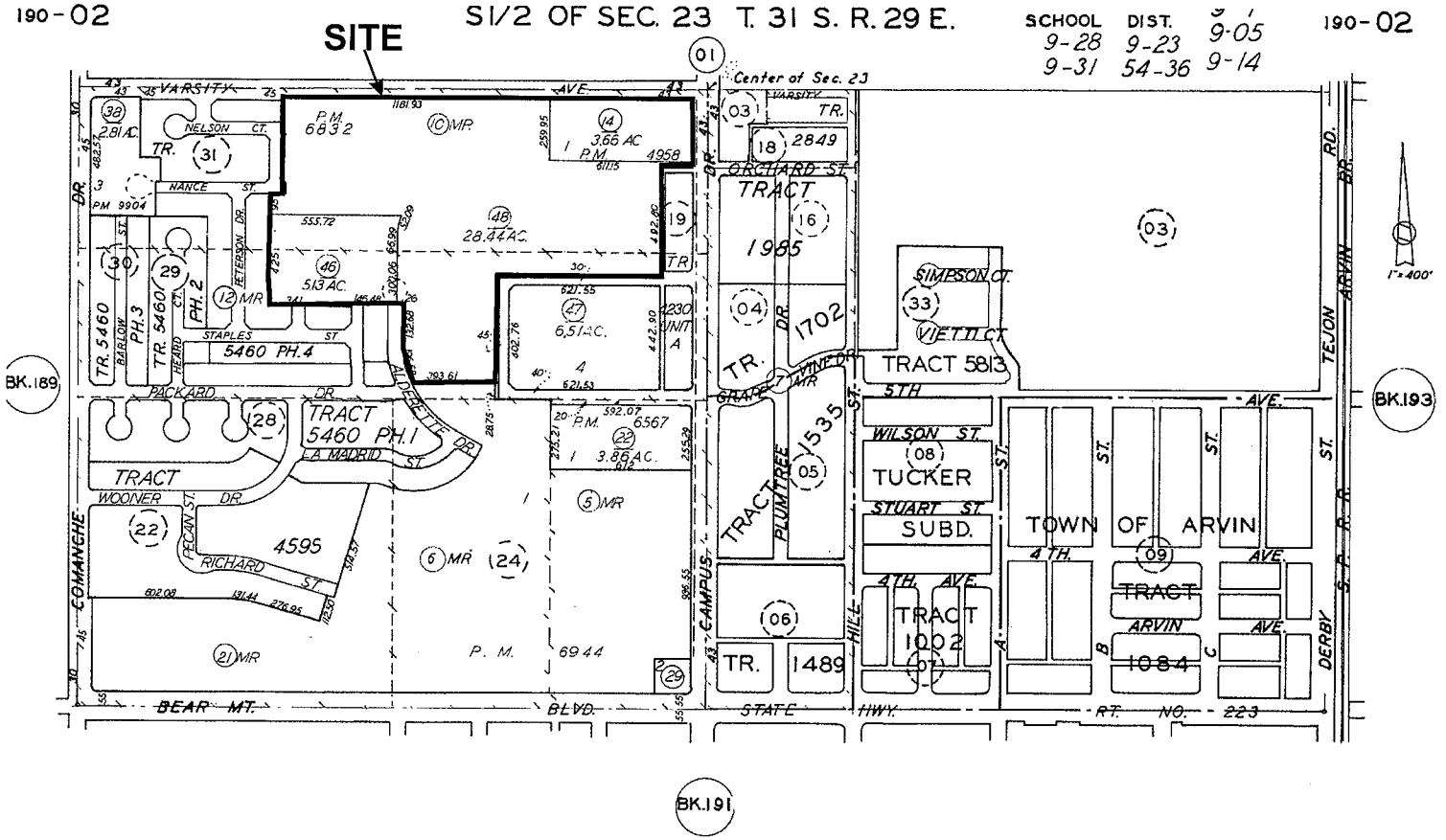
Assessors Map, USER Questionnaire, Table 1 (Soil Sample Analytical Results), Table 2 Soil Gas Survey Results, Tables 3 to 5 (Risk & Hazard Results), Analytical Reports (12), Soil Gas Boring Logs (6), Portion of Stantec Data Report dated August 15, 2014. and DOGGR Records

190-02

S1/2 OF SEC. 23 T. 31 S. R. 29 E.

SCHOOL DIST. 9-28 9-23 9-31 54-36 9-05 9-14

190-02



Revised: Sept. 28, 2011

Note: This map is for assessment purposes only. It is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.

ASSESSORS MAP NO. 190-02
COUNTY OF KERN

ASSESSORS MAP

Please Fill Out & Return To: SEI at 4400 Yeager Way, Bakersfield, CA 93313 Attn: Bob Becker
Or Fax: 661-831-2111

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT - USER QUESTIONNAIRE

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *"Brownfields Amendments"),* the *user* must provide the following information (if available) to the *environmental professional.* Failure to provide this information could result in a determination that *"all appropriate inquiry"* is not complete.

(1.) Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? No

(2.) Are you aware of any activity and land use limitations (AULs), such as *engineering controls,* land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? No

(3.) As the *user* of this Environmental Site Assessment *(ESA)* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? No

(4.) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property?* If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

No, the City of Arvin is donating this land so a College Educational Center can be constructed in this town.

(5.) Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *user,*
(a.) Do you know the past uses of the *property? No*

(b.) Do you know of specific chemicals that are present or once were present at the *property? Oil*

(c.) Do you know of spills or other chemical releases that have taken place at the *property? No*

(d.) Do you know of any environmental cleanups that have taken place at the *property? No*

(6.) As the *user* of this *ESA,* based on your knowledge and experience related to the *property* are

there any *obvious* indicators that point to the presence or likely presence of contamination at the *property? Yes, active oil wells.*

In addition, certain information should be collected, if available, and provided to the *environmental professional*. This information is intended to assist the *environmental professional* but is not necessarily required to qualify for one of the *LLPs.* The information includes:

(a) the reason why the Phase I is required, Kern CCD wants to know if there are any environmental risks prior to taking ownership.

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc., Donation. Land to be used for educational purposes.

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful), Unimproved property south of Varsity Ave and west of Campus drive in Arvin, CA. APN's 190-020-46 & 48 and 190-020-14.

(d) the scope of services desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered), Standard Phase 1 assessment scope of services.

(e) identification of all parties who will rely on the Phase I *report,* Kern Community College District and its architects.

(f) identification of the site contact and how the contact can be reached, Eric Mittlestead 661-336-5095

(g) any special terms and conditions which must be agreed upon by the *environmental professional,* and No

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports,* documents, correspondence, etc., concerning the *property* and its environmental condition. No

Site Name: Arvin Educational Center

Signature of User

Date 12-18-17

TABLE 1
Soil Sample Analytical Results
Proposed Arvin Campus - Kern Community College District
SW of Campus Rd. & Varsity Avenue & Campus Road, Arvin, CA

CONSTITUENTS			COMPOSITE ON-SITE SOIL SAMPLES - FIELD AREA (0 to 6" depth)						Trench Composites & Discretes by NW Tank Setting									Soil Gas Boring Samples						DISCRETE ON-SITE SOIL SAMPLES (0 to 6", 2' to 2.5')															
Chlorinated Pesticides (EPA 8081A)	**PQL (ug/kg)**	**DTSC Mod or EPA RSLs (ug/kg)**	**C1-3" (A,B, C,D)**	**C2-3" (A,B,C ,D)**	**C3-3" (A,B, CD)**	**C4-3" (A,B, C,D)**	**C5-3" (A,B, C,D)**	**C6-3" (A,B, C,D)**	**T1-Comp**	**T2-Comp**	**T2-7'**	**T3-Comp**	**T4-Comp**	**T5-Comp**	**T6-Comp**	**T7-Comp**	**T8-Comp**	**SG1-5'**	**SG2-5'**	**SG3-5'**	**SG3-10'**	**SG5-5'**	**SG6-5'**	**C1A-3"**	**C1A-2'**	**C1B-3"**	**C1B-2'**	**C1C-3"**	**C1C-2'**	**C1D-3"**	**C1D-2'**	**C2B-3"**	**C2E-3" (Dup of C2B-3")**	**C3B-3"**	**C4B-3"**	**C5A-3"**	**C5A-2'**
Aldrin	8	39	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
Alpha-BHC	8	86	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND
Beta-BHC	8	300	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
Delta-BHC	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
Gamma-BHC, Lindane	8	570	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
alpha-Chlordane	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
gamma-Chlordane	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.5	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	9.56	ND
4,4'-DDD	8	2300	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND
4,4'-DDE	16	2000	92	67.4	81	81	86.5	43.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	111	ND	75	ND	116	ND	ND	116	ND	NA	NA	NA	175	ND
4,4'-DDT	16	1900	ND	ND	ND	ND	22.3	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	26.7	ND
Dieldrin	8	34	25.6	18.6	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28	ND	ND	ND	26.3	ND	ND	**34**	ND	NA	NA	NA	NA	ND	ND
Endosulfan I	16	470000	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	20.2	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Endosulfan II	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Endosulfan Sulfate	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Endrin	8	19000	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Technical Chlordane	40	440**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86.7	ND	ND	ND	55.4	ND	ND	59	ND	NA	NA	NA	142	ND	ND
Endrin Aldehyde	8		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Endrin Ketone	24		ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Heptachlor	8	130	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Heptachlor epoxide	8	70	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Methoxychlor	40	320000	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Toxaphene	120	490	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
Metals (EPA 6010)	**mg/kg**	**mg/kg**																																				
Arsenic	2	*	NA	NA	NA	NA	NA	NA	16.8	17.2	**42.9**	**19.9**	**23.7**	16	12.3	14.2	12	13.9	18.4	15.9	**82.9**	13.1	14	NA	NA	13.7	15.1	NA	NA	NA	NA	NA	13.4	14.1	12.6	12.7	NA	NA
Lead	1	80	NA	NA	NA	NA	NA	NA	4.19	4.24	11	4.83	5.89	4.11	3.5	3.6	2.96	3.42	4.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other CAM 17 Metals			NA	NA	NA	NA	NA	NA	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	None Elev	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (EPA 8015B)	**mg/kg**	**mg/kg**																																				
C5-C12	0.5	100	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C13-C22	2.5		NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C23-C32	100		NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C32-C36	100		NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total TPH		1000	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BTEX (8021B)	1 to 2	ug/kg	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	**0 to 14**	NA	NA	NA	NA	NA	NA	NA	9	8.6	NA	8.7	8.6	8.5	8.2	8.7	8.4	8.2	8.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

CONSTITUENTS			DISCRETE ON-SITE SOIL SAMPLE (0 to 6", 2' to 2.5')															Pipeline Boring Samples				DISCRETE ON-SITE SOIL SAMPLES in Former & Current Structure Areas (0 to 6", 2' to 2.5')																	
Chlorinated Pesticides (EPA 8081A)	**PQL (ug/kg)**	**DTSC Mod or EPA RSLs (ug/kg)**	**C5B-3"**	**C5B-2'**	**C5C-3"**	**C5C-2'**	**C5D-3"**	**C5D-2'**	**C5E-2' (Dup of C5D-2')**	**C6B-3"**	**WW1-3"**	**WW1-2'**	**WW1-E-3"**	**WW1-N-3"**	**WW1-S-3"**	**WW1-W-3"**	**WW2-3"**	**WW2-2'**	**PL1-6'**	**PL2-6'**	**PL3-6'**	**PL4-6'**	**S1-3"**	**S1-2'**	**S1-SE-3"**	**S2-3"**	**S2-2'**	**S3-3"**	**S3-2'**	**S3-SW-3"**	**S3-NW-3"**	**S3-N-3"**	**S4-3"**	**S4-2'**	**S4-SE-3"**	**S5-3"**	**S5-2'**	**S6-3"**	**S6-2'**
Aldrin	8	39	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha-BHC	8	86	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	8	300	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	8		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC, Lindane	8	570	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	8		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	8.56	ND	8.64	ND	ND	ND	NA	NA	NA	NA	235	ND	27.1	26.4	ND	203	ND	11.6	ND	ND	97.1	ND	25.2	ND	ND	13.7	ND
gamma-Chlordane	8		ND	ND	ND	ND	ND	ND	NA	NA	92.9	ND	32.8	31.7	30.7	11.9	42.9	ND	NA	NA	NA	NA	**1080**	ND	97.3	78.3	9.82	**986**	41.2	44.9	11	17.1	368	13.1	99.7	16.3	ND	57.3	ND
4,4'-DDD	8	2300	ND	ND	ND	ND	ND	ND	NA	NA	143	ND	ND	ND	ND	ND	10.2	ND	NA	NA	NA	NA	125	ND	14.4	25.1	ND	112	ND	ND	ND	11.3	76.4	ND	14.3	11	ND	12.2	ND
4,4'-DDE	16	2000	132	26.8	ND	ND	ND	ND	NA	NA	224	ND	55.3	36.6	ND	41	126	ND	NA	NA	NA	NA	39.6	30	112	86	79.2	305	ND	86.8	37	311	76.2	ND	70.8	225	ND	139	119
4,4'-DDT	16	1900	ND	ND	ND	ND	ND	ND	NA	NA	(STLC = ND)	ND	61.9	90	ND	ND	68.4	ND	NA	NA	NA	NA	68.5	ND	53	90.3	39.6	148	ND	25.4	21	108	76.4	ND	36.2	79.4	ND	111	45.9
Dieldrin	8	34	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	14.4	ND	ND	ND	ND	NA	NA	NA	NA	**241**	ND	26.1	24.2	ND	**181**	9.68	ND	ND	17	**116**	ND	13.1	ND	ND	9.7	ND
Endosulfan I	16	470000	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	8		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	8		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	8	19000	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	30.2	ND	ND	ND	ND	44.6	ND	ND	ND	ND	14.4	ND	ND	8.87	ND	11.3	ND
Technical Chlordane	40	440**	ND	ND	ND	ND	ND	ND	NA	NA	213	ND	106	95.6	94.4	ND	ND	ND	NA	NA	NA	NA	**1400**	ND	252	174	ND	**1360**	65.3	120	ND	ND	**629**	ND	ND	53.3	ND	110	ND
Endrin Aldehyde	8		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	24		ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	8	130	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	8	70	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	320000	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	120	490	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Organochlorine Herbicides (8151A)	**mg/kg**	**varies**	NA	NA	NA	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (EPA 6010)	**mg/kg**	**mg/kg**																																				
Arsenic	2	*	13.9	NA	NA	NA	11.7	12.8	11.7	7.64	10.5	10.7	NA	NA	NA	NA	12.9	11.9	NA	NA	NA	NA	11.4	13.1	NA	13.6	11.6	11.6	11.8	NA	NA	NA	12.8	13.4	NA	10.4	10.8	11.2	15.5
Lead	1	80	NA	NA	NA	NA	NA	NA	NA	NA	**166** STLC = 4.51)	3.89	31.3	35.5	16.7	24.7	5.4	2.96	NA	NA	NA	NA	20.2	7.06	NA	25.8	9.54	24.9	4.59	NA	NA	NA	39.2	6.57	NA	10.3	7.6	24.8	8.85
Other CAM 17 Metals			NA	NA	NA	NA	NA	NA	NA	NA	Elev	NA	NA	NA	NA	NA	Elev	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (EPA 8015B)	**mg/kg**	**mg/kg**								NA																												
C5-C12	0.5	Varies	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C13-C22	2.5	Varies	NA	NA	NA	NA	NA	NA	NA	NA	218	4.44	ND	ND	8.82	3.25	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C23-C32	100	Varies	NA	NA	NA	NA	NA	NA	NA	NA	**2350**	108	ND	ND	139	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C32-C36	100	Varies	NA	NA	NA	NA	NA	NA	NA	NA	174	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total TPH		Varies	NA	NA	NA	NA	NA	NA	NA	NA	**2742**	112.4	0	0	147.8	3.25	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BTEX (8021B)	1 to 2	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	**0 to 14**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note : Results in ppb unless otherwise noted, ppb = parts per billion (ug/kg), ppm= parts per million (mg/kg), ND = None Detected, NA = Not Analyzed, PQL = Practical Quantitation Limit For Reporting Purposes.**Bold** = concentration > RSLs, RSLs = EPA Regional Screening Levels (6/17), * = compare arsenic concentrations to ambiant background. ** = HHRA Note #3 (8/17). TPH = Total Petroleum Hydrocarbons, BTEX = Benzene, Ethylbenzene, Toluene, & Xylenes, VOCs - Volatile Organic Compounds

TABLE 1 (Continued)
Soil Sample Analytical Results
Proposed Arvin Campus - Kern Community College District
SW of Campus Rd. & Varsity Avenue & Campus Road, Arvin, CA

CONSTITUENTS			DISCRETE ON-SITE SOIL SAMPLES in Former & Current Structure Areas (0 to 6", 1'-1.5', 2' to 2.5', 4')																																
Chlorinated Pesticides (EPA 8081A)	**PQL (ug/kg)**	**DTSC Mod or EPA RSLs (ug/kg)**	**S7-3"**	**S7-2'**	**S7-N-3"**	**S7-N-1.5'**	**S7-E-3"**	**S7-E-1.5'**	**S7-S-3"**	**S7-S-1.5'**	**S7-W-3"**	**S7-W-1.5'**	**S7-T-6'**	**S8-3"**	**S8-2'**	**S8-4'**	**S8-E-3"**	**S8-E-2.5'**	**S8-E2-3"**	**S8-E2-2'**	**S8-E3-3"**	**S8-E3-2'**	**S8-N-3"**	**S8-N-2.5'**	**S8-N2-3"**	**S8-N2-2'**	**S8-N3-3"**	**S8-S-3"**	**S8-S-2.5'**	**S8-S2-3"**	**S8-W-3"**	**S9-3"**	**S9-2'**	**S9-E-3"**	**S9-E-1.5'**
Aldrin	8	39	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha-BHC	8	86	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	8	300	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	8		ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC, Lindane	8	570	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	8		ND	ND	297	ND	ND	NA	ND	NA	ND	NA	NA	125	32.5	ND	8.07	ND	11.4	ND	37.7	ND	19	ND	ND	ND	9.14	ND	ND	8.82	60.5	ND	34	22.4
gamma-Chlordane	8		1020	ND	**2060**	ND	39.8	NA	ND	NA	ND	NA	NA	131	36.7	ND	9.91	ND	35.1	ND	236	ND	16.6	ND	ND	ND	31.1	9.85	23.2	26.7	49	ND	59.9	35
4,4'-DDD	8	2300	692	ND	72.2	ND	ND	NA	ND	NA	ND	NA	NA	58.1	19.2	ND	ND	ND	14.7	ND	25.2	ND	18.8	ND	74.8	ND	10.2	ND	ND	27.7	55.6	ND	52	12.5
4,4'-DDE	16	2000	1240	ND	69.6	ND	29.1	NA	78.5	NA	48.1	NA	NA	144	79.4	21.1	29	ND	59.7	ND	57.6	ND	126	ND	660	ND	ND	56.3	20.5	47.9	54.9	77.6	ND	56.9	24.6
4,4'-DDT	16	1900	**8850** (STLC= ND)	ND	401	ND	65.4	NA	23.9	NA	69.2	NA	NA	199	75	27.1	ND	ND	70.4	ND	296	ND	107	ND	1390	ND	36.2	54.1	ND	110	188	137	ND	208	35
Dieldrin	8	34	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	**286**	**122**	15.9	**47.4**	16.2	**39.6**	ND	**42.5**	ND	**335**	12.1	**178**	ND	16.3	**68.3**	12.5	ND	19.8	**84.2**	ND	**472**	**253**
Endosulfan I	16	470000	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	8		ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	8		ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	8	19000	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.9	ND	ND	ND
Technical Chlordane	40	440**	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	**486**	414	ND	43.2	ND	ND	ND	ND	ND	108	ND	ND	ND	79.9	ND	ND	67	292	ND	299	218
Endrin Aldehyde	8		ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	24		ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	8	130	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	8	70	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	320000	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	120	490	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (EPA 6010)	**mg/kg**	**mg/kg**																																	
Arsenic	2	*	11	11.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.6	NA	NA	NA
Lead	1	80	**599** (STLC= **40**, TCLP= 1.68)	3.4	32.6	3.09	23.2	3.2	**357 (STLC= 6.11)**, TCLP=ND	3.7	**71.9 (STLC= 5.52)**,TCLP =ND	11.1	58.2 (STLC= 2.2)	34.4	30.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.8	3.62	NA	NA
Other CAM 17 Metals			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (EPA 8015B)	**mg/kg**	**mg/kg**																																	
C5-C12	0.5	100	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C13-C22	2.5		**463**	ND	46.1	NA	18.8	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C23-C32	100		**1580**	ND	463	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C32-C36	100		133	ND	152	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total TPH		1000	**2176**	0	661.1	NA	18.8	NA	0	NA	0	NA	ND	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BTEX (8021B)	1 to 2	ug/kg	All ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

CONSTITUENTS			DISCRETE ON-SITE SOIL SAMPLES in Former & Current Structure Areas (0 to 6", 1'-1.5', 2' to 2.5', 4')																														Discrete Samples Adjacent to the Southern Tank Setting				Composites of Soil Piles	
Chlorinated Pesticides (EPA 8081A)	**PQL (ug/kg)**	**DTSC Mod or EPA RSLs (ug/kg)**	**S9-E-3'**	**S9-E2-3"**	**S9-E2-1.5**	**S9-E2-3'**	**S9-E3-3"**	**S9-N-3"**	**S9-S-3"**	**S9-S-1.5'**	**S9-S-3'**	**S9-W-3"**	**S9-W-1.5**	**S10-3"**	**S11-3"**	**S11-2'**	**S11-N-3"**	**S11-S-3"**	**S11-W-3"**	**S12-3" (mislabeled as S12-2')**	**S12-2' (mislabeled as S12-3")**	**S12-2' (resample)**	**S12-4'**	**S12-E-3"**	**S13-3"**	**S13-2'**	**TF2-1-2'**	**TF2-2-3"**	**TF2-2-2'**	**TF2-2-6'**	**TF2-2-9'**	**TF2-3-2'**	**TF2-4-2'**	**P1 Soil**	**P2 Soil**
Aldrin	8	39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Alpha-BHC	8	86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Beta-BHC	8	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Delta-BHC	8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Gamma-BHC, Lindane	8	570	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
alpha-Chlordane	8		ND	36	ND	ND	14.3	ND	40.4	28.7	ND	47.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
gamma-Chlordane	8		ND	45.2	ND	ND	32.9	ND	64.8	47.6	ND	47.2	ND	ND	115	ND	ND	9.24	ND	141	ND	10.3	ND	41.8	37.1	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
4,4'-DDD	8	2300	ND	23.3	ND	ND	12.2	ND	32.4	19.2	ND	37.1	ND	ND	98.8	ND	ND	ND	ND	118	ND	ND	ND	10.8	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
4,4'-DDE	16	2000	ND	113	ND	ND	75.8	28.1	86.2	70.2	ND	105	ND	17.2	318	ND	64.8	62.9	25.1	ND	ND	ND	ND	46.2	80.2	ND	NA	NA	NA	NA	NA	NA	NA	20.6	18.8
4,4'-DDT	16	1900	ND	114	ND	ND	125	92.6	164	87.7	ND	187	ND	35.6	1190	ND	42.3	34.5	ND	967	34.5	53.9	ND	323	176	ND	NA	NA	NA	NA	NA	NA	NA	ND	21.2
Dieldrin	8	34	ND	31	ND	ND	24.9	ND	**63.1**	**54**	ND	**30.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endosulfan I	16	470000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endosulfan II	8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endosulfan Sulfate	8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endrin	8	19000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Technical Chlordane	40	440**	ND	ND	ND	ND	ND	ND	428	296	ND	320	49.7	ND	ND	ND	ND	ND	ND	213	ND	ND	ND	123	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endrin Aldehyde	8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Endrin Ketone	24		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Heptachlor	8	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Heptachlor epoxide	8	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Methoxychlor	40	320000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Toxaphene	120	490	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND
Organochlorine Herbicides (8151A)	**mg/kg**	**varies**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All ND	NA	NA	NA	NA	All ND	NA	NA	NA	NA	All ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (EPA 6010)	**mg/kg**	**mg/kg**																																	
Arsenic	2	*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	12.4	NA	NA	NA	11.6	11.7	NA	NA	NA	11.6	11.9	NA	10.5	11.9	NA	NA	NA	NA	6.3	11.2
Lead	1	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.4	2.93	NA	NA	NA	6.47	3.38	NA	NA	NA	5.4	2.85	NA	3.97	3.41	NA	NA	NA	NA	9.73	37.9
Other CAM 17 Metals			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	None Elev	NA	NA	NA	NA	None Elev	NA	NA	None Elev	None Elev	NA	NA	NA	NA	None Elev	None Elev
TPH (EPA 8015B)	**mg/kg**	**mg/kg**																																	
C5-C12	0.5	Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	3.56	15	8.07	ND	ND	4.35	ND	157	16
C13-C22	2.5	Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	704	ND	ND	6.61	ND	38.4	6.5	NA	ND	78.6	21.3	ND	3.56	15	8.07	ND	ND	4.35	ND	157	16
C23-C32	100	Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1250**	ND	ND	ND	ND	655	151	NA	ND	866	342	ND	ND	ND	ND	ND	ND	ND	ND	640	109
C32-C36	100	Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	172	ND	NA	ND	220	ND	ND	ND	ND	ND	ND	ND	ND	ND	106	ND
Total TPH		Varies	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1954**	0	ND	6.61	ND	865.4	157.5	NA	0	**1165**	363.3	0	3.56	15	8.07	0	0	4.35	0	903	125
BTEX (8021B)	1 to 2	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND	ND	ND	ND	NA	NA	ND	ND
pH	0 to 14		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.9	8	NA	NA	NA	NA	8	8.1
Chlorides	5		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	407	564	482	NA	NA	NA	NA	NA

Note : Results in ppb unless otherwise noted, ppb = parts per billion (ug/kg), ppm= parts per million (mg/kg), ND = None Detected, NA = Not Analyzed, PQL = Practical Quantitation Limit For Reporting Purposes **Bold** = concentration > RSLs, RSLs = EPA Regional Screening Levels (6/17), * = compare arseni concentrations to ambiant background. ** = HHRA Note #3 (8/17). TPH = Total Petroleum Hydrocarbons, BTEX = Benzene, Ethylbenzene, Toluene, & Xylenes, VOCs - Volatile Organic Compounds

TABLE 2

Soil Gas Survey Analytical Results for Methane, VOCs & H_2S
Potential Kern Community College District Site - SW of Varsity Ave. & Campus Dr., Arvin, CA
Soil Gas Samples (5' & 15')

CONSTITUENTS (EPA Method)	SSG Human Health Screening Levels	RL	SG1-5' (3 PV)	SG1-15' (3 PV)	SG2-5' (3 PV)	SG2-15' (3 PV)	SG3-5' (3 PV)	SG3-15' (3 PV)	SG4-5' (3 PV)	SG4-15' (3 PV)	SG5-5' (3 PV)	SG5-15' (3 PV)	SG6-5' (3 PV)	SG6-15' (3 PV)
Methane (RKI Eagle 2)	1000 ppmV	±3 ppm	70	0	0	0	0	0	0	0	0	0	0	0
Oxygen %		%	20.6	20.9	20.9	20.9	20.9	20.9	20.9	20.8	20.9	20.9	20.9	20.8
Carbon Monoxide		±3 ppm	0	0	0	0	0	0	0	0	0	0	0	0
H_2S (RKI Eagle 2)		0.1 ppm	0	0	0	0	0	0	0	0	0	0	0	0
Volatile Organic Compounds (VOCs) by 8260	varies (ug/m3)	varies (ug/m3)	Toluene = 390, M & P Xylenes = 220, Rest All ND	All ND	Toluene = 160, Rest All ND	Toluene = 110, Rest All ND	Toluene = 200, M & P Xylenes = 120, Rest All ND	M & P Xylenes = 100, Rest All ND	Toluene = 290, M & P Xylenes = 170, Rest All ND	Toluene = 410, M & P Xylenes = 240, Rest All ND	Trichlorobenzene = 120, Toluene = 240, M & P Xylenes = 210, Rest All ND	All ND	Toluene = 420, M,P Xylenes = 270, Rest All ND	All ND

ND= None Detected, NA = Not Analyzed, ppmV = parts per million per volume, H2S = Hydrogen Sulfide, PV = Purge Volume, RL = Reporting Limit. LCC = Leak Check Compound, **Bold** = Concentration of Potential Concern

TABLE 3

$Risk_{soil}$ and $Hazard_{soil}$ Calculations

Potential KCCD Campus, SW of Varsity Ave. & Campus Dr., in Arvin, CA

Chemical of Concern (COC)	EPA RSLs Residential Soils (mg/kg) or DTSC Mod. RSLs	HHRA Note #3 Residential Soils (mg/kg)	SF_o	C_s	CONSTANT 0.00000157	CONSTANT 0.0000037	ABS	$Risk_{soil}$	RfDo	CONSTANT 0.0000128	CONSTANT 0.000037	$Hazard_{soil}$
Arsenic	0.67	Site Specific	1.50	**82.9**	0.00000157	0.0000037	0.03	NA	3.0E-04	0.0000128	3.7E-05	NA
Lead	400	80*	NA	**599**	0.00000157	0.0000037	NA	NA	NA	0.0000128	3.7E-05	NA
4,4'-DDD	2.3	Use EPA	0.34	0.692	0.00000157	0.0000037	0.1	4.6E-07	5.0E-04	0.0000128	3.7E-05	0.03543
4,4'-DDE	2	Use EPA	0.34	1.24	0.00000157	0.0000037	0.1	8.2E-07	5.0E-04	0.0000128	3.7E-05	0.06349
4,4'-DDT	1.9	Use EPA	0.34	**8.85**	0.00000157	0.0000037	0.1	5.8E-06	5.0E-04	0.0000128	3.7E-05	0.45312
Dieldrin	0.034	Use EPA	16.00	**0.472**	0.00000157	0.0000037	0.1	1.465E-05	5.00E-05	0.0000128	3.70E-05	0.24166
Technical Chlordane	1.700	0.44	0.35	**1.4**	0.00000157	0.0000037	0.04	8.418E-07	5.00E-04	0.0000128	3.70E-05	0.05018
TOTALS								**2.3E-05**				**0.8**

Notes: C_s = Concentration in soil in ppm, ppm =parts per million (mg/kg), Sfo = Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$, ABS = Absorption Fraction,
RfDo = Oral Reference Dose (mg/kg-day), NA = Data Not Available, Risksoil = (Sfo x Cs x (1.57 x 10-6)) + (Sfo x Cs x (3.7 x 10-6) x ABS), **Bold** = Elevated Result
$Hazard_{soil}$ = ((Cs/RfDo) x (1.28 x 10-5)) + ((Cs/RfDo) x (3.7 x 10-5) x ABS), Note utilizing ABS for Xylenes for Benzene. HHRA = Human Health Risk Assessment, RSL = EPA Regional Screening Levels 6-2015 Summary

TABLE 4
$Risk_{air}$ and $Hazard_{air}$ Calculations
Potential KCCD Campus, SW of Varsity Ave. & Campus Dr., in Arvin, CA

Constituent	EPA RSL's (ug/m3)	HHRA Indoor Air Residential (ug/m3)	Sfi	C_s	CONSTANT 0.149	C_a	CONSTANT 0.00000005	$Risk_a$	RfDi	CONSTANT 0.639	$Hazard_a$
4,4'-DDD	0.029	Use EPA	0.34	0.692	0.149	3.5E-08	5.00E-08	1.8E-09	5.00E-04	0.639	4.4E-05
4,4'-DDE	0.029	Use EPA	0.34	1.24	0.149	6.2E-08	5.00E-08	3.1E-09	5.00E-04	0.639	7.9E-05
4,4'-DDT	0.029	Use EPA	0.34	8.85	0.149	4.4E-07	5.00E-08	2.2E-08	5.00E-04	0.639	5.7E-04
Dieldrin	0.00061	Use EPA	16	0.472	0.149	2.4E-08	5.00E-08	5.6E-08	5.00E-05	0.639	3.0E-04
Technical Chlordane	0.028	Use EPA	0.0001	1.2	0.149	6.0E-08	5.00E-08	8.9E-13	5.00E-04	0.639	7.7E-05
Totals								8.2E-08			1.0E-03

Notes: C_s = Concentration in soil in ppm, ppm =parts per million (mg/kg), Ca = Concentration in Air $mg/m^3 = (C_s \times 5 \times 10^{-8})$, Sfi = Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$,
RfDi = Inhalation Reference Dose (mg/kg-day), $Risk_a$ = SFi x C_a x 0.149, $Hazard_a$ = (C_a/RfDi) x 0.639, NA = Not Applicable, CHHSLs = California Human Health Screening Levels for Indoor Air.

TABLE 5 Cumulative Risk and Hazard Calculations Potential KCCD Campus, SW of Varsity Ave. & Campus Dr., in Arvin, CA		
Cumulative Risk Calculation		
Total Risk Soil Pathway (From Table 3)		2.3E-05
Total Risk Air Pathway (From Table 4)	+	8.2E-08
Total Cumulative Risk All Pathways		**2.3E-05**
Cumulative Hazard Calculation		
Total Hazard Soil Pathway (From Table 3)		0.84
Total Hazard Air Pathway (From Table 4)	+	0.0010
Total Cumulative Hazard All Pathways		**0.84**

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

September 25, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1709118
Project Name: 16268 / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on September 14, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: SG1-5' Soil (1709118-01) Sampled:09/13/17 07:24 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*106 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
Surrogate: n-Tetracosane	*84.7 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*109 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**13.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**190**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**13.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**9.92**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**8.65**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**3.42**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**7.44**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**39.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**54.6**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.2**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: SG2-5' Soil (1709118-02) Sampled:09/13/17 08:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*117 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
Surrogate: n-Tetracosane	*86.1 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*lk*	*BI72139*

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: SG2-5' Soil (1709118-02) Sampled:09/13/17 08:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*121 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**18.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**251**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**18.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**12.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**10.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**4.51**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**9.72**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**51.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**73.7**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.4**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T1-COMP Soil (1709118-03) Sampled:09/13/17 08:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*108 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
Surrogate: n-Tetracosane	*91.2 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*lk*	*BI72139*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*112 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**16.8**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: T1-COMP Soil (1709118-03) Sampled:09/13/17 08:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Barium	**221**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**15.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**11.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**10.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**4.19**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**1.02**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**12.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**45.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**63.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	**0.177**		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**9.0**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T2-COMP Soil (1709118-04) Sampled:09/13/17 09:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*112 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
Surrogate: n-Tetracosane	*82.3 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*lk*	*BI72139*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*116 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**17.2**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**221**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**16.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**11.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**11.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**4.24**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**1.22**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**9.27**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: T2-COMP Soil (1709118-04) Sampled:09/13/17 09:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**47.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**67.0**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.6**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T2-7' Soil (1709118-05) Sampled:09/13/17 09:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*95.5 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*85.5 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**42.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**270**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**25.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**16.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**27.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**11.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**3.24**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**21.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**68.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**98.2**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	**0.149**		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Sample ID: T3-COMP Soil (1709118-06) Sampled:09/13/17 09:25 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*89.1 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

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Project: 16268 / P.O. # 16268-POS

Sample ID: T3-COMP Soil (1709118-06) Sampled:09/13/17 09:25 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*107 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**19.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**238**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**18.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**12.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**13.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**4.83**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**1.14**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**15.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**52.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**75.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.7**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T4-COMP Soil (1709118-07) Sampled:09/13/17 09:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*106 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*85.2 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*108 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**23.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

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Certificate of Analysis

Soils Engineering Inc.
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: T4-COMP Soil (1709118-07) Sampled:09/13/17 09:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Barium	**252**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**17.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**12.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**14.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**5.89**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**1.56**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**10.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**49.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**70.0**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.6**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T5-COMP Soil (1709118-08) Sampled:09/13/17 10:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*80.8 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*106 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**16.0**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**207**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**15.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**10.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**11.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**4.11**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	**1.06**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**10.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

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Soils Engineering Inc.
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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: T5-COMP Soil (1709118-08) Sampled:09/13/17 10:00 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**45.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**62.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.5**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T6-COMP Soil (1709118-09) Sampled:09/13/17 10:15 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*87.3 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*107 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**12.3**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**184**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**13.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**9.38**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**8.81**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**3.50**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**8.50**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**38.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**53.7**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.2**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T7-COMP Soil (1709118-10) Sampled:09/13/17 10:30 Received:09/14/17 13:00

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: T7-COMP Soil (1709118-10) Sampled:09/13/17 10:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*105 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*86.4 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*107 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**14.2**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**205**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**14.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**10.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**9.54**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**3.60**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**10.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**42.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**58.7**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.7**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: T8-COMP Soil (1709118-11) Sampled:09/13/17 10:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/19/17	09/19/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/19/17*	*09/19/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*79.5 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: T8-COMP Soil (1709118-11) Sampled:09/13/17 10:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/19/17	09/19/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*106 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/19/17*	*09/19/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Arsenic	**12.0**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Barium	**180**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Chromium	**12.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Cobalt	**9.06**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Copper	**7.98**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Lead	**2.96**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Nickel	**11.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Vanadium	**37.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Zinc	**51.4**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.4**		1	pH Units	0.1	-	EPA 9045C	09/19/17	09/19/17	am	BI72038

Sample ID: SG3-5' Soil (1709118-12) Sampled:09/13/17 08:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**15.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Sample ID: SG5-5' Soil (1709118-13) Sampled:09/13/17 10:25 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.1**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Sample ID: SG6-5' Soil (1709118-14) Sampled:09/13/17 11:35 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**14.0**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Sample ID: C1B-3" Soil (1709118-15) Sampled:09/13/17 07:54 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Sample ID: S1-3" Soil (1709118-16) Sampled:09/13/17 11:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030

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Certificate of Analysis

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: S1-3" Soil (1709118-16) Sampled:09/13/17 11:30 Received:09/14/17 13:00

delta-BHC	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	**235**		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**1080**		10	ug/kg	20.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**125**		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**39.6**		1	ug/kg	4.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	**68.5**		1	ug/kg	4.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	**241**		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	4.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	**30.2**		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	**1400**		1	ug/kg	10.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	6.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	2.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	10.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	30.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*100 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**20.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024

Sample ID: S1-2' Soil (1709118-17) Sampled:09/13/17 11:32 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**30.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Sample ID: S1-2' Soil (1709118-17) Sampled:09/13/17 11:32 Received:09/14/17 13:00											
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*89.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*117 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.1**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**7.06**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Sample ID: C2B-3" Soil (1709118-18) Sampled:09/13/17 07:50 Received:09/14/17 13:00											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Sample ID: C2E-3" Soil (1709118-19) Sampled:09/13/17 07:50 Received:09/14/17 13:00											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**14.1**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Sample ID: C3B-3" Soil (1709118-20) Sampled:09/13/17 09:11 Received:09/14/17 13:00											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**12.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72024
Sample ID: S2-3" Soil (1709118-21) Sampled:09/13/17 12:15 Received:09/14/17 13:00											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	**26.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**78.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDD	**25.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**86.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	**90.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	**24.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	**174**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*87.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*91.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: S2-3" Soil (1709118-21) Sampled:09/13/17 12:15 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**25.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S2-2' Soil (1709118-22) Sampled:09/13/17 12:17 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**9.82**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**79.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	**39.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*87.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*87.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**9.54**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: C4B-3" Soil (1709118-23) Sampled:09/13/17 09:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**12.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: C5B-3" Soil (1709118-24) Sampled:09/13/17 10:55 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: C5D-3" Soil (1709118-25) Sampled:09/13/17 10:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: C5E-2' Soil (1709118-26) Sampled:09/13/17 10:32 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

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Certificate of Analysis

Soils Engineering Inc.
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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5D-2' Soil (1709118-27) Sampled:09/13/17 10:32 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**12.8**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S3-3" Soil (1709118-28) Sampled:09/13/17 12:25 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	**203**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**986**		10	ug/kg	80.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**112**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**305**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	**148**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	**181**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	**44.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	**1360**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*102 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**24.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S3-2' Soil (1709118-29) Sampled:09/13/17 12:27 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**41.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	**9.68**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S3-2' Soil (1709118-29) Sampled:09/13/17 12:27 Received:09/14/17 13:00

Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	**65.3**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.5 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*79.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.8**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**4.59**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S4-3" Soil (1709118-30) Sampled:09/13/17 11:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
alpha-Chlordane	**97.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
gamma-Chlordane	**368**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**76.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDE	**76.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
4,4´-DDT	**76.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Dieldrin	**116**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin	**14.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Technical Chlordane	**629**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/19/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*80.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*82.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/19/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**12.8**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**39.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: S4-2' Soil (1709118-31) Sampled:09/13/17 11:52 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	**13.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*89.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**6.57**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S5-3" Soil (1709118-32) Sampled:09/13/17 11:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	**16.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**11.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**225**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	**79.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	**8.87**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	**53.3**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S5-3" Soil (1709118-32) Sampled:09/13/17 11:40 Received:09/14/17 13:00

Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*89.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*84.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**10.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**10.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S5-2' Soil (1709118-33) Sampled:09/13/17 11:42 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*85.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**10.8**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**7.60**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S6-3" Soil (1709118-34) Sampled:09/13/17 12:45 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: S6-3" Soil (1709118-34) Sampled:09/13/17 12:45 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	**13.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	**57.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**12.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**139**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	**111**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	**9.70**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	**11.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	**110**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*93.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.2**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**24.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S6-2' Soil (1709118-35) Sampled:09/13/17 12:47 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**119**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	**45.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S6-2' Soil (1709118-35) Sampled:09/13/17 12:47 Received:09/14/17 13:00

Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*80.7 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**15.5**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**8.85**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S7-3" Soil (1709118-36) Sampled:09/13/17 13:11 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*97.0 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**463**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	**1580**		3	mg/kg	300	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	**133**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*113 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*96.4 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	**1020**		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	**692**		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**1240**		20	ug/kg	320	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**8850**		20	ug/kg	320	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		20	ug/kg	320	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		20	ug/kg	800	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		20	ug/kg	480	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		20	ug/kg	160	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		20	ug/kg	800	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		20	ug/kg	2400	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S7-3" Soil (1709118-36) Sampled:09/13/17 13:11 Received:09/14/17 13:00

Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*98.5 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*104 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.0**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**599**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S7-2' Soil (1709118-37) Sampled:09/13/17 13:15 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*103 %*		*70-141*		*EPA 5030B*	*EPA 8015B*		*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
Surrogate: n-Tetracosane	*91.8 %*		*68-133*		*EPA 3550C*	*EPA 8015B*		*09/20/17*	*09/20/17*	*rp*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*102 %*		*46-132*		*EPA 5030B*	*EPA 8021B*		*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.7 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S7-2' Soil (1709118-37) Sampled:09/13/17 13:15 Received:09/14/17 13:00

Surrogate: Decachlorobiphenyl	*91.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.40**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S8-3" Soil (1709118-38) Sampled:09/13/17 13:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	**125**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	**131**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**58.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**144**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	**199**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	**286**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	**486**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*92.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.3**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**34.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S9-3" Soil (1709118-39) Sampled:09/13/17 14:15 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	**60.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	**49.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	**55.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**77.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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Soils Engineering Inc.
4400 Yeager Way
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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S9-3" Soil (1709118-39) Sampled:09/13/17 14:15 Received:09/14/17 13:00

4,4´-DDT	**137**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	**84.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	**14.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	**292**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*107 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**41.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S10-3" Soil (1709118-40) Sampled:09/13/17 14:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	**17.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	**35.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*89.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*78.0 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**9.79**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S10-3" Soil (1709118-40) Sampled:09/13/17 14:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**5.04**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/19/17	CG	BI72025

Sample ID: S11-3" Soil (1709118-41) Sampled:09/13/17 13:45 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*91.7 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**704**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C23 - C32	**1250**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	lk	BI72139
Surrogate: n-Tetracosane	*116 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*lk*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*93.3 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	**115**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	**98.8**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**318**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**1190**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		5	ug/kg	200	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		5	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		5	ug/kg	200	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		5	ug/kg	600	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*87.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*86.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**13.0**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S11-3" Soil (1709118-41) Sampled:09/13/17 13:45 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**15.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
EPA 8151A Herbicides	See Attachment										

Sample ID: S11-2' Soil (1709118-42) Sampled:09/13/17 13:47 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*94.4 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	rp	BI72139
Surrogate: n-Tetracosane	*105 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*rp*	*BI72139*
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*72.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Arsenic	**12.4**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Lead	**2.93**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Sample ID: S12-3" Soil (1709118-43) Sampled:09/13/17 13:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S12-3" Soil (1709118-43) Sampled:09/13/17 13:40 Received:09/14/17 13:00

Surrogate: a,a,a-Trifluorotoluene	*94.3 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**6.50**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C23 - C32	**151**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
Surrogate: n-Tetracosane	*116 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*rp*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*95.2 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**34.5**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*90.2 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.38**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
EPA 8151A Herbicides	See Attachment										

Sample ID: S12-2' Soil (1709118-44) Sampled:09/13/17 13:42 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method	Prepared	Analyzed	By	Batch

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S12-2' Soil (1709118-44) Sampled:09/13/17 13:42 Received:09/14/17 13:00

TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*100 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**38.4**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C23 - C32	**655**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C33 - C36	**172**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
Surrogate: n-Tetracosane	*119 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*rp*	*BI72139*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
alpha-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
beta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
delta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
gamma-BHC (Lindane)	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
alpha-Chlordane	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
gamma-Chlordane	**141**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
4,4´-DDD	**118**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
4,4´-DDE	ND		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
4,4´-DDT	**967**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Dieldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endosulfan I	ND		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endosulfan II	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endosulfan sulfate	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Technical Chlordane	**213**		5	ug/kg	200	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endrin aldehyde	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Endrin ketone	ND		5	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Heptachlor	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Heptachlor epoxide	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Methoxychlor	ND		5	ug/kg	200	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Toxaphene	ND		5	ug/kg	600	EPA 3550C	EPA 8081A	09/18/17	09/21/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/21/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*87.1 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/21/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Barium	**176**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Chromium	**13.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cobalt	**8.57**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Copper	**9.00**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Lead	**6.47**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Nickel	**6.61**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Vanadium	**36.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

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Certificate of Analysis

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4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S12-2' Soil (1709118-44) Sampled:09/13/17 13:42 Received:09/14/17 13:00											
Zinc	**58.9**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Sample ID: S13-3" Soil (1709118-45) Sampled:09/13/17 13:20 Received:09/14/17 13:00											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*95.9 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**21.3**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C23 - C32	**342**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/21/17	rp	BI72139
Surrogate: n-Tetracosane	*116 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/21/17*	*rp*	*BI72139*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*99.6 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	**37.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**80.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**176**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*89.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*75.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Arsenic	**11.6**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S13-3" Soil (1709118-45) Sampled:09/13/17 13:20 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Barium	**165**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Chromium	**13.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cobalt	**8.65**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Copper	**9.04**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Lead	**5.40**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Nickel	**6.86**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Vanadium	**35.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Zinc	**54.5**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
EPA 8151A Herbicides	See Attachment										

Sample ID: S13-2' Soil (1709118-46) Sampled:09/13/17 13:22 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*95.9 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/20/17	09/20/17	lk	BI72139
Surrogate: n-Tetracosane	*103 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/20/17*	*09/20/17*	*lk*	*BI72139*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S13-2' Soil (1709118-46) Sampled:09/13/17 13:22 Received:09/14/17 13:00

Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*80.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**2.85**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Sample ID: WW1-3" Soil (1709118-47) Sampled:09/13/17 12:55 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**218**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C23 - C32	**2350**		3	mg/kg	300	EPA 3550C	EPA 8015B	09/19/17	09/21/17	lk	BI72029
TPH C33 - C36	**174**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
Surrogate: n-Tetracosane	*117 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/19/17*	*09/20/17*	*lk*	*BI72029*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*109 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	**92.9**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	**143**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**224**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**1470**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		5	ug/kg	80.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	**213**		5	ug/kg	200	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		5	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		5	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: WW1-3" Soil (1709118-47) Sampled:09/13/17 12:55 Received:09/14/17 13:00

Methoxychlor	ND		5	ug/kg	200	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		5	ug/kg	600	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*89.1 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Arsenic	**10.5**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Barium	**987**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cadmium	**1.48**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Chromium	**13.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cobalt	**7.94**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Copper	**33.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Lead	**166**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Molybdenum	**1.19**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Nickel	**7.02**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Vanadium	**33.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Zinc	**686**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
EPA 8151A Herbicides	See Attachment										

Sample ID: WW1-2' Soil (1709118-48) Sampled:09/13/17 12:57 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*94.4 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	**4.44**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C23 - C32	**108**		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
Surrogate: n-Tetracosane	*83.1 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/19/17*	*09/20/17*	*lk*	*BI72029*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: WW1-2' Soil (1709118-48) Sampled:09/13/17 12:57 Received:09/14/17 13:00

Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*94.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*85.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**10.7**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.89**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Sample ID: WW2-3" Soil (1709118-49) Sampled:09/13/17 13:55 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/18/17	09/18/17	lk	BI71846
Surrogate: a,a,a-Trifluorotoluene	*113 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/18/17*	*09/18/17*	*lk*	*BI71846*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
Surrogate: n-Tetracosane	*87.2 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/19/17*	*09/20/17*	*lk*	*BI72029*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	09/18/17	09/18/17	lk	BI71847
Surrogate: a,a,a-Trifluorotoluene	*118 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*09/18/17*	*09/18/17*	*lk*	*BI71847*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	**42.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDD	**10.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDE	**126**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4'-DDT	**68.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: WW2-3'' Soil (1709118-49) Sampled:09/13/17 13:55 Received:09/14/17 13:00

Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*95.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*105 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Arsenic	**12.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Barium	**194**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Chromium	**14.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Cobalt	**9.57**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Copper	**9.32**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Lead	**5.40**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Nickel	**6.97**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Vanadium	**39.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Zinc	**65.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	09/19/17	09/19/17	cg	BI72035
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
EPA 8151A Herbicides	See Attachment										

Sample ID: WW2-2' Soil (1709118-50) Sampled:09/13/17 13:57 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	09/15/17	09/15/17	lk	BI71506
Surrogate: a,a,a-Trifluorotoluene	*97.4 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*09/15/17*	*09/15/17*	*lk*	*BI71506*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	09/19/17	09/20/17	lk	BI72029
Surrogate: n-Tetracosane	*81.4 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*09/19/17*	*09/20/17*	*lk*	*BI72029*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: WW2-2' Soil (1709118-50) Sampled:09/13/17 13:57 Received:09/14/17 13:00

beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/18/17	09/20/17	ai	BI72030
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*
Surrogate: Decachlorobiphenyl	*88.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/18/17*	*09/20/17*	*ai*	*BI72030*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**11.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**2.96**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/19/17	09/20/17	CG	BI72132

Sample ID: C1A-3", C1B-3", C1C-3", C1D-3" Composite Soil (1709118-51) Sampled:09/13/17 08:06 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**92.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	**25.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C1A-3", C1B-3", C1C-3", C1D-3" Composite Soil (1709118-51) Sampled:09/13/17 08:06 Received:09/14/17 13:00

Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*89.6 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*89.8 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

Sample ID: C2A-3", C2B-3", C2C-3", C2D-3" Composite Soil (1709118-52) Sampled:09/13/17 08:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**67.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	**18.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.5 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*94.8 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

Sample ID: C3A-3", C3B-3", C3C-3", C3D-3" Composite Soil (1709118-53) Sampled:09/13/17 09:20 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**81.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C3A-3", C3B-3", C3C-3", C3D-3" Composite Soil (1709118-53) Sampled:09/13/17 09:20 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*98.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

Sample ID: C4A-3", C4B-3", C4C-3", C4D-3" Composite Soil (1709118-54) Sampled:09/13/17 10:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**81.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*95.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

Sample ID: C5A-3", C5B-3", C5C-3", C5D-3" Composite Soil (1709118-55) Sampled:09/13/17 11:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDE	**86.5**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
4,4´-DDT	**22.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: C5A-3", C5B-3", C5C-3", C5D-3" Composite Soil (1709118-55) Sampled:09/13/17 11:05 Received:09/14/17 13:00

Dieldrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/20/17	09/21/17	ai	BI72140
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*84.4 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*
Surrogate: Decachlorobiphenyl	*89.7 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/20/17*	*09/21/17*	*ai*	*BI72140*

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI71506 - EPA 5030B										
Blank	**Prepared & Analyzed: 09/15/17**									
TPH C5 - C12	ND	0.500	mg/kg							
Surrogate: a,a,a-Trifluorotoluene	*0.0140*		mg/kg	*0.01500*		*93.6*	*70-141*			
LCS	**Prepared & Analyzed: 09/15/17**									
Gasoline	0.785	0.500	mg/kg	0.9096		86.3	69-120			
Matrix Spike **Source: 1709115-01**	**Prepared & Analyzed: 09/15/17**									
Gasoline	1.26	0.500	mg/kg	1.819	ND	69.0	60-132			
Matrix Spike Dup **Source: 1709115-01**	**Prepared & Analyzed: 09/15/17**									
Gasoline	1.52	0.500	mg/kg	1.819	ND	83.4	60-132	18.9	30	
Batch BI71846 - EPA 5030B										
Blank	**Prepared & Analyzed: 09/18/17**									
TPH C5 - C12	ND	0.500	mg/kg							
Surrogate: a,a,a-Trifluorotoluene	*0.0132*		mg/kg	*0.01500*		*87.7*	*70-141*			
LCS	**Prepared & Analyzed: 09/18/17**									
Gasoline	0.806	0.500	mg/kg	0.9096		88.6	69-120			
Matrix Spike **Source: 1709118-43**	**Prepared & Analyzed: 09/18/17**									
Gasoline	1.40	0.500	mg/kg	1.819	ND	77.0	60-132			
Matrix Spike Dup **Source: 1709118-43**	**Prepared & Analyzed: 09/18/17**									
Gasoline	1.30	0.500	mg/kg	1.819	ND	71.7	60-132	7.17	30	
Batch BI72029 - EPA 3550C										
Blank	**Prepared & Analyzed: 09/19/17**									
TPH C13 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*19.1*		mg/kg	*20.83*		*91.7*	*68-133*			
LCS	**Prepared & Analyzed: 09/19/17**									
Diesel	631	6.25	mg/kg	554.7		114	69-137			
Surrogate: n-Tetracosane	*21.4*		mg/kg	*20.83*		*103*	*64-140*			
Matrix Spike **Source: 1709144-01**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Diesel	162	2.50	mg/kg	110.9	60.8	91.0	53-138			
Surrogate: n-Tetracosane	*20.2*		mg/kg	*20.83*		*97.0*	*68-133*			
Matrix Spike Dup **Source: 1709144-01**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Diesel	159	2.50	mg/kg	110.9	60.8	88.2	53-138	3.21	30	
Surrogate: n-Tetracosane	*20.9*		mg/kg	*20.83*		*100*	*68-133*			
Batch BI72139 - EPA 3550C										
Blank	**Prepared & Analyzed: 09/20/17**									

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72139 - EPA 3550C										
TPH C13 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*19.7*		mg/kg	*20.83*		*94.8*	*68-133*			
LCS	**Prepared & Analyzed: 09/20/17**									
Diesel	636	6.25	mg/kg	554.7		115	69-137			
Surrogate: n-Tetracosane	*21.1*		mg/kg	*20.83*		*101*	*64-140*			
Matrix Spike **Source: 1709118-11**	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Diesel	107	2.50	mg/kg	110.9	ND	96.2	53-138			
Surrogate: n-Tetracosane	*18.9*		mg/kg	*20.83*		*90.7*	*68-133*			
Matrix Spike Dup **Source: 1709118-11**	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Diesel	84.2	2.50	mg/kg	110.9	ND	75.9	53-138	23.6	30	
Surrogate: n-Tetracosane	*17.8*		mg/kg	*20.83*		*85.3*	*68-133*			
Batch BI71847 - EPA 5030B										
Blank	**Prepared & Analyzed: 09/18/17**									
Benzene	ND	1.00	ug/kg							
Toluene	ND	1.00	ug/kg							
Ethylbenzene	ND	1.00	ug/kg							
Xylenes (total)	ND	2.00	ug/kg							
Surrogate: a,a,a-Trifluorotoluene	*13.1*		ug/kg	*15.00*		*87.1*	*46-132*			
LCS	**Prepared & Analyzed: 09/18/17**									
Benzene	93.7	1.00	ug/kg	100.0		93.7	76-117			
Toluene	92.7	1.00	ug/kg	100.0		92.7	74-113			
Ethylbenzene	92.9	1.00	ug/kg	100.0		92.9	75-122			
Xylenes (total)	265	2.00	ug/kg	300.0		88.5	68-121			
Surrogate: a,a,a-Trifluorotoluene	*16.1*		ug/kg	*15.00*		*107*	*67-130*			
Matrix Spike **Source: 1709118-37**	**Prepared & Analyzed: 09/18/17**									
Benzene	40.6	1.00	ug/kg	40.00	ND	101	51-129			
Toluene	41.3	1.00	ug/kg	40.00	ND	103	37-129			
Ethylbenzene	40.7	1.00	ug/kg	40.00	ND	102	45-129			
Xylenes (total)	119	2.00	ug/kg	120.0	ND	98.9	52-113			
Surrogate: a,a,a-Trifluorotoluene	*14.5*		ug/kg	*15.00*		*96.9*	*46-132*			
Matrix Spike Dup **Source: 1709118-37**	**Prepared & Analyzed: 09/18/17**									
Benzene	41.6	1.00	ug/kg	40.00	ND	104	51-129	2.51	30	
Toluene	41.5	1.00	ug/kg	40.00	ND	104	37-129	0.418	30	
Ethylbenzene	41.0	1.00	ug/kg	40.00	ND	102	45-129	0.585	30	
Xylenes (total)	120	2.00	ug/kg	120.0	ND	99.8	52-113	0.976	30	
Surrogate: a,a,a-Trifluorotoluene	*14.5*		ug/kg	*15.00*		*96.4*	*46-132*			

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72030 - EPA 3550C										
Blank	**Prepared: 09/18/17 Analyzed: 09/19/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4´-DDD	ND	2.00	ug/kg							
4,4´-DDE	ND	4.00	ug/kg							
4,4´-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.9*		ug/kg	*16.67*		*89.5*	*55-126*			
Surrogate: Decachlorobiphenyl	*13.1*		ug/kg	*16.67*		*78.9*	*49-133*			
LCS	**Prepared: 09/18/17 Analyzed: 09/19/17**									
Aldrin	13.2	2.00	ug/kg	13.33		98.8	56-130			
gamma-BHC (Lindane)	12.9	2.00	ug/kg	13.33		96.6	56-133			
4,4´-DDT	13.5	4.00	ug/kg	13.33		101	56-133			
Dieldrin	14.5	2.00	ug/kg	13.33		109	62-119			
Endrin	14.5	2.00	ug/kg	13.33		109	59-127			
Heptachlor	15.1	2.00	ug/kg	13.33		114	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.7*		ug/kg	*16.67*		*82.4*	*54-108*			
Surrogate: Decachlorobiphenyl	*13.4*		ug/kg	*16.67*		*80.3*	*54-127*			
Matrix Spike Source: 1709118-35	**Prepared: 09/18/17 Analyzed: 09/20/17**									
Aldrin	11.2	8.00	ug/kg	13.33	ND	83.9	39-124			
gamma-BHC (Lindane)	12.0	8.00	ug/kg	13.33	ND	90.4	44-120			
4,4´-DDT	85.0	16.0	ug/kg	33.33	45.9	117	48-150			
Dieldrin	39.1	8.00	ug/kg	33.33	ND	117	48-144			
Endrin	41.2	8.00	ug/kg	33.33	ND	123	54-149			

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72030 - EPA 3550C										
Heptachlor	13.2	8.00	ug/kg	13.33	ND	99.0	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*16.1*		ug/kg	*16.67*		*96.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*15.7*		ug/kg	*16.67*		*94.4*	*43-136*			
Matrix Spike Dup Source: 1709118-35	**Prepared: 09/18/17 Analyzed: 09/20/17**									
Aldrin	10.5	8.00	ug/kg	13.33	ND	79.0	39-124	6.03	30	
gamma-BHC (Lindane)	11.6	8.00	ug/kg	13.33	ND	86.8	44-120	4.00	30	
4,4´-DDT	86.1	16.0	ug/kg	33.33	45.9	121	48-150	2.69	30	
Dieldrin	37.9	8.00	ug/kg	33.33	ND	114	48-144	3.09	30	
Endrin	39.1	8.00	ug/kg	33.33	ND	117	54-149	5.11	30	
Heptachlor	13.1	8.00	ug/kg	13.33	ND	98.0	46-135	1.01	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.4*		ug/kg	*16.67*		*92.6*	*57-126*			
Surrogate: Decachlorobiphenyl	*13.1*		ug/kg	*16.67*		*78.4*	*43-136*			
Batch BI72140 - EPA 3550C										
Blank	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Aldrin	ND	1.50	ug/kg							
alpha-BHC	ND	1.50	ug/kg							
beta-BHC	ND	1.50	ug/kg							
delta-BHC	ND	1.50	ug/kg							
gamma-BHC (Lindane)	ND	1.50	ug/kg							
alpha-Chlordane	ND	1.50	ug/kg							
gamma-Chlordane	ND	1.50	ug/kg							
4,4´-DDD	ND	1.50	ug/kg							
4,4´-DDE	ND	3.00	ug/kg							
4,4´-DDT	ND	3.00	ug/kg							
Dieldrin	ND	1.50	ug/kg							
Endosulfan I	ND	3.00	ug/kg							
Endosulfan II	ND	1.50	ug/kg							
Endosulfan sulfate	ND	1.50	ug/kg							
Endrin	ND	1.50	ug/kg							
Technical Chlordane	ND	7.50	ug/kg							
Endrin aldehyde	ND	1.50	ug/kg							
Endrin ketone	ND	4.50	ug/kg							
Heptachlor	ND	1.50	ug/kg							
Heptachlor epoxide	ND	1.50	ug/kg							
Methoxychlor	ND	7.50	ug/kg							
Toxaphene	ND	22.5	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*10.4*		ug/kg	*12.50*		*82.8*	*55-126*			
Surrogate: Decachlorobiphenyl	*12.4*		ug/kg	*12.50*		*99.0*	*49-133*			
LCS	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Aldrin	13.9	2.00	ug/kg	13.33		104	56-130			

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72140 - EPA 3550C										
gamma-BHC (Lindane)	13.7	2.00	ug/kg	13.33		103	56-133			
4,4´-DDT	16.7	4.00	ug/kg	13.33		126	56-133			
Dieldrin	15.3	2.00	ug/kg	13.33		115	62-119			
Endrin	15.3	2.00	ug/kg	13.33		115	59-127			
Heptachlor	15.2	2.00	ug/kg	13.33		114	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.8*		ug/kg	*16.67*		*88.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*16.5*		ug/kg	*16.67*		*99.0*	*54-127*			
Matrix Spike **Source: 1709124-01**	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Aldrin	12.3	2.00	ug/kg	13.33	ND	92.4	39-124			
gamma-BHC (Lindane)	11.6	2.00	ug/kg	13.33	ND	87.0	44-120			
4,4´-DDT	37.7	4.00	ug/kg	33.33	ND	113	48-150			
Dieldrin	42.5	2.00	ug/kg	33.33	ND	127	48-144			
Endrin	45.2	2.00	ug/kg	33.33	ND	136	54-149			
Heptachlor	13.8	2.00	ug/kg	13.33	ND	103	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.4*		ug/kg	*16.67*		*92.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*17.0*		ug/kg	*16.67*		*102*	*43-136*			
Matrix Spike Dup **Source: 1709124-01**	**Prepared: 09/20/17 Analyzed: 09/21/17**									
Aldrin	12.2	2.00	ug/kg	13.33	ND	91.9	39-124	0.586	30	
gamma-BHC (Lindane)	11.4	2.00	ug/kg	13.33	ND	85.5	44-120	1.67	30	
4,4´-DDT	32.9	4.00	ug/kg	33.33	ND	98.6	48-150	13.7	30	
Dieldrin	40.5	2.00	ug/kg	33.33	ND	121	48-144	4.79	30	
Endrin	42.7	2.00	ug/kg	33.33	ND	128	54-149	5.77	30	
Heptachlor	13.2	2.00	ug/kg	13.33	ND	99.2	46-135	3.86	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.2*		ug/kg	*16.67*		*91.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*15.9*		ug/kg	*16.67*		*95.3*	*43-136*			
Batch BI72024 - EPA 3050B										
Blank	**Prepared & Analyzed: 09/19/17**									
Arsenic	ND	2.00	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									
Arsenic	46.3	2.00	mg/kg	49.78		92.9	80-120			
Matrix Spike **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Arsenic	61.9	2.00	mg/kg	49.78	18.4	87.5	75-125			
Matrix Spike Dup **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Arsenic	61.8	2.00	mg/kg	49.78	18.4	87.3	75-125	0.178	30	
Batch BI72025 - EPA 3050B										
Blank	**Prepared & Analyzed: 09/19/17**									
Arsenic	ND	2.00	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72025 - EPA 3050B										
Arsenic	46.3	2.00	mg/kg	49.78		93.1	80-120			
Matrix Spike **Source: 1709118-32**	**Prepared & Analyzed: 09/19/17**									
Arsenic	57.2	2.00	mg/kg	49.78	10.4	94.0	75-125			
Matrix Spike Dup **Source: 1709118-32**	**Prepared & Analyzed: 09/19/17**									
Arsenic	55.4	2.00	mg/kg	49.78	10.4	90.5	75-125	3.90	30	
Batch BI72132 - EPA 3050B										
Blank	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Arsenic	ND	2.00	mg/kg							
LCS	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Arsenic	47.5	2.00	mg/kg	49.78		95.3	80-120			
Matrix Spike **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Arsenic	56.6	2.00	mg/kg	49.78	11.6	90.4	75-125			
Matrix Spike Dup **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Arsenic	56.8	2.00	mg/kg	49.78	11.6	91.0	75-125	0.621	30	
Batch BI72024 - EPA 3050B										
Blank	**Prepared & Analyzed: 09/19/17**									
Lead	ND	1.00	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									
Lead	51.9	1.00	mg/kg	49.53		105	80-120			
Matrix Spike **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Lead	48.6	1.00	mg/kg	49.53	4.51	89.0	75-125			
Matrix Spike Dup **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Lead	48.5	1.00	mg/kg	49.53	4.51	88.9	75-125	0.145	30	
Batch BI72025 - EPA 3050B										
Blank	**Prepared & Analyzed: 09/19/17**									
Lead	ND	1.00	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									
Lead	52.2	1.00	mg/kg	49.53		105	80-120			
Matrix Spike **Source: 1709118-32**	**Prepared & Analyzed: 09/19/17**									
Lead	57.3	1.00	mg/kg	49.53	10.3	95.1	75-125			
Matrix Spike Dup **Source: 1709118-32**	**Prepared & Analyzed: 09/19/17**									
Lead	56.7	1.00	mg/kg	49.53	10.3	93.9	75-125	1.27	30	
Batch BI72132 - EPA 3050B										
Blank	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Lead	ND	1.00	mg/kg							

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File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72132 - EPA 3050B										
LCS	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Lead	52.3	1.00	mg/kg	49.53		106	80-120			
Matrix Spike **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Lead	52.5	1.00	mg/kg	49.53	6.47	93.0	75-125			
Matrix Spike Dup **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Lead	51.6	1.00	mg/kg	49.53	6.47	91.0	75-125	2.10	30	
Batch BI72024 - EPA 3050B										
Blank	**Prepared & Analyzed: 09/19/17**									
Antimony	ND	2.00	mg/kg							
Arsenic	ND	2.00	mg/kg							
Barium	ND	1.00	mg/kg							
Beryllium	ND	1.00	mg/kg							
Cadmium	ND	1.00	mg/kg							
Chromium	ND	1.00	mg/kg							
Cobalt	ND	1.00	mg/kg							
Copper	ND	1.00	mg/kg							
Lead	ND	1.00	mg/kg							
Molybdenum	ND	1.00	mg/kg							
Nickel	ND	1.00	mg/kg							
Selenium	ND	2.00	mg/kg							
Silver	ND	1.00	mg/kg							
Thallium	ND	2.00	mg/kg							
Vanadium	ND	1.00	mg/kg							
Zinc	ND	5.00	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									
Antimony	46.3	2.00	mg/kg	50.20		92.2	60-140			
Arsenic	46.3	2.00	mg/kg	49.78		92.9	80-120			
Barium	201	1.00	mg/kg	197.8		102	80-120			
Beryllium	4.69	1.00	mg/kg	4.920		95.2	80-120			
Cadmium	5.02	1.00	mg/kg	5.000		100	80-120			
Chromium	20.1	1.00	mg/kg	19.84		101	80-120			
Cobalt	51.4	1.00	mg/kg	49.63		104	80-120			
Copper	25.4	1.00	mg/kg	25.04		101	80-120			
Lead	51.9	1.00	mg/kg	49.53		105	80-120			
Molybdenum	46.1	1.00	mg/kg	50.20		91.8	80-120			
Nickel	52.7	1.00	mg/kg	49.77		106	80-120			
Selenium	45.2	2.00	mg/kg	50.10		90.2	80-120			
Silver	5.10	1.00	mg/kg	4.980		102	80-120			
Thallium	47.8	2.00	mg/kg	49.17		97.3	80-120			

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72024 - EPA 3050B										
Vanadium	46.0	1.00	mg/kg	49.40		93.2	80-120			
Zinc	52.6	5.00	mg/kg	49.70		106	80-120			
Matrix Spike **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Antimony	41.4	2.00	mg/kg	50.20	0.890	80.6	60-140			
Arsenic	61.9	2.00	mg/kg	49.78	18.4	87.5	75-125			
Barium	434	1.00	mg/kg	197.8	251	92.6	75-125			
Beryllium	4.88	1.00	mg/kg	4.920	0.514	88.8	75-125			
Cadmium	3.87	1.00	mg/kg	5.000	ND	77.5	75-125			
Chromium	36.8	1.00	mg/kg	19.84	18.5	92.4	75-125			
Cobalt	57.3	1.00	mg/kg	49.63	12.5	90.3	75-125			
Copper	34.9	1.00	mg/kg	25.04	10.9	95.9	75-125			
Lead	48.6	1.00	mg/kg	49.53	4.51	89.0	75-125			
Molybdenum	43.1	1.00	mg/kg	50.20	0.781	84.2	75-125			
Nickel	54.7	1.00	mg/kg	49.77	9.72	90.4	75-125			
Selenium	37.8	2.00	mg/kg	50.10	ND	75.5	75-125			
Silver	4.44	1.00	mg/kg	4.980	ND	89.2	75-125			
Thallium	39.2	2.00	mg/kg	49.17	ND	79.8	75-125			
Vanadium	97.0	1.00	mg/kg	49.40	51.6	91.9	75-125			
Zinc	117	5.00	mg/kg	49.70	73.7	87.6	75-125			
Matrix Spike Dup **Source: 1709118-02**	**Prepared & Analyzed: 09/19/17**									
Antimony	40.2	2.00	mg/kg	50.20	0.890	78.4	60-140	2.82	30	
Arsenic	61.8	2.00	mg/kg	49.78	18.4	87.3	75-125	0.178	30	
Barium	433	1.00	mg/kg	197.8	251	92.0	75-125	0.615	30	
Beryllium	4.92	1.00	mg/kg	4.920	0.514	89.6	75-125	0.949	30	
Cadmium	3.81	1.00	mg/kg	5.000	ND	76.2	75-125	1.68	30	
Chromium	36.8	1.00	mg/kg	19.84	18.5	92.4	75-125	0.0303	30	
Cobalt	57.2	1.00	mg/kg	49.63	12.5	90.1	75-125	0.320	30	
Copper	34.8	1.00	mg/kg	25.04	10.9	95.2	75-125	0.664	30	
Lead	48.5	1.00	mg/kg	49.53	4.51	88.9	75-125	0.145	30	
Molybdenum	43.5	1.00	mg/kg	50.20	0.781	85.0	75-125	0.975	30	
Nickel	54.0	1.00	mg/kg	49.77	9.72	89.0	75-125	1.58	30	
Selenium	38.4	2.00	mg/kg	50.10	ND	76.7	75-125	1.48	30	
Silver	4.45	1.00	mg/kg	4.980	ND	89.4	75-125	0.194	30	
Thallium	39.3	2.00	mg/kg	49.17	ND	80.0	75-125	0.252	30	
Vanadium	97.4	1.00	mg/kg	49.40	51.6	92.6	75-125	0.736	30	
Zinc	118	5.00	mg/kg	49.70	73.7	88.5	75-125	1.03	30	
Batch BI72132 - EPA 3050B										
Blank	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Antimony	ND	2.00	mg/kg							

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch B172132 - EPA 3050B										
Arsenic	ND	2.00	mg/kg							
Barium	ND	1.00	mg/kg							
Beryllium	ND	1.00	mg/kg							
Cadmium	ND	1.00	mg/kg							
Chromium	ND	1.00	mg/kg							
Cobalt	ND	1.00	mg/kg							
Copper	ND	1.00	mg/kg							
Lead	ND	1.00	mg/kg							
Molybdenum	ND	1.00	mg/kg							
Nickel	ND	1.00	mg/kg							
Selenium	ND	2.00	mg/kg							
Silver	ND	1.00	mg/kg							
Thallium	ND	2.00	mg/kg							
Vanadium	ND	1.00	mg/kg							
Zinc	ND	5.00	mg/kg							
LCS	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Antimony	46.6	2.00	mg/kg	50.20		92.9	60-140			
Arsenic	47.5	2.00	mg/kg	49.78		95.3	80-120			
Barium	202	1.00	mg/kg	197.8		102	80-120			
Beryllium	4.81	1.00	mg/kg	4.920		97.8	80-120			
Cadmium	5.07	1.00	mg/kg	5.000		101	80-120			
Chromium	20.0	1.00	mg/kg	19.84		101	80-120			
Cobalt	52.0	1.00	mg/kg	49.63		105	80-120			
Copper	25.7	1.00	mg/kg	25.04		103	80-120			
Lead	52.3	1.00	mg/kg	49.53		106	80-120			
Molybdenum	46.1	1.00	mg/kg	50.20		91.8	80-120			
Nickel	53.4	1.00	mg/kg	49.77		107	80-120			
Selenium	45.9	2.00	mg/kg	50.10		91.6	80-120			
Silver	5.05	1.00	mg/kg	4.980		101	80-120			
Thallium	48.6	2.00	mg/kg	49.17		98.8	80-120			
Vanadium	45.8	1.00	mg/kg	49.40		92.6	80-120			
Zinc	53.3	5.00	mg/kg	49.70		107	80-120			
Matrix Spike **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Antimony	44.3	2.00	mg/kg	50.20	0.819	86.7	60-140			
Arsenic	56.6	2.00	mg/kg	49.78	11.6	90.4	75-125			
Barium	369	1.00	mg/kg	197.8	176	97.2	75-125			
Beryllium	4.95	1.00	mg/kg	4.920	0.329	94.0	75-125			
Cadmium	4.35	1.00	mg/kg	5.000	ND	87.0	75-125			
Chromium	32.0	1.00	mg/kg	19.84	13.2	94.9	75-125			
Cobalt	55.8	1.00	mg/kg	49.63	8.57	95.2	75-125			

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72132 - EPA 3050B										
Copper	33.0	1.00	mg/kg	25.04	9.00	95.8	75-125			
Lead	52.5	1.00	mg/kg	49.53	6.47	93.0	75-125			
Molybdenum	44.7	1.00	mg/kg	50.20	0.717	87.6	75-125			
Nickel	54.1	1.00	mg/kg	49.77	6.61	95.3	75-125			
Selenium	42.5	2.00	mg/kg	50.10	ND	84.7	75-125			
Silver	4.55	1.00	mg/kg	4.980	ND	91.3	75-125			
Thallium	42.1	2.00	mg/kg	49.17	ND	85.7	75-125			
Vanadium	81.6	1.00	mg/kg	49.40	36.6	91.0	75-125			
Zinc	106	5.00	mg/kg	49.70	58.9	94.9	75-125			
Matrix Spike Dup **Source: 1709118-44**	**Prepared: 09/19/17 Analyzed: 09/20/17**									
Antimony	43.8	2.00	mg/kg	50.20	0.819	85.5	60-140	1.36	30	
Arsenic	56.8	2.00	mg/kg	49.78	11.6	91.0	75-125	0.621	30	
Barium	374	1.00	mg/kg	197.8	176	100	75-125	2.88	30	
Beryllium	4.93	1.00	mg/kg	4.920	0.329	93.5	75-125	0.484	30	
Cadmium	4.27	1.00	mg/kg	5.000	ND	85.4	75-125	1.80	30	
Chromium	31.9	1.00	mg/kg	19.84	13.2	94.1	75-125	0.862	30	
Cobalt	55.6	1.00	mg/kg	49.63	8.57	94.8	75-125	0.389	30	
Copper	32.8	1.00	mg/kg	25.04	9.00	95.1	75-125	0.683	30	
Lead	51.6	1.00	mg/kg	49.53	6.47	91.0	75-125	2.10	30	
Molybdenum	44.3	1.00	mg/kg	50.20	0.717	86.7	75-125	0.943	30	
Nickel	53.5	1.00	mg/kg	49.77	6.61	94.1	75-125	1.28	30	
Selenium	41.9	2.00	mg/kg	50.10	ND	83.5	75-125	1.42	30	
Silver	4.47	1.00	mg/kg	4.980	ND	89.8	75-125	1.66	30	
Thallium	41.2	2.00	mg/kg	49.17	ND	83.9	75-125	2.19	30	
Vanadium	83.0	1.00	mg/kg	49.40	36.6	94.0	75-125	3.20	30	
Zinc	106	5.00	mg/kg	49.70	58.9	94.3	75-125	0.606	30	
Batch BI72035 - EPA 7471A										
Blank	**Prepared & Analyzed: 09/19/17**									
Mercury	ND	0.100	mg/kg							
LCS	**Prepared & Analyzed: 09/19/17**									
Mercury	0.745	0.100	mg/kg	0.8358		89.1	80-120			
Matrix Spike **Source: 1709118-44**	**Prepared & Analyzed: 09/20/17**									
Mercury	0.842	0.100	mg/kg	0.8358	ND	101	75-125			
Matrix Spike Dup **Source: 1709118-44**	**Prepared & Analyzed: 09/20/17**									
Mercury	0.841	0.100	mg/kg	0.8358	ND	101	75-125	0.119	25	
Batch BI72038 - -										
Duplicate **Source: 1709118-01**	**Prepared & Analyzed: 09/19/17**									
pH	8.2	0.1	pH Units		8.2			0.00	5	

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Certificate of Analysis

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 09/25/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72038 - -										
Duplicate **Source: 1709118-11** **Prepared & Analyzed: 09/19/17**										
pH	8.6	0.1	pH Units		8.4			1.41	5	

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 03, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1709118
Project Name: 16268 / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on September 14, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C1B-3" Soil (1709118-15) Sampled:09/13/17 07:54 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDE	**75.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Dieldrin	**20.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*67.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*

Sample ID: C5B-3" Soil (1709118-24) Sampled:09/13/17 10:55 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDE	**132**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5B-3" Soil (1709118-24) Sampled:09/13/17 10:55 Received:09/14/17 13:00

Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*76.0 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*

Sample ID: C5D-3" Soil (1709118-25) Sampled:09/13/17 10:30 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BI72727
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*74.7 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BI72727*

Sample ID: C5D-2' Soil (1709118-27) Sampled:09/13/17 10:32 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5D-2' Soil (1709118-27) Sampled:09/13/17 10:32 Received:09/14/17 13:00

Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*90.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*78.0 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*

Sample ID: S7-3" Soil (1709118-36) Sampled:09/13/17 13:11 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
4,4'-DDT	ND		1	ug/l	0.100	DHS-WET	EPA 8081A	09/26/17	10/03/17	ai	BJ70329
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*69.6 %*			*36-114*		*DHS-WET*	*EPA 8081A*	*09/26/17*	*10/03/17*	*ai*	*BJ70329*
Surrogate: Decachlorobiphenyl	*33.6 %*			*33-129*		*DHS-WET*	*EPA 8081A*	*09/26/17*	*10/03/17*	*ai*	*BJ70329*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**40.0**		1	mg/L	0.500	DHS WET	EPA 6010B	09/26/17	09/28/17	cg	BI72838

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**1.68**		1	mg/L	0.500	EPA 1311	EPA 6010B	09/26/17	09/27/17	cg	BI72732

Sample ID: WW1-3" Soil (1709118-47) Sampled:09/13/17 12:55 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
4,4'-DDT	ND		1	ug/l	0.100	DHS-WET	EPA 8081A	09/26/17	10/03/17	ai	BJ70329
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*66.8 %*			*36-114*		*DHS-WET*	*EPA 8081A*	*09/26/17*	*10/03/17*	*ai*	*BJ70329*
Surrogate: Decachlorobiphenyl	*10.0 %*	*M*		*33-129*		*DHS-WET*	*EPA 8081A*	*09/26/17*	*10/03/17*	*ai*	*BJ70329*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**4.51**		1	mg/L	0.500	DHS WET	EPA 6010B	09/26/17	09/28/17	cg	BI72838

Sample ID: C1A-3" Soil (1709118-56) Sampled:09/13/17 08:06 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-Chlordane	**10.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4'-DDE	**111**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Dieldrin	**28.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Technical Chlordane	**86.7**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: C1A-3" Soil (1709118-56) Sampled:09/13/17 08:06 Received:09/14/17 13:00

Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.2 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*82.8 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*

Sample ID: C1C-3" Soil (1709118-57) Sampled:09/13/17 07:40 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDE	**116**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Dieldrin	**26.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Technical Chlordane	**55.4**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BI72727
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*97.4 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*
Surrogate: Decachlorobiphenyl	*82.9 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BI72727*

Sample ID: C1D-3" Soil (1709118-58) Sampled:09/13/17 07:36 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
4,4´-DDE	**116**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Dieldrin	**33.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: C1D-3" Soil (1709118-58) Sampled:09/13/17 07:36 Received:09/14/17 13:00

Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Technical Chlordane	**58.7**	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/28/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*97.9 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*81.3 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/28/17*	*ai*	*BJ70325*

Sample ID: C5A-3" Soil (1709118-59) Sampled:09/13/17 11:05 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	**9.56**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	**175**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	**26.7**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	**142**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*66.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C5C-3" Soil (1709118-60) Sampled:09/13/17 10:45 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5C-3" Soil (1709118-60) Sampled:09/13/17 10:45 Received:09/14/17 13:00

4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*71.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*71.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: S8-2' Soil (1709118-61) Sampled:09/13/17 13:32 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	**32.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	**36.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	**19.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	**79.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	**75.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	**122**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	**414**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*77.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*80.0 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**30.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/26/17	09/26/17	CG	BI72722

Sample ID: S9-2' Soil (1709118-62) Sampled:09/13/17 14:17 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: S9-2' Soil (1709118-62) Sampled:09/13/17 14:17 Received:09/14/17 13:00

beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*94.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*78.2 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.62**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	09/26/17	09/26/17	CG	BI72722

Sample ID: SG3-10' Soil (1709118-63) Sampled:09/13/17 08:50 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**82.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/26/17	09/26/17	CG	BI72722

Sample ID: C1A-2' Soil (1709118-64) Sampled:09/13/17 08:08 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: C1A-2' Soil (1709118-64) Sampled:09/13/17 08:08 Received:09/14/17 13:00

Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*101 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*75.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C1B-2' Soil (1709118-65) Sampled:09/13/17 07:56 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*96.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*84.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**15.1**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	09/26/17	09/26/17	CG	BI72722

Sample ID: C1C-2' Soil (1709118-66) Sampled:09/13/17 07:42 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Certificate of Analysis

Soils Engineering Inc.
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Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Sample ID: C1C-2' Soil (1709118-66) Sampled:09/13/17 07:42 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*126 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*120 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C1D-2' Soil (1709118-67) Sampled:09/13/17 07:38 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*126 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*138 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C5A-2' Soil (1709118-68) Sampled:09/13/17 11:08 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Soils Engineering Inc.
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File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5A-2' Soil (1709118-68) Sampled:09/13/17 11:08 Received:09/14/17 13:00

gamma-Chlordane	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*101 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*119 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C5B-2' Soil (1709118-69) Sampled:09/13/17 10:57 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDE	**26.8**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*81.1 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*74.1 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

Sample ID: C5C-2' Soil (1709118-70) Sampled:09/13/17 10:47 Received:09/14/17 13:00

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Sample ID: C5C-2' Soil (1709118-70) Sampled:09/13/17 10:47 Received:09/14/17 13:00

alpha-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
beta-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
delta-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-BHC (Lindane)	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
alpha-Chlordane	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
gamma-Chlordane	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDD	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDE	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
4,4'-DDT	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	10/02/17	ai	BJ70325
Dieldrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	09/26/17	09/29/17	ai	BJ70325
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*78.2 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*
Surrogate: Decachlorobiphenyl	*65.4 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*09/26/17*	*09/29/17*	*ai*	*BJ70325*

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Certificate of Analysis

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72727 - EPA 3550C										
Blank	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Aldrin	ND	0.750	ug/kg							
alpha-BHC	ND	0.750	ug/kg							
beta-BHC	ND	0.750	ug/kg							
delta-BHC	ND	0.750	ug/kg							
gamma-BHC (Lindane)	ND	0.750	ug/kg							
alpha-Chlordane	ND	0.750	ug/kg							
gamma-Chlordane	ND	0.750	ug/kg							
4,4´-DDD	ND	0.750	ug/kg							
4,4´-DDE	ND	1.50	ug/kg							
4,4´-DDT	ND	1.50	ug/kg							
Dieldrin	ND	0.750	ug/kg							
Endosulfan I	ND	1.50	ug/kg							
Endosulfan II	ND	0.750	ug/kg							
Endosulfan sulfate	ND	0.750	ug/kg							
Endrin	ND	0.750	ug/kg							
Technical Chlordane	ND	3.75	ug/kg							
Endrin aldehyde	ND	0.750	ug/kg							
Endrin ketone	ND	2.25	ug/kg							
Heptachlor	ND	0.750	ug/kg							
Heptachlor epoxide	ND	0.750	ug/kg							
Methoxychlor	ND	3.75	ug/kg							
Toxaphene	ND	11.2	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*9.01*		ug/kg	*12.50*		*72.1*	*55-126*			
Surrogate: Decachlorobiphenyl	*11.0*		ug/kg	*12.50*		*87.8*	*49-133*			
LCS	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Aldrin	12.1	2.00	ug/kg	13.33		91.1	56-130			
gamma-BHC (Lindane)	12.9	2.00	ug/kg	13.33		96.9	56-133			
4,4´-DDT	11.8	4.00	ug/kg	13.33		88.7	56-133			
Dieldrin	15.8	2.00	ug/kg	13.33		119	62-119			
Endrin	13.7	2.00	ug/kg	13.33		102	59-127			
Heptachlor	15.6	2.00	ug/kg	13.33		117	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.5*		ug/kg	*16.67*		*81.1*	*54-108*			
Surrogate: Decachlorobiphenyl	*14.0*		ug/kg	*16.67*		*84.0*	*54-127*			
Matrix Spike Source: 1709192-03	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Aldrin	14.1	2.00	ug/kg	13.33	ND	105	39-124			
gamma-BHC (Lindane)	15.6	2.00	ug/kg	13.33	ND	117	44-120			
4,4´-DDT	24.2	4.00	ug/kg	33.33	ND	72.8	48-150			
Dieldrin	47.7	2.00	ug/kg	33.33	ND	143	48-144			
Endrin	38.9	2.00	ug/kg	33.33	ND	117	54-149			

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72727 - EPA 3550C										
Heptachlor	13.3	2.00	ug/kg	13.33	ND	99.4	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*16.0*		ug/kg	*16.67*		*95.8*	*57-126*			
Surrogate: Decachlorobiphenyl	*17.8*		ug/kg	*16.67*		*107*	*43-136*			
Matrix Spike Dup Source: 1709192-03	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Aldrin	13.6	2.00	ug/kg	13.33	ND	102	39-124	3.24	30	
gamma-BHC (Lindane)	13.7	2.00	ug/kg	13.33	ND	103	44-120	12.8	30	
4,4´-DDT	27.1	4.00	ug/kg	33.33	ND	81.4	48-150	11.2	30	
Dieldrin	48.4	2.00	ug/kg	33.33	ND	145	48-144	1.56	30	
Endrin	40.1	2.00	ug/kg	33.33	ND	120	54-149	2.98	30	
Heptachlor	13.5	2.00	ug/kg	13.33	ND	101	46-135	1.99	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.3*		ug/kg	*16.67*		*91.8*	*57-126*			
Surrogate: Decachlorobiphenyl	*18.3*		ug/kg	*16.67*		*110*	*43-136*			
Batch BJ70325 - EPA 3550C										
Blank	**Prepared: 09/26/17 Analyzed: 09/29/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4´-DDD	ND	2.00	ug/kg							
4,4´-DDE	ND	4.00	ug/kg							
4,4´-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.5*		ug/kg	*16.67*		*87.0*	*55-126*			
Surrogate: Decachlorobiphenyl	*11.7*		ug/kg	*16.67*		*70.5*	*49-133*			
LCS	**Prepared: 09/26/17 Analyzed: 10/03/17**									
Aldrin	13.2	2.00	ug/kg	13.33		98.9	56-130			

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Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ70325 - EPA 3550C										
gamma-BHC (Lindane)	12.9	2.00	ug/kg	13.33		96.4	56-133			
4,4´-DDT	10.1	4.00	ug/kg	13.33		76.0	56-133			
Dieldrin	14.7	2.00	ug/kg	13.33		110	62-119			
Endrin	16.1	2.00	ug/kg	13.33		121	59-127			
Heptachlor	17.9	2.00	ug/kg	13.33		134	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*16.2*		ug/kg	*16.67*		*97.3*	*54-108*			
Surrogate: Decachlorobiphenyl	*16.0*		ug/kg	*16.67*		*95.9*	*54-127*			
Matrix Spike **Source: 1709118-67**	**Prepared: 09/26/17 Analyzed: 09/29/17**									
Aldrin	11.6	8.00	ug/kg	13.33	ND	86.7	39-124			
gamma-BHC (Lindane)	10.9	8.00	ug/kg	13.33	ND	81.7	44-120			
4,4´-DDT	9.60	16.0	ug/kg	33.33	ND	28.8	48-150			M
Dieldrin	39.6	8.00	ug/kg	33.33	6.37	99.7	48-144			
Endrin	29.0	8.00	ug/kg	33.33	ND	86.9	54-149			
Heptachlor	10.2	8.00	ug/kg	13.33	ND	76.5	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.2*		ug/kg	*16.67*		*85.2*	*57-126*			
Surrogate: Decachlorobiphenyl	*11.4*		ug/kg	*16.67*		*68.6*	*43-136*			
Matrix Spike Dup **Source: 1709118-67**	**Prepared: 09/26/17 Analyzed: 09/29/17**									
Aldrin	11.7	8.00	ug/kg	13.33	ND	87.9	39-124	1.37	30	
gamma-BHC (Lindane)	11.2	8.00	ug/kg	13.33	ND	83.8	44-120	2.54	30	
4,4´-DDT	9.03	16.0	ug/kg	33.33	ND	27.1	48-150	6.06	30	M
Dieldrin	38.9	8.00	ug/kg	33.33	6.37	97.4	48-144	2.32	30	
Endrin	28.4	8.00	ug/kg	33.33	ND	85.2	54-149	1.91	30	
Heptachlor	11.6	8.00	ug/kg	13.33	ND	86.7	46-135	12.5	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.7*		ug/kg	*16.67*		*88.1*	*57-126*			
Surrogate: Decachlorobiphenyl	*11.1*		ug/kg	*16.67*		*66.4*	*43-136*			
Batch BJ70329 - DHS-WET										
Blank	**Prepared: 09/26/17 Analyzed: 10/03/17**									
4,4´-DDT	ND	0.100	ug/l							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.166*		ug/l	*0.2500*		*66.4*	*36-114*			
Surrogate: Decachlorobiphenyl	*0.199*		ug/l	*0.2500*		*79.6*	*33-129*			
LCS	**Prepared: 10/02/17 Analyzed: 10/03/17**									
4,4´-DDT	0.170	0.100	ug/l	0.2000		85.0	51-125			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.222*		ug/l	*0.2500*		*88.8*	*39-114*			
Surrogate: Decachlorobiphenyl	*0.206*		ug/l	*0.2500*		*82.4*	*36-118*			
LCS Dup	**Prepared: 10/02/17 Analyzed: 10/03/17**									
4,4´-DDT	0.211	0.100	ug/l	0.2000		106	51-125	21.5	25	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.239*		ug/l	*0.2500*		*95.6*	*39-114*			
Surrogate: Decachlorobiphenyl	*0.236*		ug/l	*0.2500*		*94.4*	*36-118*			

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Project: 16268 / P.O. # 16268-POS

Quality Control Data

Analyte		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BI72722 - EPA 3050B											
Blank		**Prepared & Analyzed: 09/26/17**									
Arsenic		ND	2.00	mg/kg							
Lead		ND	1.00	mg/kg							
LCS		**Prepared & Analyzed: 09/26/17**									
Arsenic		48.5	2.00	mg/kg	49.78		97.4	80-120			
Lead		53.7	1.00	mg/kg	49.53		108	80-120			
Matrix Spike	**Source: 1709206-07**	**Prepared & Analyzed: 09/26/17**									
Arsenic		60.1	2.00	mg/kg	49.78	13.8	93.1	75-125			
Lead		52.8	1.00	mg/kg	49.53	6.11	94.2	75-125			
Matrix Spike Dup	**Source: 1709206-07**	**Prepared & Analyzed: 09/26/17**									
Lead		52.9	1.00	mg/kg	49.53	6.11	94.4	75-125	0.247	30	
Arsenic		60.3	2.00	mg/kg	49.78	13.8	93.4	75-125	0.331	30	
Batch BI72838 - DHS WET											
Blank		**Prepared: 09/26/17 Analyzed: 09/28/17**									
Lead		ND	0.500	mg/L							
LCS		**Prepared: 09/26/17 Analyzed: 09/28/17**									
Lead		4.95	0.500	mg/L	4.953		99.9	80-120			
Duplicate	**Source: 1709163-01**	**Prepared: 09/26/17 Analyzed: 09/28/17**									
Lead		ND	0.500	mg/L		ND				30	
Post Spike	**Source: 1709163-01**	**Prepared: 09/26/17 Analyzed: 09/28/17**									
Lead		4.89		mg/L	4.953	0.0114	98.4	70-130			
Batch BI72732 - EPA 1311											
Blank		**Prepared: 09/26/17 Analyzed: 09/27/17**									
Lead		ND	0.500	mg/L							
LCS		**Prepared: 09/26/17 Analyzed: 09/27/17**									
Lead		2.57	0.500	mg/L	2.476		104	80-120			
Duplicate	**Source: 1709165-06**	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Lead		0.0451	0.500	mg/L		0.0610			29.9	30	
Post Spike	**Source: 1709165-06**	**Prepared: 09/26/17 Analyzed: 09/27/17**									
Lead		2.49		mg/L	2.476	0.0610	98.2	70-130			

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File #:73443
Report Date: 10/03/17
Submitted: 09/14/17
PLS Report No.: 1709118

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 / P.O. # 16268-POS

Notes and Definitions

M	Matrix interference
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: September 25, 2017

Mr. John Schmidt
Positive Lab Service
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

Project: **1709118 / P.O. #16000**
Lab I.D.: **170918-15 through -19**

Dear Mr. Schmidt:

The **analytical results** for the soil samples, received by our lab on September 18, 2017, are attached. The samples were received chilled, intact and accompanying chain of custody record.

The samples were received at five degree Celsius

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manager

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/21/17
DATE REPORTED: 09/25/17

SAMPLE I.D.: **S11-3"**

LAB I.D.: 170918-15

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: 
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/21/17
DATE REPORTED: 09/25/17

SAMPLE I.D.: **S12-3"**

LAB I.D.: 170918-16

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/21/17
DATE REPORTED: 09/25/17

SAMPLE I.D.: **S13-3"**

LAB I.D.: 170918-17

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/21/17
DATE REPORTED: 09/25/17

SAMPLE I.D.: **WW1-3"**

LAB I.D.: 170918-18

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/22/17
DATE REPORTED: 09/25/17

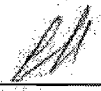
SAMPLE I.D.: **WW2-3"**

LAB I.D.: 170918-19

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: 
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **Positive Lab Service**
781 E. Washington Blvd.,
Los Angeles, CA 90021
Tel(213)745-5312 Fax(213)745-6372

PROJECT: **170118 / P.O. #16000**

MATRIX: SOIL
DATE SAMPLED: 09/13/17
REPORT TO: MR. JOHN SCHMIDT

DATE RECEIVED: 09/18/17
DATE EXTRACTED: 09/20-21/17
DATE ANALYZED: 09/21/17
DATE REPORTED: 09/25/17

METHOD BLANK FOR LAB I.D.: 170918-15 THROUGH -19

Chlorinated Herbicides Analysis
Method: EPA 8151A
Unit: mg/Kg = Milligram Per Kilogram = PPM

PARAMETER	SAMPLE RESULT	PQL	DF
2,4,5-T	ND	0.020	1
2,4,5-TP (Silvex)	ND	0.020	1
2,4-D	ND	0.200	1
2,4-DB	ND	0.200	1
Dalapon (Dichloroacetic Acid)	ND	0.500	1
Dicamba	ND	0.020	1
Dichloroprop	ND	0.200	1
Dinoseb (DNBP)	ND	0.100	1
MCPA	ND	20.0	1
MCPP	ND	20.0	1

COMMENTS:
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = PQL X DF
ND = NON-DETECTED OR BELOW THE ACTUAL DETECTION LIMIT

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

QA/QC Report
Analysis: EPA 8151A

Matrix: **Soil/Solid/Liquid** Date Analyzed: **9/21-22/2017**
Unit: **mg/Kg (PPM)**

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 170919-33 MS/MSD

Analyte	S.R.	spk conc	MS	% REC	MSD	% REC	%RPD	ACP %RPD	ACP %REC
2,4,5-T	0	0.0500	0.0482	**96%**	0.0501	**100%**	**4%**	**0-20%**	**50-150**

Lab Control Spike (LCS) Recovery:

Analyte	spk conc	LCS	% REC	ACP %REC
2,4,5-T	0.0500	0.0529	**106%**	70-130
2,4,5-TP	0.0500	0.0515	**103%**	70-130
DINOSEB	0.250	0.315	**126%**	70-130

Surrogate Recovery:

Analyte	ACP %	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample ID:		M-BLK	170919-33	170919-34	170918-15	170918-16	170918-17	170918-18	170918-19
DCAA	50-150	106%	149%	88%	132%	125%	125%	146%	122%

Analyte	ACP %	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample ID:		170918-20	170918-21						
DCAA	50-150	130%	108%						

Analyte	ACP %	%REC	%REC	%REC	%REC	%REC	%REC	%REC	%REC
Sample ID:									
DCAA	50-150								

S.R. = Sample Result
spk conc = Spike Concentration
%REC = Percent Recovery
ACP %RPD = Acceptable Percent RPD Range
ACP %REC = Acceptable Percent Recovery Range

* = *Surrogate fail due to matrix interference (If Marked)*

Note: ***LCS, MS, MSD are in control therefore results are in control.***

Analyzed and Reviewed By: _____

Final Reviewer: _____

BMRI chem.

102894

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: _____ PAGE _____ OF _____

LOG BOOK NO: _____ FILE NO. _____ LAB NO. _____

CLIENT NAME: Positive Lab Service Project Name/No. 1709118 P.O. NO. 16000

ADDRESS:

PROJECT MANAGER: John Schmidt PHONE NO: 213 745 5312 FAX NO:

SAMPLER NAME: Client (Printed) (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y N - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 5°C

PRESERVATIVE:

REMARKS:

ANALYSES REQUESTED: BTEX Hydrocarbons

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	BTEX Hydrocarbons	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1	170918-15	9.13.17	1345	S11-3"		✓			N	1	G	X	41
2	-16	9.13.17	1340	S12-3"		✓				1	G	X	43
3	-17		13:20	S13-3"		✓				1	G	X	45
4	-18		12:55	WW1-3"		✓				1	G	X	47
5	-19	↓	13:35	WW2-3"		✓			↓	1	G	X	49
6										40Z			
7													
8													
9													
10													

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9-18-17 Time: 1420

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

LAB COPY

91151

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 1 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 1.6°C Red 2.7°C - Blue 0.7°C - White

PRESERVED: _____

REMARKS:
⊗ = discrete analysis
X = composite analysis
Save remainder of Samples.

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(C5-C36)	BTEX	CAM17 metals	pH	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	7:24	SG1-5'		X			N	1	P	⊗	⊗	⊗	⊗	
2			8:00	SG2-5'					N	1	P	⊗	⊗	⊗	⊗	
3			8:50	T1-Comp							G	⊗	⊗	⊗	⊗	
4			9:00	T2-Comp								⊗	⊗	⊗	⊗	
5			9:05	T2-7'								⊗		⊗		
6			9:25	T3-Comp								⊗	⊗	⊗	⊗	
7			9:50	T4-Comp												
8			10:00	T5-Comp												
9			10:15	T6-Comp												
10			10:30	T7-Comp												

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 9/15/17 @ 930 Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 9/13/17

LAB

91152

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 2 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-B01

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: same as page 1

ANALYSES REQUESTED:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C5-C36)	BTEX	CAM17 Metals	pH	OCPs (8081)	Arsenic	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1	9/13/17	10:40	T8-Comp		X			N	1	B	⊗	⊗	⊗	⊗				
2	"	8:40	SG3-5'		"			"	"	P						⊗		
3		10:25	SG5-5'							P						⊗		
4		11:35	SG6-5'		↓					P						⊗		
5		8:06	C1A-3"							B								
6		7:54	C1B-3"													⊗		
7		7:40	C1C-3"												X			
8		7:36	C1D-3"															
9		11:30	S1-3"												⊗	⊗	⊗	
10	↓	11:32	S1-2'		↓			↓	↓	↓					⊗	⊗	⊗	

Comp

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Robert Becker	Matthew Schmidt	9/14/17	1330
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Matthew Schmidt	Jaime Gutierrez	9/16/17	@ 7:30
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB (

91343

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 3 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Ln, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5106 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: (Y) (N) - Global ID# ___

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: Same as pg 1

ANALYSES REQUESTED: OCPs (8081) | Arsenic | Lead

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:15	C2A-3'		X			N	1	B				
2			7:50	C2B-3'								X	⊗		
3			8:30	C2C-3'											
4			8:40	C2D-3'											
5			7:50	C2E-3'									⊗		
6			9:20	C3A-3'											
7			9:11	C3B-3'									⊗		
8			9:00	C3C-3'								X			
9			8:52	C3D-3'											
10			12:15	S2-3'								⊗	⊗	⊗	

Comp (C2A-3' through C2D-3')
Comp (C3A-3' through C3D-3')

Relinquished By: (Signature and Printed Name) Robert J. Becker
Received By: (Signature and Printed Name)
Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name)
Received By: (Signature and Printed Name)
Date: 9/15/17 Time: @ 7:30

Relinquished By: (Signature and Printed Name)
Received By: (Signature and Printed Name)
Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91349

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 9/13/17 PAGE 4 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Bas

ADDRESS: 4400 Yeager Wy, Bakersfield CA 93313

PROJECT MANAGER: R. Reed PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Reed (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED: OCPs (8081), Arsenic, Lead

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	12:17	S2-2"		X			N	1	B	X	X	X	
2			9:40	C4A-3"											
3			9:30	C4B-3"								X	X		
4			9:50	C4C-3"								X			
5			10:05	C4D-3"											
6			11:05	C5A-3"											
7			10:55	C5B-3"								X	X		
8			10:45	C5C-3"								X			
9			10:30	C5D-3"									X		
10			10:32	C5E-2"									X		

Comp (rows 2–5)

Comp (rows 6–8)

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert J. Reed Date: 9/14/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/15/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91346

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 9/13/17 PAGE 5 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-P01

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Reeker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beeler (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED: OCPs (8081), arsenic, Lead, TPH (C5-C36), BTEX

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	arsenic	Lead	TPH (C5-C36)	BTEX	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	10:32	C5D-2'		X			N	1	B		⊗				
2			12:25	S3-3.5'								⊗	⊗	⊗			
3			12:27	S3-2'													
4			11:50	S4-3.5'													
5			11:52	S4-2'													
6			11:40	S5-3.5'													
7			11:42	S5-2'													
8			12:45	S6-3.5'													
9			12:47	S6-2'													
10			1:11	S7-3.5'											⊗	⊗	

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Robert S. Beeler	Robert S. Beeler	9/14/17	0830
John Schmidt	Dave Gutierrez	9/15/17	7:30
		Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days

By _____ Date 9/13/17

LAB COPY

91345

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 9/13/17 PAGE 6 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	arsenic	lead	TPH(cs-c36)	BTEX	OCHs (8150)			SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	1:15	S7-2'		X			N	1	B	X	X	X	X	X				
2			1:30	S8-3"								X	X	X						
3			1:32	S8-2'																Hold
4			2:15	S9-3"								X	X	X						
5			2:17	S9-2'																Hold
6			2:05	S10-3'								X	X	X						40
7			2:07	S10-2'																Hold
8			1:45	S11-3"								X	X	X	X	X	X			41
9			1:47	S11-2'								X	X	X	X					
10		↓	1:40	S12-3"					↓	↓	↓	X	X	X	X	X	X			43

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/15/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91344

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 7 OF 10
LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____
COOLER TEMP: 1.6°C
PRESERVED: _____

REMARKS: Same as pg 1

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	CAM 17 Metals	arsenic	Lead	TPH (C5-C36)	BTEX	OCHs (8150)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	1:42	S12-2'		X			N	1	B	⊗	⊗ or ⊗	⊗	⊗	⊗			
2			1:20	S13-3'								⊗	⊗			⊗	⊗	⊗	
3			1:22	S13-2'								⊗		⊗	⊗	⊗			
4			12:55	WW1-3'								⊗	⊗			⊗	⊗	⊗	
5			12:57	WW1-2'								⊗		⊗	⊗	⊗			
6			1:55	WW2-3'								⊗	⊗			⊗	⊗	⊗	
7			1:57	WW2-2'								⊗		⊗	⊗	⊗			
8			7:20	SG1-10'							P								Hold
9			7:37	SG1-15'															
10			8:07	SG2-10'															

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) John Schmitt Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) John Schmitt Received By: (Signature and Printed Name) Dave Gurevich Date: 9/15/17 @ 7:30 Time:

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91348

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 8 OF 10
LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-POS

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____
COOLER TEMP: 4.6°C
PRESERVED: _____

ANALYSES REQUESTED:

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:15	SG2-15'		X				1	P	Hold
2			8:50	SG3-10'								
3			9:00	SG3-15'								
4			9:20	SG4-5'								
5			9:28	SG4-10'								
6			9:35	SG4-15'								
7			10:31	SG5-10'								
8			11:15	SG5-15'								
9			11:42	SG6-10'								
10			11:50	SG6-15'								

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/14/17 Time: 1330

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/16/17 @ Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91347

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 9 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:08	C1A-2'		X				1	B	Hold
2			7:56	C1B-2'								
3			7:42	C1C-2'								
4			7:38	C1D-2'								
5			8:17	C2A-2'								
6			7:52	C2B-2'								
7			8:32	C2C-2'								
8			8:42	C2D-2'								
9			9:22	C3A-2'								
10			9:15	C3B-2'								

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert J. Becker / John Schmidt Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) John Schmidt Received By: (Signature and Printed Name) Tyler Andersen Date: 9/16/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91350

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 10 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-POS

ADDRESS: 4400 Yeager wy, Bakersfield CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-8111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	TAT	CONTAINER: #	CONTAINER: TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	9:02	C3C-2'		X				1	B	Hold
2			8:54	C3D-2'								
3			9:42	C4A-2'								
4			9:32	C4B-2'								
5			9:52	C4C-2'								
6			11:08	C5A-2'								
7			10:57	C5B-2'								
8			10:47	C5C-2'								
9			10:08	C4D-2'								
10												

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Robert J Becker	Tom Schmidt	9/14/17	13:20
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Tom Schmidt	Lupe Gutierrez	9/15/17	7:36
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 9/13/17

LAB COPY

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 12, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710047
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 05, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: PL1-6' Soil (1710047-01) Sampled:10/04/17 08:45 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/05/17	10/05/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*94.2 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/05/17*	*10/05/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*116 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*

Sample ID: PL2-6' Soil (1710047-02) Sampled:10/04/17 09:06 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/05/17	10/05/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*100 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/05/17*	*10/05/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*149 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*

Sample ID: PL3-6' Soil (1710047-03) Sampled:10/04/17 09:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/06/17	10/06/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*91.1 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/06/17*	*10/06/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*119 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*

Sample ID: S1-SE-3" Soil (1710047-04) Sampled:10/04/17 09:42 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**27.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**97.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDD	**14.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	**112**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	**53.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**26.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**252**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S1-SE-3" Soil (1710047-04) Sampled:10/04/17 09:42 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*90.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*93.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S3-SW-3" Soil (1710047-05) Sampled:10/04/17 09:55 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**11.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**44.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**86.8**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**25.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**120**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*93.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*82.7 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S3-NW-3" Soil (1710047-06) Sampled:10/04/17 10:00 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	**10.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDE	**37.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDT	**20.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137

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Certificate of Analysis

Soils Engineering Inc.
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S3-NW-3" Soil (1710047-06) Sampled:10/04/17 10:00 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*101 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*

Sample ID: S3-N-3" Soil (1710047-07) Sampled:10/04/17 10:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**17.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDD	**11.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	**311**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	**108**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**17.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*96.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*84.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S4-SE-3" Soil (1710047-08) Sampled:10/04/17 09:48 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**25.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S4-SE-3" Soil (1710047-08) Sampled:10/04/17 09:48 Received:10/05/17 12:01

gamma-Chlordane	**99.7**	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDD	**14.3**	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	**70.8**	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	**36.2**	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**13.1**	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**250**	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*95.1 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*101 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: WW1-E-3" Soil (1710047-09) Sampled:10/04/17 10:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/06/17	10/06/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*92.5 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/06/17*	*10/06/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
Surrogate: n-Tetracosane	*136 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/06/17*	*rp*	*BJ70607*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	**8.56**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	**32.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDE	**55.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDT	**61.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	**106**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137

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Certificate of Analysis

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: WW1-E-3" Soil (1710047-09) Sampled:10/04/17 10:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*80.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*82.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**31.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: WW1-N-3" Soil (1710047-10) Sampled:10/04/17 10:30 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
Surrogate: n-Tetracosane	*115 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/06/17*	*rp*	*BJ70607*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	**31.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDE	**36.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDT	**90.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	**14.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	**95.6**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*95.2 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**35.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: WW1-S-3" Soil (1710047-11) Sampled:10/04/17 10:35 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**8.82**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	**139**		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026

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Certificate of Analysis

Soils Engineering Inc.
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: WW1-S-3" Soil (1710047-11) Sampled:10/04/17 10:35 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Surrogate: n-Tetracosane	*111 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**8.64**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**30.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**94.4**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*95.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*91.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**16.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: WW1-W-3" Soil (1710047-12) Sampled:10/04/17 10:40 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**3.25**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
Surrogate: n-Tetracosane	*113 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/07/17*	*rp*	*BJ70607*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	**11.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDE	**41.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137

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Certificate of Analysis

Soils Engineering Inc.
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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: WW1-W-3" Soil (1710047-12) Sampled:10/04/17 10:40 Received:10/05/17 12:01											
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*81.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachloroblphenyl	*96.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**24.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924
Sample ID: S7-N-3" Soil (1710047-13) Sampled:10/04/17 11:00 Received:10/05/17 12:01											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**46.1**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C23 - C32	**463**		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C33 - C36	**152**		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
Surrogate: n-Tetracosane	*132 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/07/17*	*rp*	*BJ70607*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**32.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924
Sample ID: S7-N-1.5' Soil (1710047-14) Sampled:10/04/17 11:02 Received:10/05/17 12:01											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.09**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924
Sample ID: S7-E-3" Soil (1710047-15) Sampled:10/04/17 11:05 Received:10/05/17 12:01											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**18.8**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
Surrogate: n-Tetracosane	*110 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/07/17*	*rp*	*BJ70607*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**23.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924
Sample ID: S7-E-1.5' Soil (1710047-16) Sampled:10/04/17 11:07 Received:10/05/17 12:01											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.20**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924
Sample ID: S7-S-3" Soil (1710047-17) Sampled:10/04/17 11:15 Received:10/05/17 12:01											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
Surrogate: n-Tetracosane	*127 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/06/17*	*rp*	*BJ70607*

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-S-3" Soil (1710047-17) Sampled:10/04/17 11:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**357**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: S7-S-1.5' Soil (1710047-18) Sampled:10/04/17 11:17 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**3.70**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: S7-W-3" Soil (1710047-19) Sampled:10/04/17 11:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
Surrogate: n-Tetracosane	*117 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/06/17*	*rp*	*BJ70607*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**71.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: S7-W-1.5' Soil (1710047-20) Sampled:10/04/17 11:12 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**11.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: S7-T-6' Soil (1710047-21) Sampled:10/04/17 12:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/05/17	10/05/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*97.6 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/05/17*	*10/05/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*102 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	10/05/17	10/05/17	lk	BJ70534
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	10/05/17	10/05/17	lk	BJ70534
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	10/05/17	10/05/17	lk	BJ70534
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	10/05/17	10/05/17	lk	BJ70534
Surrogate: a,a,a-Trifluorotoluene	*84.1 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*10/05/17*	*10/05/17*	*lk*	*BJ70534*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**58.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	10/06/17	10/06/17	CG	BJ70924

Sample ID: S8-4' Soil (1710047-22) Sampled:10/04/17 13:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

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Certificate of Analysis

Soils Engineering Inc.
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-4' Soil (1710047-22) Sampled:10/04/17 13:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	**21.1**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	**27.1**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**15.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*84.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S12-4 Soil (1710047-23) Sampled:10/04/17 13:57 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C5 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	10/05/17	10/05/17	lk	BJ70608
Surrogate: a,a,a-Trifluorotoluene	*113 %*			*70-141*		*EPA 5030B*	*EPA 8015B*	*10/05/17*	*10/05/17*	*lk*	*BJ70608*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C13 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*101 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S12-4 Soil (1710047-23) Sampled:10/04/17 13:57 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/10/17	10/11/17	al	BJ71228
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*80.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/10/17*	*10/11/17*	*al*	*BJ71228*
Surrogate: Decachlorobiphenyl	*68.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/10/17*	*10/11/17*	*al*	*BJ71228*

Sample ID: S8-E-3" Soil (1710047-24) Sampled:10/04/17 13:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**8.07**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**9.91**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**29.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**47.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**43.2**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*88.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*80.7 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S8-N-3" Soil (1710047-25) Sampled:10/04/17 13:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**19.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**16.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	**18.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**126**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**107**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**335**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-N-3" Soil (1710047-25) Sampled:10/04/17 13:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Technical Chlordane	**108**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*79.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S8-W-3" Soil (1710047-26) Sampled:10/04/17 13:20 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**8.82**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**26.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	**27.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**54.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**188**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**19.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**67.0**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*92.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*78.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S8-S-3" Soil (1710047-27) Sampled:10/04/17 13:30 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**9.14**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**31.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	**10.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**56.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**54.1**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-S-3" Soil (1710047-27) Sampled:10/04/17 13:30 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Dieldrin	**68.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**79.9**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*94.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*85.1 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S12-2' Soil (1710047-28) Sampled:10/04/17 13:55 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**10.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4'-DDT	**53.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*63.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S9-N-3" Soil (1710047-29) Sampled:10/04/17 14:20 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921

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Certificate of Analysis

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-N-3" Soil (1710047-29) Sampled:10/04/17 14:20 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**28.1**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**92.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*84.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*107 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S9-E-3" Soil (1710047-30) Sampled:10/04/17 14:25 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**34.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**59.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	**52.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**56.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**208**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**472**		5	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**299**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*93.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*85.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S9-W-3" Soil (1710047-31) Sampled:10/04/17 14:30 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method	Prepared	Analyzed	By	Batch

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Certificate of Analysis

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-W-3" Soil (1710047-31) Sampled:10/04/17 14:30 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
alpha-Chlordane	**47.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
gamma-Chlordane	**47.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDD	**37.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDE	**105**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
4,4´-DDT	**187**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Dieldrin	**30.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Technical Chlordane	**320**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/05/17	10/09/17	al	BJ70921
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*
Surrogate: Decachlorobiphenyl	*95.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/05/17*	*10/09/17*	*al*	*BJ70921*

Sample ID: S9-S-3" Soil (1710047-32) Sampled:10/04/17 14:35 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	**40.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	**64.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDD	**32.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDE	**86.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDT	**164**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	**63.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	**428**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-S-3" Soil (1710047-32) Sampled:10/04/17 14:35 Received:10/05/17 12:01

Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*80.0 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*78.5 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*

Sample ID: S11-W-3" Soil (1710047-33) Sampled:10/04/17 14:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/09/17	rp	BJ71026
Surrogate: n-Tetracosane	*106 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/09/17*	*rp*	*BJ71026*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDE	**25.1**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*75.1 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*

Sample ID: S11-N-3" Soil (1710047-34) Sampled:10/04/17 14:05 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/07/17	rp	BJ70607
Surrogate: n-Tetracosane	*108 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/07/17*	*rp*	*BJ70607*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S11-N-3" Soil (1710047-34) Sampled:10/04/17 14:05 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDE	**64.8**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
4,4´-DDT	**42.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/10/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*84.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*86.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/10/17*	*al*	*BJ71137*

Sample ID: S11-S-3" Soil (1710047-35) Sampled:10/04/17 14:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**6.61**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/05/17	10/06/17	rp	BJ70607
Surrogate: n-Tetracosane	*110 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/05/17*	*10/06/17*	*rp*	*BJ70607*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
gamma-Chlordane	**9.24**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDE	**62.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDT	**34.5**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S11-S-3" Soil (1710047-35) Sampled:10/04/17 14:15 Received:10/05/17 12:01

Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*81.8 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/11/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*85.3 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/11/17*	*al*	*BJ71137*

Sample ID: S12-E-3" Soil (1710047-36) Sampled:10/04/17 14:00 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**78.6**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/06/17	10/10/17	rp	BJ71026
TPH C23 - C32	**866**		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/10/17	rp	BJ71026
TPH C33 - C36	**220**		1	mg/kg	100	EPA 3550C	EPA 8015B	10/06/17	10/10/17	rp	BJ71026
Surrogate: n-Tetracosane	*115 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/06/17*	*10/10/17*	*rp*	*BJ71026*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
gamma-Chlordane	**41.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDD	**10.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDE	**46.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
4,4´-DDT	**323**		5	ug/kg	80.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Technical Chlordane	**123**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/06/17	10/11/17	al	BJ71137
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*75.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/11/17*	*al*	*BJ71137*
Surrogate: Decachlorobiphenyl	*62.2 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/06/17*	*10/11/17*	*al*	*BJ71137*

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ70608 - EPA 5030B										
Blank	**Prepared & Analyzed: 10/05/17**									
TPH C5 - C12	ND	0.500	mg/kg							
Surrogate: a,a,a-Trifluorotoluene	*0.0149*		mg/kg	*0.01500*		*99.3*	*70-141*			
LCS	**Prepared & Analyzed: 10/05/17**									
Gasoline	0.975	0.500	mg/kg	0.9096		107	69-120			
Matrix Spike **Source: 1710047-23**	**Prepared & Analyzed: 10/05/17**									
Gasoline	1.67	0.500	mg/kg	1.819	ND	92.0	60-132			
Matrix Spike Dup **Source: 1710047-23**	**Prepared & Analyzed: 10/05/17**									
Gasoline	1.67	0.500	mg/kg	1.819	ND	91.9	60-132	0.0744	30	
Batch BJ70607 - EPA 3550C										
Blank	**Prepared & Analyzed: 10/05/17**									
TPH C9 - C22	ND	2.50	mg/kg							
TPH C13 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*24.4*		mg/kg	*20.83*		*117*	*68-133*			
LCS	**Prepared & Analyzed: 10/05/17**									
Diesel	755	2.50	mg/kg	554.7		136	69-137			
Surrogate: n-Tetracosane	*25.4*		mg/kg	*20.83*		*122*	*64-140*			
Matrix Spike **Source: 1710013-02**	**Prepared & Analyzed: 10/05/17**									
Diesel	123	2.50	mg/kg	110.9	12.6	99.9	53-138			
Surrogate: n-Tetracosane	*23.7*		mg/kg	*20.83*		*114*	*68-133*			
Matrix Spike Dup **Source: 1710013-02**	**Prepared & Analyzed: 10/05/17**									
Diesel	130	2.50	mg/kg	110.9	12.6	105	53-138	5.36	30	
Surrogate: n-Tetracosane	*23.5*		mg/kg	*20.83*		*113*	*68-133*			
Batch BJ71026 - EPA 3550C										
Blank	**Prepared: 10/06/17 Analyzed: 10/09/17**									
TPH C9 - C22	ND	2.50	mg/kg							
TPH C13 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*24.4*		mg/kg	*20.83*		*117*	*68-133*			
LCS	**Prepared: 10/06/17 Analyzed: 10/09/17**									
Diesel	669	6.25	mg/kg	554.7		121	69-137			
Surrogate: n-Tetracosane	*26.1*		mg/kg	*20.83*		*125*	*64-140*			
Matrix Spike **Source: 1710047-01**	**Prepared: 10/06/17 Analyzed: 10/11/17**									
Diesel	88.1	2.50	mg/kg	110.9	ND	79.4	53-138			

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ71026 - EPA 3550C										
Surrogate: n-Tetracosane	*23.0*		mg/kg	*20.83*		*110*	*68-133*			
Matrix Spike Dup Source: 1710047-01	**Prepared: 10/06/17 Analyzed: 10/11/17**									
Diesel	95.3	2.50	mg/kg	110.9	ND	85.9	53-138	7.93	30	
Surrogate: n-Tetracosane	*24.3*		mg/kg	*20.83*		*117*	*68-133*			
Batch BJ70534 - EPA 5030B										
Blank	**Prepared & Analyzed: 10/05/17**									
Benzene	ND	1.00	ug/kg							
Toluene	ND	1.00	ug/kg							
Ethylbenzene	ND	1.00	ug/kg							
Xylenes (total)	ND	2.00	ug/kg							
Surrogate: a,a,a-Trifluorotoluene	*13.1*		ug/kg	*15.00*		*87.6*	*46-132*			
LCS	**Prepared & Analyzed: 10/05/17**									
Benzene	83.4	1.00	ug/kg	100.0		83.4	76-117			
Toluene	84.4	1.00	ug/kg	100.0		84.4	74-113			
Ethylbenzene	81.9	1.00	ug/kg	100.0		81.9	75-122			
Xylenes (total)	240	2.00	ug/kg	300.0		80.1	68-121			
Methyl-tert-butyl ether (MTBE)	104	2.00	ug/kg	100.0		104	64-132			
Surrogate: a,a,a-Trifluorotoluene	*13.7*		ug/kg	*15.00*		*91.4*	*67-130*			
Matrix Spike Source: 1710047-21	**Prepared & Analyzed: 10/05/17**									
Benzene	37.6	1.00	ug/kg	40.00	ND	94.0	51-129			
Toluene	37.0	1.00	ug/kg	40.00	ND	92.6	37-129			
Ethylbenzene	36.8	1.00	ug/kg	40.00	ND	91.9	45-129			
Xylenes (total)	107	2.00	ug/kg	120.0	ND	89.4	52-113			
Surrogate: a,a,a-Trifluorotoluene	*13.4*		ug/kg	*15.00*		*89.7*	*46-132*			
Matrix Spike Dup Source: 1710047-21	**Prepared & Analyzed: 10/05/17**									
Benzene	36.6	1.00	ug/kg	40.00	ND	91.6	51-129	2.60	30	
Toluene	35.9	1.00	ug/kg	40.00	ND	89.7	37-129	3.16	30	
Ethylbenzene	35.2	1.00	ug/kg	40.00	ND	87.9	45-129	4.43	30	
Xylenes (total)	101	2.00	ug/kg	120.0	ND	84.4	52-113	5.64	30	
Methyl-tert-butyl ether (MTBE)	41.9	2.00	ug/kg	40.00	ND	105	68-168	1.64	30	
Batch BJ70921 - EPA 3550C										
Blank	**Prepared: 10/05/17 Analyzed: 10/06/17**									
Aldrin	ND	0.750	ug/kg							
alpha-BHC	ND	0.750	ug/kg							
beta-BHC	ND	0.750	ug/kg							
delta-BHC	ND	0.750	ug/kg							
gamma-BHC (Lindane)	ND	0.750	ug/kg							
alpha-Chlordane	ND	0.750	ug/kg							

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ70921 - EPA 3550C										
gamma-Chlordane	ND	0.750	ug/kg							
4,4'-DDD	ND	0.750	ug/kg							
4,4'-DDE	ND	1.50	ug/kg							
4,4'-DDT	ND	1.50	ug/kg							
Dieldrin	ND	0.750	ug/kg							
Endosulfan I	ND	1.50	ug/kg							
Endosulfan II	ND	0.750	ug/kg							
Endosulfan sulfate	ND	0.750	ug/kg							
Endrin	ND	0.750	ug/kg							
Technical Chlordane	ND	3.75	ug/kg							
Endrin aldehyde	ND	0.750	ug/kg							
Endrin ketone	ND	2.25	ug/kg							
Heptachlor	ND	0.750	ug/kg							
Heptachlor epoxide	ND	0.750	ug/kg							
Methoxychlor	ND	3.75	ug/kg							
Toxaphene	ND	11.2	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*9.86*		ug/kg	*12.50*		*78.9*	*55-126*			
Surrogate: Decachlorobiphenyl	*10.8*		ug/kg	*12.50*		*86.7*	*49-133*			
LCS	**Prepared: 10/05/17 Analyzed: 10/06/17**									
Aldrin	12.0	2.00	ug/kg	13.33		90.4	56-130			
gamma-BHC (Lindane)	12.2	2.00	ug/kg	13.33		91.7	56-133			
4,4'-DDT	12.9	4.00	ug/kg	13.33		96.7	56-133			
Dieldrin	14.2	2.00	ug/kg	13.33		107	62-119			
Endrin	12.7	2.00	ug/kg	13.33		95.2	59-127			
Heptachlor	15.3	2.00	ug/kg	13.33		115	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.1*		ug/kg	*16.67*		*84.7*	*54-108*			
Surrogate: Decachlorobiphenyl	*14.9*		ug/kg	*16.67*		*89.4*	*54-127*			
Matrix Spike Source: 1710036-01	**Prepared: 10/05/17 Analyzed: 10/06/17**									
Aldrin	12.9	8.00	ug/kg	13.33	ND	96.7	39-124			
gamma-BHC (Lindane)	12.0	8.00	ug/kg	13.33	ND	89.6	44-120			
4,4'-DDT	31.2	16.0	ug/kg	33.33	ND	93.7	48-150			
Dieldrin	35.8	8.00	ug/kg	33.33	ND	107	48-144			
Endrin	39.4	8.00	ug/kg	33.33	ND	118	54-149			
Heptachlor	13.2	8.00	ug/kg	13.33	ND	98.8	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.6*		ug/kg	*16.67*		*93.7*	*57-126*			
Surrogate: Decachlorobiphenyl	*16.4*		ug/kg	*16.67*		*98.5*	*43-136*			
Matrix Spike Dup Source: 1710036-01	**Prepared: 10/05/17 Analyzed: 10/06/17**									
Aldrin	15.1	8.00	ug/kg	13.33	ND	113	39-124	16.0	30	
gamma-BHC (Lindane)	13.2	8.00	ug/kg	13.33	ND	99.2	44-120	10.1	30	
4,4'-DDT	33.7	16.0	ug/kg	33.33	ND	101	48-150	7.55	30	

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File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ70921 - EPA 3550C										
Dieldrin	39.8	8.00	ug/kg	33.33	ND	119	48-144	10.5	30	
Endrin	43.4	8.00	ug/kg	33.33	ND	130	54-149	9.60	30	
Heptachlor	14.5	8.00	ug/kg	13.33	ND	109	46-135	9.73	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*16.8*		ug/kg	*16.67*		*101*	*57-126*			
Surrogate: Decachlorobiphenyl	*17.8*		ug/kg	*16.67*		*107*	*43-136*			
Batch BJ71137 - EPA 3550C										
Blank	**Prepared: 10/06/17 Analyzed: 10/10/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.1*		ug/kg	*16.67*		*84.4*	*55-126*			
Surrogate: Decachlorobiphenyl	*16.2*		ug/kg	*16.67*		*97.1*	*49-133*			
LCS	**Prepared: 10/06/17 Analyzed: 10/10/17**									
Aldrin	12.7	2.00	ug/kg	13.33		95.4	56-130			
gamma-BHC (Lindane)	12.6	2.00	ug/kg	13.33		94.6	56-133			
4,4'-DDT	14.0	4.00	ug/kg	13.33		105	56-133			
Dieldrin	14.6	2.00	ug/kg	13.33		110	62-119			
Endrin	13.3	2.00	ug/kg	13.33		99.5	59-127			
Heptachlor	14.7	2.00	ug/kg	13.33		110	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.1*		ug/kg	*16.67*		*84.5*	*54-108*			
Surrogate: Decachlorobiphenyl	*15.3*		ug/kg	*16.67*		*91.8*	*54-127*			

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Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ71137 - EPA 3550C										
Matrix Spike **Source: 1710047-36**	**Prepared: 10/06/17 Analyzed: 10/11/17**									
Aldrin	9.95	8.00	ug/kg	13.33	ND	74.6	39-124			
gamma-BHC (Lindane)	9.69	8.00	ug/kg	13.33	ND	72.7	44-120			
4,4'-DDT	347	16.0	ug/kg	33.33	323	71.6	48-150			
Dieldrin	30.2	8.00	ug/kg	33.33	3.79	79.4	48-144			
Endrin	91.4	8.00	ug/kg	33.33	ND	274	54-149			DO
Heptachlor	13.6	8.00	ug/kg	13.33	ND	102	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*11.5*		ug/kg	*16.67*		*69.2*	*57-126*			
Surrogate: Decachlorobiphenyl	*12.5*		ug/kg	*16.67*		*75.1*	*43-136*			
Matrix Spike Dup **Source: 1710047-36**	**Prepared: 10/06/17 Analyzed: 10/11/17**									
Aldrin	8.62	8.00	ug/kg	13.33	ND	64.7	39-124	14.3	30	
gamma-BHC (Lindane)	8.90	8.00	ug/kg	13.33	ND	66.8	44-120	8.46	30	
4,4'-DDT	372	16.0	ug/kg	33.33	323	148	48-150	69.4	30	V-3
Dieldrin	29.6	8.00	ug/kg	33.33	3.79	77.5	48-144	2.32	30	
Endrin	86.7	8.00	ug/kg	33.33	ND	260	54-149	5.28	30	DO
Heptachlor	12.4	8.00	ug/kg	13.33	ND	93.0	46-135	9.17	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.3*		ug/kg	*16.67*		*79.6*	*57-126*			
Surrogate: Decachlorobiphenyl	*11.1*		ug/kg	*16.67*		*66.6*	*43-136*			
Batch BJ71228 - EPA 3550C										
Blank	**Prepared: 10/10/17 Analyzed: 10/11/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							

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Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ71228 - EPA 3550C										
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*11.2*		ug/kg	*16.67*		*67.0*	*55-126*			
Surrogate: Decachlorobiphenyl	*10.9*		ug/kg	*16.67*		*65.7*	*49-133*			
LCS	**Prepared: 10/10/17 Analyzed: 10/11/17**									
Aldrin	11.3	2.00	ug/kg	13.33		84.8	56-130			
gamma-BHC (Lindane)	11.8	2.00	ug/kg	13.33		88.7	56-133			
4,4´-DDT	11.8	4.00	ug/kg	13.33		88.7	56-133			
Dieldrin	14.3	2.00	ug/kg	13.33		107	62-119			
Endrin	11.5	2.00	ug/kg	13.33		85.9	59-127			
Heptachlor	15.2	2.00	ug/kg	13.33		114	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.9*		ug/kg	*16.67*		*77.3*	*54-108*			
Surrogate: Decachlorobiphenyl	*13.8*		ug/kg	*16.67*		*82.8*	*54-127*			
Duplicate **Source: 1710047-23**	**Prepared: 10/10/17 Analyzed: 10/11/17**									
Aldrin	ND	8.00	ug/kg		ND					30
alpha-BHC	ND	8.00	ug/kg		ND					30
beta-BHC	ND	8.00	ug/kg		ND					30
delta-BHC	ND	8.00	ug/kg		ND					30
gamma-BHC (Lindane)	ND	8.00	ug/kg		ND					30
alpha-Chlordane	ND	8.00	ug/kg		ND					30
gamma-Chlordane	ND	8.00	ug/kg		ND					30
4,4´-DDD	ND	8.00	ug/kg		ND					30
4,4´-DDE	ND	16.0	ug/kg		ND					30
4,4´-DDT	ND	16.0	ug/kg		ND					30
Dieldrin	ND	8.00	ug/kg		ND					30
Endosulfan I	ND	16.0	ug/kg		ND					30
Endosulfan II	ND	8.00	ug/kg		ND					30
Endosulfan sulfate	ND	8.00	ug/kg		ND					30
Endrin	ND	8.00	ug/kg		ND					30
Technical Chlordane	ND	40.0	ug/kg		ND					30
Endrin aldehyde	ND	8.00	ug/kg		ND					30
Endrin ketone	ND	24.0	ug/kg		ND					30
Heptachlor	ND	8.00	ug/kg		ND					30
Heptachlor epoxide	ND	8.00	ug/kg		ND					30
Methoxychlor	ND	40.0	ug/kg		ND					30
Toxaphene	ND	120	ug/kg		ND					30
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.0*		ug/kg	*16.67*		*78.3*	*55-126*			
Surrogate: Decachlorobiphenyl	*11.0*		ug/kg	*16.67*		*65.7*	*49-133*			
Batch BJ70924 - EPA 3050B										

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/12/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ70924 - EPA 3050B											
Blank		**Prepared & Analyzed: 10/06/17**									
Lead		ND	1.00	mg/kg							
LCS		**Prepared & Analyzed: 10/06/17**									
Lead		50.1	1.00	mg/kg	49.96		100	80-120			
Matrix Spike	**Source: 1710047-17**	**Prepared & Analyzed: 10/06/17**									
Lead		114	1.00	mg/kg	49.96	357	NR	75-125			V-2
Matrix Spike Dup	**Source: 1710047-17**	**Prepared & Analyzed: 10/06/17**									
Lead		77.7	1.00	mg/kg	49.96	357	NR	75-125	NR	30	V-2
Post Spike	**Source: 1710047-17**	**Prepared & Analyzed: 10/12/17**									
Lead		411		mg/kg	49.96	357	108	75-125			

Notes and Definitions

V-3	Amount spiked was less than 1/4 of concentration in the sample.
V-2	Out-of-Range recovery was due to sample Heterogeneity.
DO	Coeluting Peaks
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91165

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 1 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-Pos

AIRBILL NO: EBO 937805446 COOLER TEMP: 0.4°C

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PRESERVED: _____

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5600 FAX NO: 831-2111

SAMPLER NAME: R. Bec (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

ANALYSES REQUESTED: TPH(C5-C36) | OCPs (8081) | Lead

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(C5-C36)	OCPs (8081)	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	8:45	PL1-6"		X			N	1	B	X			
2			9:06	PL2-6"								X			
3			9:25	PL3-6"								X			
4			9:42	S1-SE-3"									X		
5			9:44	S1-SE-1.5"											Hold
6			9:55	S3-SW-3"									X		
7			10:00	S3-NW-3"									X		
8			10:10	S3-N-3"									X		
9			9:48	S4-SE-3"									X		
10			10:25	WW1-E-3"								X	X	X	

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 DAYS Frozen days
By _____ Date 10/4/17

LAB COPY

91166

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 2 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	TAT	CONTAINER: #	CONTAINER: TYPE	ANALYSES REQUESTED: TPH (C9-C36)	Lead	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:30	WW1-N-3'		X			N	1	B	X	X	X	
2			10:35	WW1-S-3'								X	X	X	
3			10:40	WW1-W-3'								X	X	X	
4			11:00	S7-N-3'								X	X		
5			11:02	S7-N-1.5'									X		
6			11:05	S7-E-3'								X	X		
7			11:07	S7-E-1.5'									X		
8			11:15	S7-S-3'								X	X		
9			11:17	S7-S-1.5'									X		
10			11:10	S7-W-3'								X	X		

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1020

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91167

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 10/4/17 PAGE 3 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD / 16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becke PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becke (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Lead	TPH (C5-C36)	BTEX				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	11:12	S7-W-4.5'		X			N	1	B		X	~~TPH~~ RSB					
2			12:15	S7-T-6'		X				1	B		X	X	X				
3			1:10	S8-4'								X							
4			1:57	~~S8-4'~~								X		X					~~Hold~~ RSB
5			1:15	S8-E-3"								X							
6			1:17	S8-E-2.5'															Hold
7			1:25	S8-N-3"								X							
8			1:27	S8-N-2.5'															Hold
9			1:20	S8-W-3"								X							
10			1:22	S8-W-2.5'															Hold

Relinquished By: (Signature and Printed Name) Robert Becke Received By: (Signature and Printed Name) Lupe Gutierrez Date: 10/5/17 @ Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91168

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 4 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SET Project Name/No. KCCD/16268 P.O. NO. 16268-Pol

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	TAT	CONTAINER: #	CONTAINER: TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	1:30	S8-S-3"		X			N	1	B	X	
2			1:32	S8-S-2.5'									Hold
3			1:55	S12-2"								X	
4			2:20	S9-N-3"								X	
5			2:22	S9-N-1.5"									Hold
6			2:25	S9-E-3"								X	
7			2:27	S9-E-1.5"									Hold
8			2:30	S9-W-3"								X	
9			2:32	S9-W-1.5"									Hold
10			2:35	S9-S-3"								X	

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10/5/17 Time: 12:01

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days

By RJB Date 10/4/17

LAB COPY

91169

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 5 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED: OCPs (8081), TPH (C9 - C36)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	TPH (C9 - C36)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	2:37	S9-S-1.5'		X			N	1	B			Hold
2			2:10	S11-W-3"								X	X	
3			2:12	S11-W-1.5'										Hold
4			2:05	S11-N-3"								X	X	
5			2:07	S11-N-1.5'										Hold
6			2:15	S11-S-3"								X	X	
7			2:17	S11-S-1.5'										Hold
8			2:00	S12-E-3"								X	X	
9			2:02	S12-E-1.5'										Hold
10			9:57	S3-SB-1.5'										Hold

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 2:10

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91170

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 6 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCC0116268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Way Bakersfield, CA 93313

PROJECT MANAGER: R. Beech PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Beech (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	TAT	CONTAINER: #	CONTAINER: TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:02	S3-NW-1.5'		X			N	1	B	Hold
2			10:12	S3-N-1.5'								
3			9:50	S4-SE-1.5'								
4			10:25	WW1-E-1.5'								
5			10:32	WW1-N-1.5'								
6			10:42	WW1-W-1.5'								
7			10:37	WW1-S-1.5'								
8												
9												
10												

Relinquished By: (Signature and Printed Name)	Robert Beech	Received By: (Signature and Printed Name)	Date: 10/5/17 Time: 12:01
Relinquished By: (Signature and Printed Name)		Received By: (Signature and Printed Name)	Date: Time:
Relinquished By: (Signature and Printed Name)		Received By: (Signature and Printed Name)	Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

COPY

91151

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 1 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C Used 2.T.C - Blue 0.T.C - White

PRESERVED: _____

REMARKS:
⊗ = discrete analysis
X = Composite analysis
Save remainder of Samples.

ANALYSES REQUESTED: TPH(C5-C36), BTEX, CAM17 metals, pH

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	7:24	SG1-5'		X			N	1	P	
2			8:00	SG2-5'					N	1	P	
3			8:50	T1-Comp							G	
4			9:00	T2-Comp								
5			9:05	T2-7'								
6			9:25	T3-Comp								
7			9:50	T4-Comp								
8			10:00	T5-Comp								
9			10:15	T6-Comp								
10			10:30	T7-Comp								

Relinquished By: (Signature and Printed Name) Robert Becker — Received By: (Signature and Printed Name) — Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: 9/15/17 @ Time: 930

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 9/13/17

COPY

91152

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 2 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-P01

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: *Addon 9/29/17 NTAT via e-mail per A.B. Same as page 1

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C5-C36)	BTEX	LAM 17 Metals	pH	OCPs (8081)	Arsenic	Lead	8081 Discrete	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	10:40	T8-Comp		X			N	1	B	X	X	X	X					
2			8:40	SG3-5'							P						X			
3			10:25	SG5-5'							P						X			
4			11:35	SG6-5'							P						X			
5			8:06	C1A-3"							B								X*	
6			7:54	C1B-3"													X		X*	
7			7:40	C1C-3" Comp												X			X*	
8			7:36	C1D-3"															X*	
9			11:30	S1-3"												X	X	X	X*	
10			11:32	S1-2'												X	X	X		

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
[signature] Robert Tober	[signature] Jonathan Schmidt	9/14/17	1320
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
[signature] Jonathan Schmidt	[signature] Paul Gutierrez	9/16/17	@ 7:30
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91343

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 3 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5706 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: (Y) (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: Same as pg 1

ANALYSES REQUESTED: OCPs (8081) | Arsenic | Lead

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:15	C2A-3"		X			N	1	B				
2			7:50	C2B-3"								X	⊗		
3			8:30	C2C-3"											
4			8:40	C2D-3"											
5			7:50	C2E-3"									⊗		
6			9:20	C3A-3"											
7			9:11	C3B-3"								X	⊗		
8			9:00	C3C-3"											
9			8:52	C3D-3"											
10		↓	12:15	S2-3"		↓			↓	↓	↓	⊗	⊗	⊗	

Comp

	Received By: (Signature and Printed Name)	Date:	Time:
Relinquished By: (Signature and Printed Name)	Robert J. Becker	9/14/17	1300
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	9/15/17	7:30
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91349

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 4 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Bas

ADDRESS: 4400 Yeager Wy, Bakersfield CA 93313

PROJECT MANAGER: R. Reed PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Reed (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED: OCPs (Soil) | Arsenic | Lead | 8081 Discrete

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (Soil)	Arsenic	Lead	8081 Discrete	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	12:17	S2-2'		X			N	1	B	⊗	⊗	⊗		
2			9:40	C4A-3"												
3			9:30	C4B-3"								X	⊗			
4			9:50	C4C-3"								X				
5			10:05	C4D-3"												
6			11:05	C5A-3"											*	
7			10:55	C5B-3"								X	⊗		*	
8			10:45	C5C-3"								X			*	
9			10:30	C5D-3"									⊗		*	
10			10:32	C5E-2'									⊗			

Comp (rows 2–4) Comp (rows 6–8)

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
[signature] Robert Reed	[signature]	9/14/17	730
[signature]	[signature]	9/15/17	7:30

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB

91346

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 9/13/17 PAGE 5 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-P01

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Reeker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: *Add on 9/25/17 NTAT via e-mail per R.B.

ANALYSES REQUESTED:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	Lead	TPH (C6-C36)	BTEX	DDT STLC	STLC Pb/TCLP Pb	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	10:32	C5D-2'		X			N	1	B	⊗	⊗						
2			12:25	S3-3'								⊗	⊗	⊗					
3			12:27	S3-2'															
4			11:50	S4-3'															
5			11:52	S4-2'															
6			11:40	S5-3'															
7			11:42	S5-2'															
8			12:45	S6-3'															
9			12:47	S6-2'															
10			1:11	S7-3'											⊗	⊗	✳	✳	

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert S. Beck Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) John Schmidt Received By: (Signature and Printed Name) _____ Date: 9/15/17 Time: 1:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days

By _____ Date 9/13/17

LAB COPY

91345

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 6 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2117

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: *addon 9/25/17 NTAT via e-mail per R.B.

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	Lead	TPH(C5-C36)	BTEX	OCHs (8150)			SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	1:15	S7-2'		X			N	1	B	X	X	X	X	X				
2			1:30	S8-3"								X	X	X						
3			1:32	S8-2'								X		X						off HOLD 9/25/17 NTAT Hold
4			2:15	S9-3"								X	X	X						
5			2:17	S9-2'								X		X						off HOLD 9/25/17 NTAT Hold
6			2:05	S10-3'								X	X	X						
7			2:07	S10-2'																Hold
8			1:45	S11-3"								X	X	X	X	X	X			
9			1:47	S11-2'								X	X	X	X					
10			1:40	S12-3"								X	X	X	X	X	X			

Relinquished By: (Signature and Printed Name) Robert Becker — Received By: (Signature and Printed Name) John Schmidt — Date: 9/14/17 — Time: 1300

Relinquished By: (Signature and Printed Name) John Schmidt — Received By: (Signature and Printed Name) Dave Guerra — Date: 9/15/17 — Time: 7:30

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ — Date: _____ — Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91344

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 7 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SET Project Name/No. 16268 P.O. NO. 16268-Bas

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: same as pg 1

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	CAM 17 metals	arsenic	Lead	TPH (C5-C36)	BTEX	OCHs (8150)	STLC Pb	STLC DDT	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	1:42	S12-2'		X			N	1	B	⊗	oil ⊗	⊗	⊗	⊗				
2			1:20	S13-3'								⊗	⊗			⊗	⊗	⊗		
3			1:22	S13-2'								⊗		⊗	⊗	⊗				
4			12:55	WW1-3'								⊗	⊗			⊗	⊗	⊗	⊗	
5			12:57	WW1-2'								⊗		⊗	⊗	⊗				
6			1:55	WW2-3'								⊗	⊗			⊗	⊗	⊗		
7			1:57	WW2-2'								⊗		⊗	⊗	⊗				
8			7:20	SG1-10'							P									Hold
9			7:37	SG1-15'																
10			8:07	SG2-10'																

Relinquished By: (Signature and Printed Name) Robert J. Becker — Received By: (Signature and Printed Name) Johnny Tyler Schmidt — Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) John Schmidt — Received By: (Signature and Printed Name) Daye Guerra — Date: 9/15/17 @ 7:30 Time:

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ — Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91348

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 8 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2141

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 4.6°C

PRESERVED: _____

REMARKS: * off Hold, addon 9/25/17 NTAT per A.B. via e-mail.

ANALYSES REQUESTED: Absence

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:15	SG2-15'		X				1	P	Hold
2			8:50	SG3-10'								
3			9:00	SG3-15'								
4			9:20	SG4-5'								
5			9:28	SG4-10'								
6			9:35	SG4-15'								
7			10:31	SG5-10'								
8			11:15	SG5-15'								
9			11:42	SG6-10'								
10			11:50	SG6-15'								

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert Becker / John Schmidt Date: 9/14/17 Time: 1330

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: 9/15/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

91347

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 9/13/17 PAGE 9 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: *Addons 9/25/17 N TAT via e-mail per R.B.

ANALYSES REQUESTED: Arsenic; 8081 discrete

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic	8081 discrete	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	8:08	C1A-2'		X				1	B		*	OFF HOLD 9/25/17 Hold
2			7:56	C1B-2'								*	*	
3			7:42	C1C-2'									*	
4			7:38	C1D-2'									*	
5			8:17	C2A-2'										
6			7:52	C2B-2'										
7			8:32	C2C-2'										
8			8:42	C2D-2'										
9			9:22	C3A-2'										
10			9:15	C3B-2'										

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert J. Becker / John Schmidt Date: 9/14/17 Time: 1300

Relinquished By: (Signature and Printed Name) John Schmidt Received By: (Signature and Printed Name) _____ Date: 9/16/17 Time: 7:30

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91350

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 9/13/17 PAGE 10 OF 10

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1709118

CLIENT NAME: SEI Project Name/No. 16268 P.O. NO. 16268-P05

ADDRESS: 4400 Yeager wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5500 FAX NO: 831-8111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.6°C

PRESERVED: _____

REMARKS: *Addons 9/25/17 NTAT via e-mail per R.B.

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	ANALYSES REQUESTED: 8081 Discrete	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		9/13/17	9:02	C3C-2'		X				1	B		Hold
2			8:54	C3D-2'									
3			9:42	C4A-2'									
4			9:32	C4B-2'									
5			9:52	C4C-2'									
6			11:08	C5A-2'								*	
7			10:57	C5B-2'								*	
8			10:47	C5C-2'								*	
9			10:08	C4D-2'								*	
10													

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert Jurbe Date: 9/14/17 Time: (3W)

Relinquished By: (Signature and Printed Name) John Schmidt Received By: (Signature and Printed Name) _____ Date: 9/13/17 E Time: 7:36

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 9/13/17

LAB COPY

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

October 18, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710047
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 05, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-S-3" Soil (1710047-17) Sampled:10/04/17 11:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**6.11**		1	mg/L	0.500	DHS WET	EPA 6010B	10/16/17	10/18/17	cg	BJ71823

Sample ID: S7-W-3" Soil (1710047-19) Sampled:10/04/17 11:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**5.52**		1	mg/L	0.500	DHS WET	EPA 6010B	10/16/17	10/18/17	cg	BJ71823

Sample ID: S7-T-6' Soil (1710047-21) Sampled:10/04/17 12:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	**2.20**		1	mg/L	0.500	DHS WET	EPA 6010B	10/16/17	10/18/17	cg	BJ71823

Sample ID: S8-E-2.5' Soil (1710047-37) Sampled:10/04/17 13:17 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	**16.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.5 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*89.3 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S8-N-2.5' Soil (1710047-38) Sampled:10/04/17 13:27 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632

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Certificate of Analysis

Soils Engineering Inc.
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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-N-2.5' Soil (1710047-38) Sampled:10/04/17 13:27 Received:10/05/17 12:01

4,4'-DDT	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	**12.1**	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.2 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*86.4 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S8-S-2.5' Soil (1710047-39) Sampled:10/04/17 13:32 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	**9.85**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	**20.5**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	**12.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*85.6 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S9-E-1.5' Soil (1710047-40) Sampled:10/04/17 14:27 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-E-1.5' Soil (1710047-40) Sampled:10/04/17 14:27 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	**22.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	**35.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	**12.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	**24.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	**35.0**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	**253**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	**218**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*76.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*72.4 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S9-W-1.5' Soil (1710047-41) Sampled:10/04/17 14:32 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	**49.7**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*77.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*77.7 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S9-S-1.5' Soil (1710047-42) Sampled:10/04/17 14:37 Received:10/05/17 12:01

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Certificate of Analysis

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File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-S-1.5' Soil (1710047-42) Sampled:10/04/17 14:37 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	**28.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	**47.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	**19.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	**70.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	**87.7**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	**54.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Technical Chlordane	**296**		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*84.5 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*79.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

Sample ID: S12-E-1.5' Soil (1710047-43) Sampled:10/04/17 14:02 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	10/16/17	10/16/17	rp	BJ71729
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/16/17	10/16/17	rp	BJ71729
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	10/16/17	10/16/17	rp	BJ71729
Surrogate: n-Tetracosane	*103 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*10/16/17*	*10/16/17*	*rp*	*BJ71729*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S12-E-1.5' Soil (1710047-43) Sampled:10/04/17 14:02 Received:10/05/17 12:01

Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/13/17	10/16/17	al	BJ71632
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*85.6 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*
Surrogate: Decachlorobiphenyl	*79.3 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/13/17*	*10/16/17*	*al*	*BJ71632*

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Certificate of Analysis

Soils Engineering Inc.
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Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ71729 - EPA 3550C										
Blank	**Prepared & Analyzed: 10/16/17**									
TPH C9 - C22	ND	2.50	mg/kg							
TPH C13 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*20.5*		mg/kg	*20.83*		*98.4*	*68-133*			
LCS	**Prepared: 10/16/17 Analyzed: 10/17/17**									
Diesel	623	6.25	mg/kg	554.7		112	69-137			
Surrogate: n-Tetracosane	*18.5*		mg/kg	*20.83*		*89.0*	*64-140*			
Matrix Spike Source: 1710103-13	**Prepared & Analyzed: 10/16/17**									
Diesel	87.9	2.50	mg/kg	110.9	ND	79.2	53-138			
Surrogate: n-Tetracosane	*21.0*		mg/kg	*20.83*		*101*	*68-133*			
Matrix Spike Dup Source: 1710103-13	**Prepared & Analyzed: 10/16/17**									
Diesel	84.1	2.50	mg/kg	110.9	ND	75.8	53-138	4.38	30	
Surrogate: n-Tetracosane	*19.7*		mg/kg	*20.83*		*94.5*	*68-133*			
Batch BJ71632 - EPA 3550C										
Blank	**Prepared: 10/13/17 Analyzed: 10/16/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ71632 - EPA 3550C										
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*11.7*		ug/kg	*16.67*		*70.0*	*55-126*			
Surrogate: Decachlorobiphenyl	*12.6*		ug/kg	*16.67*		*75.4*	*49-133*			
LCS	**Prepared: 10/13/17 Analyzed: 10/16/17**									
Aldrin	12.2	2.00	ug/kg	13.33		91.2	56-130			
gamma-BHC (Lindane)	12.2	2.00	ug/kg	13.33		91.8	56-133			
4,4'-DDT	11.3	4.00	ug/kg	13.33		84.6	56-133			
Dieldrin	15.1	2.00	ug/kg	13.33		113	62-119			
Endrin	13.7	2.00	ug/kg	13.33		103	59-127			
Heptachlor	15.0	2.00	ug/kg	13.33		112	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*11.5*		ug/kg	*16.67*		*68.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*14.3*		ug/kg	*16.67*		*85.5*	*54-127*			
Matrix Spike **Source: 1710103-06**	**Prepared: 10/13/17 Analyzed: 10/16/17**									
Aldrin	11.4	8.00	ug/kg	13.33	ND	85.4	39-124			
gamma-BHC (Lindane)	11.4	8.00	ug/kg	13.33	ND	85.5	44-120			
4,4'-DDT	18.6	16.0	ug/kg	33.33	ND	55.8	48-150			
Dieldrin	33.6	8.00	ug/kg	33.33	ND	101	48-144			
Endrin	29.5	8.00	ug/kg	33.33	ND	88.6	54-149			
Heptachlor	10.7	8.00	ug/kg	13.33	ND	80.1	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.9*		ug/kg	*16.67*		*83.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*12.2*		ug/kg	*16.67*		*73.0*	*43-136*			
Matrix Spike Dup **Source: 1710103-06**	**Prepared: 10/13/17 Analyzed: 10/16/17**									
Aldrin	12.6	8.00	ug/kg	13.33	ND	94.7	39-124	10.4	30	
gamma-BHC (Lindane)	12.3	8.00	ug/kg	13.33	ND	92.4	44-120	7.71	30	
4,4'-DDT	18.7	16.0	ug/kg	33.33	ND	56.2	48-150	0.562	30	
Dieldrin	38.2	8.00	ug/kg	33.33	ND	115	48-144	12.8	30	
Endrin	32.0	8.00	ug/kg	33.33	ND	96.1	54-149	8.12	30	
Heptachlor	11.3	8.00	ug/kg	13.33	ND	84.6	46-135	5.43	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.1*		ug/kg	*16.67*		*90.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*15.2*		ug/kg	*16.67*		*91.2*	*43-136*			
Batch BJ71823 - DHS WET										
Blank	**Prepared: 10/16/17 Analyzed: 10/18/17**									
Lead	ND	0.500	mg/L							
LCS	**Prepared: 10/16/17 Analyzed: 10/18/17**									
Lead	4.92	0.500	mg/L	5.020		98.0	80-120			
Duplicate **Source: 1710047-17**	**Prepared: 10/16/17 Analyzed: 10/18/17**									
Lead	4.19	0.500	mg/L		6.11			37.1	30	V-2
Post Spike **Source: 1710047-17**	**Prepared: 10/16/17 Analyzed: 10/18/17**									
Lead	11.2		mg/L	5.020	6.11	101	70-130			

POSITIVE LAB SERVICE

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Certificate of Analysis

File #:73443
Report Date: 10/18/17
Submitted: 10/05/17
PLS Report No.: 1710047

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 KCCD / P.O. # 16268-POS

Notes and Definitions

V-2	Out-of-Range recovery was due to sample Heterogeneity.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Rick Owen Parlier

Authorized Signature(s)

91165

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 10/4/17 PAGE 1 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. 16768 / KCCD P.O. NO. 16768-Pos

AIRBILL NO: CBD 5378054410 COOLER TEMP: 0.4°C

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313 PRESERVED: _____

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

ANALYSES REQUESTED: TPH(cs-C36) | OCPs (8081) | Lead

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(cs-C36)	OCPs (8081)	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	8:45	PL1-6"		X			N	1	B	X			
2			9:06	PL2-6"								X			
3			9:25	PL3-6"								X			
4			9:42	S1-SE-3"									X		
5			9:44	S1-SE-1.5"											Hold
6			9:55	S3-SW-3"									X		
7			10:00	S3-NW-3"									X		
8			10:10	S3-N-3"									X		
9			9:48	S4-SE-3"									X		
10			10:25	WW1-E-3"								X	X	X	

Relinquished By: (Signature and Printed Name) Robert Beck Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 DAYS Frozen days
By _____ Date 10/4/17

LAB COPY

91166

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 2 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171024

CLIENT NAME: SEI

Project Name/No. KCCD/16268

P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-7111

SAMPLER NAME: R. Ber (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:
* Addon 10/12/17 via e-mail per Bob B.
4 day TAT

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C9-C36)	Lead	OCPs (8081)	STLC Pb					SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:30	WW1-N-3'		X			N	1	B	X	X	X						
2			10:35	WW1-S-3'								X	X	X						
3			10:40	WW1-W-3'								X	X	X						
4			11:00	S7-N-3'								X	X							
5			11:02	S7-N-1.5'									X							
6			11:05	S7-E-3'								X	X							
7			11:07	S7-E-1.5'									X							
8			11:15	S7-S-3'								X	X		*					
9			11:17	S7-S-1.5'									X							
10		↓	11:10	S7-W-3'		↓			↓		↓	X	X		*					

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10/5/17 Time: 2:01

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91167

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 3 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD / 16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: *see pg2

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Lead	TPH (C5-C36)	BTEX	STLC Pb				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	11:12	S7-W-4.5'		X			N	1	B		X	~~X~~ RSB						10
2			12:15	S7-T-6'		X				1	B		X	X	X	*				11
3			1:10	S8-4'								X								12
4			1:57	~~S8-4'~~								X		X						~~Hold~~ RSB 13
5			1:15	S8-E-3"								X								
6			1:17	S8-E-2.5'								*								Hold
7			1:25	S8-N-3"								X								
8			1:27	S8-N-2.5'								*								Hold
9			1:20	S8-W-3"								X								
10			1:22	S8-W-2.5'																Hold

Relinquished By: (Signature and Printed Name) _____ Robert Becker Received By: (Signature and Printed Name) _____ Lupe Gutierrez Date: 10/5/17 @ Time: 1201

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91168

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 4 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SET Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS: *see pg 2

ANALYSES REQUESTED: OCPs (8081)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	1:30	S8-S-3'		X			N	1	B	X	
2		"	1:32	S8-S-2.5'		"			"	"	"	*	Hold
3		"	1:55	S12-2'		"			"	"	"	X	
4		"	2:20	S9-N-3"		"			"	"	"	X	
5		"	2:22	S9-N-1.5'		"			"	"	"		Hold
6		"	2:25	S9-E-3"		"			"	"	"	X	
7		"	2:27	S9-E-1.5'		"			"	"	"	*	Hold
8		"	2:30	S9-W-3"		"			"	"	"	X	
9		"	2:32	S9-W-1.5'		"			"	"	"	*	Hold
10		"	2:35	S9-S-3"		"			"	"	"	X	

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert Becker Date: 10/5/17 Time: 12:01

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days

By RJB Date 10/4/17

LAB COPY

91169

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 5 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: *see pg 2

ANALYSES REQUESTED: OCPs (8081), TPH (C9 - C36)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	TPH (C9 - C36)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	2:37	S9-S-1.5"		X			N	1	B	*		Hold
2			2:10	S11-W-3"								X	X	
3			2:12	S11-W-1.5"										Hold
4			2:05	S11-N-3"								X	X	
5			2:07	S11-N-1.5"										Hold
6			2:15	S11-S-3"								X	X	
7			2:17	S11-S-1.5"										Hold
8			2:00	S12-E-3"								X	X	
9			2:02	S12-E-1.5"								*	*	Hold
10			9:57	S3-SW-1.5"										Hold

Relinquished By: (Signature and Printed Name) Robt Beck Received By: (Signature and Printed Name) Date: 10/5/17 Time: 8:20

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91170

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 6 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCO/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Way Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:02	S3-NW-1.5'		X			N	1	B	Hold
2			10:12	S3-N-1.5'								
3			9:50	S4-SE-1.5'								
4			10:25	WW1-E-1.5'								
5			10:32	WW1-N-1.5'								
6			10:42	WW1-W-1.5'								
7			10:37	WW1-S-1.5'								
8												
9												
10												

Relinquished By: (Signature and Printed Name) Robert Beck Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1230

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 27, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710047
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 05, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

File #:73443
Report Date: 10/27/17
Submitted: 10/05/17
PLS Report No.: 1710047

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-N-3" Soil (1710047-13) Sampled:10/04/17 11:00 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-Chlordane	**297**	R4	10	ug/kg	80.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-Chlordane	**2060**	R4	10	ug/kg	80.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDD	**72.2**	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDE	**69.6**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDT	**401**	R4	10	ug/kg	160	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Toxaphene	ND	R4	1	ug/kg	120	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.1 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*
Surrogate: Decachlorobiphenyl	*80.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*

Sample ID: S7-E-3" Soil (1710047-15) Sampled:10/04/17 11:05 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-Chlordane	**39.8**	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDE	**29.1**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDT	**65.4**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

File #:73443
Report Date: 10/27/17
Submitted: 10/05/17
PLS Report No.: 1710047

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-E-3" Soil (1710047-15) Sampled:10/04/17 11:05 Received:10/05/17 12:01

Toxaphene	ND	R4	1	ug/kg	120	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*67.2 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*
Surrogate: Decachlorobiphenyl	*88.9 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*

Sample ID: S7-S-3" Soil (1710047-17) Sampled:10/04/17 11:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDE	**78.5**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDT	**23.9**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Toxaphene	ND	R4	1	ug/kg	120	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*74.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*
Surrogate: Decachlorobiphenyl	*86.8 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*

Sample ID: S7-W-3" Soil (1710047-19) Sampled:10/04/17 11:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDE	**48.1**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
4,4´-DDT	**69.2**	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

File #:73443
Report Date: 10/27/17
Submitted: 10/05/17
PLS Report No.: 1710047

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-W-3" Soil (1710047-19) Sampled:10/04/17 11:10 Received:10/05/17 12:01

Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Toxaphene	ND	R4	1	ug/kg	120	EPA 3550C	EPA 8081A	10/23/17	10/26/17	al	BJ72701
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*78.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*
Surrogate: Decachlorobiphenyl	*104 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/23/17*	*10/26/17*	*al*	*BJ72701*

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/27/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ72701 - EPA 3550C										
Blank	**Prepared: 10/23/17 Analyzed: 10/26/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4´-DDD	ND	2.00	ug/kg							
4,4´-DDE	ND	4.00	ug/kg							
4,4´-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.3*		ug/kg	*16.67*		*79.9*	*55-126*			
Surrogate: Decachlorobiphenyl	*18.9*		ug/kg	*16.67*		*113*	*49-133*			
LCS	**Prepared: 10/23/17 Analyzed: 10/26/17**									
Aldrin	13.1	2.00	ug/kg	13.33		98.4	56-130			
gamma-BHC (Lindane)	12.5	2.00	ug/kg	13.33		93.7	56-133			
4,4´-DDT	16.0	4.00	ug/kg	13.33		120	56-133			
Dieldrin	16.3	2.00	ug/kg	13.33		122	62-119			
Endrin	14.4	2.00	ug/kg	13.33		108	59-127			
Heptachlor	15.4	2.00	ug/kg	13.33		115	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.9*		ug/kg	*16.67*		*77.6*	*54-108*			
Surrogate: Decachlorobiphenyl	*19.7*		ug/kg	*16.67*		*118*	*54-127*			
Matrix Spike Source: 1710047-13	**Prepared: 10/23/17 Analyzed: 10/26/17**									
Aldrin	12.6	8.00	ug/kg	13.33	ND	94.2	39-124			
gamma-BHC (Lindane)	10.9	8.00	ug/kg	13.33	ND	82.1	44-120			
4,4´-DDT	497	16.0	ug/kg	33.33	406	274	48-150			V-3
Dieldrin	42.3	8.00	ug/kg	33.33	ND	127	48-144			
Endrin	90.9	8.00	ug/kg	33.33	ND	273	54-149			M

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/27/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ72701 - EPA 3550C										
Heptachlor	13.0	8.00	ug/kg	13.33	ND	97.4	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.3*		ug/kg	*16.67*		*79.6*	*57-126*			
Surrogate: Decachlorobiphenyl	*10.9*		ug/kg	*16.67*		*65.6*	*43-136*			
Matrix Spike Dup Source: 1710047-13	**Prepared: 10/23/17 Analyzed: 10/26/17**									
Aldrin	13.2	8.00	ug/kg	13.33	ND	98.7	39-124	4.60	30	
gamma-BHC (Lindane)	10.9	8.00	ug/kg	13.33	ND	81.5	44-120	0.688	30	
4,4'-DDT	503	16.0	ug/kg	33.33	406	292	48-150	6.46	30	V-3
Dieldrin	45.4	8.00	ug/kg	33.33	ND	136	48-144	7.01	30	
Endrin	91.8	8.00	ug/kg	33.33	ND	275	54-149	1.05	30	M
Heptachlor	14.5	8.00	ug/kg	13.33	ND	109	46-135	11.3	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.3*		ug/kg	*16.67*		*73.9*	*57-126*			
Surrogate: Decachlorobiphenyl	*13.3*		ug/kg	*16.67*		*79.7*	*43-136*			

Notes and Definitions

V-3	Amount spiked was less than 1/4 of concentration in the sample.
R4	Analysis requested past Holding Time.
M	Matrix interference
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91165

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 1 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. 16768 / KCCD P.O. NO. 16268-Pos

AIRBILL NO: EFSO 5378105446

COOLER TEMP: 0.4°C

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PRESERVED: _____

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Bec (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

ANALYSES REQUESTED: TPH C(6-C36) | OCPs (8081) | Lead

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH C(6-C36)	OCPs (8081)	Lead	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	8:45	PL1-6"		X			N	1	B	X			
2			9:06	PL2-6"								X			
3			9:25	PL3-6"								X			
4			9:42	S1-SE-3"									X		
5			9:44	S1-SE-1.5"											Hold
6			9:55	S3-SW-3"									X		
7			10:00	S3-NW-3"									X		
8			10:10	S3-N-3"									X		
9			9:48	S4-SE-3"									X		
10		↓	10:25	WW1-E-3"		↓			↓	↓	↓	X	X	X	

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 DAYS Frozen days
By _____ Date 10/4/17

LAB COPY

91166

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 2 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710147

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Bec (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:
* Addon 10/12/17 via e-mail per Bob B. 4 day TAT
⊗ Addon 10/19/17 NTAT via e-mail per BOB.
✓ addon 10/23/17 via e-mail, OK past HOLD per client.

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C9-C36)	Lead	OCPs (8081)	STLC Pb	TCLP Pb				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:30	WW1-N-3'		X			N	1	B	X	X	X						
2			10:35	WW1-S-3'								X	X	X						
3			10:40	WW1-W-3'								X	X	X						
4			11:00	S7-N-3'								X	X	/						
5			11:02	S7-N-1.5'									X							
6			11:05	S7-E-3'								X	X	/						
7			11:07	S7-E-1.5'									X							
8			11:15	S7-S-3'								X	X	/	*	⊗				
9			11:17	S7-S-1.5'									X							
10			11:10	S7-W-3'								X	X	/	*	⊗				

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91167

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 3 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD / 16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Beche PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beche (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: *see pg 2

ANALYSES REQUESTED: OCPs (8081), Lead, TPH (C5-C36), BTEX, STLC Pb

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Lead	TPH (C5-C36)	BTEX	STLC Pb	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	11:12	S7-W-4.5'		X			N	1	B		X	~~X~~ RSB			
2			12:15	S7-T-6'		X				1	B		X	X	X	*	
3			1:10	S8-4'								X					
4			1:57	S8-6'								X		X			~~Hold~~ RSB
5			1:15	S8-E-3"								X					
6			1:17	S8-E-2.5'								*					Hold
7			1:25	S8-N-3'								X					
8			1:27	S8-N-2.5'								*					Hold
9			1:20	S8-W-3"								X					
10			1:22	S8-W-2.5'													Hold

Relinquished By: (Signature and Printed Name) _____ Robert Beche

Received By: (Signature and Printed Name) _____ Lupe Gutierrez Date: 10/5/17 @ Time: (2:0)

Relinquished By: (Signature and Printed Name) _____

Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____

Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91168

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 4 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pol

ADDRESS: 4400 Yeager Wy, Bakersfield CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS: * see pg 2

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	1:30	S8-S-3"		X			N	1	B	X	
2			1:32	S8-S-2.5'								*	Hold
3			1:55	S12-2'								X	
4			2:20	S9-N-3"								X	
5			2:22	S9-N-1.5'									Hold
6			2:25	S9-E-3"								X	
7			2:27	S9-E-1.5'								*	Hold
8			2:30	S9-W-3"								X	
9			2:32	S9-W-1.5'								*	Hold
10			2:35	S9-S-3"								X	

Relinquished By: (Signature and Printed Name) Robert Becker — Received By: (Signature and Printed Name) Lupe Barrera — Date: 10/5/17 Time: 12:01

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days
By RJB Date 10/4/17

LAB COPY

91169

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 5 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Bech PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Bech (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: *see pg 2

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	TPH (C9 - C36)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	2:37	S9-S-1.5'		X			N	1	B	*		Hold
2			2:10	S11-W-3'								X	X	
3			2:12	S11-W-1.5'										Hold
4			3:05	S11-N-3'								X	X	
5			2:07	S11-N-1.5'										Hold
6			2:15	S11-S-3'								X	X	
7			2:17	S11-S-1.5'										Hold
8			2:00	S12-E-3'								X	X	
9			2:02	S12-E-1.5'								*	*	Hold
10			9:57	S3-SW-1.5'										Hold

Relinquished By: (Signature and Printed Name) Robt Bech Received By: (Signature and Printed Name) Date: 10/5/17 Time: 2:01

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91170

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 6 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCO/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Way Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

ANALYSES REQUESTED:

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:02	S3-NW-1.5'		X			N	1	B	Hold
2			10:12	S3-N-7.5'								
3			9:50	S4-SE-1.5'								
4			10:25	WW1-E-1.5'								
5			10:32	WW1-N-1.5'								
6			10:42	WW1-W-1.5'								
7			10:37	WW1-S-1.5'								
8												
9												
10												

Relinquished By: (Signature and Printed Name) _____ Robert Beck Received By: (Signature and Printed Name) _____ Date: 10/5/17 Time: @ 12:01

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 25, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710047
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 05, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/25/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-S-3" Soil (1710047-17) Sampled:10/04/17 11:15 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	ND		1	mg/L	0.500	EPA 1311	EPA 6010B	10/23/17	10/24/17	cg	BJ72528

Sample ID: S7-W-3" Soil (1710047-19) Sampled:10/04/17 11:10 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Lead	ND		1	mg/L	0.500	EPA 1311	EPA 6010B	10/23/17	10/24/17	cg	BJ72528

Quality Control Data

Analyte		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ72528 - EPA 1311											
Blank		**Prepared: 10/23/17 Analyzed: 10/24/17**									
Lead		ND	0.500	mg/L							
LCS		**Prepared: 10/23/17 Analyzed: 10/24/17**									
Lead		2.39	0.500	mg/L	2.510		95.3	80-120			
Duplicate	**Source: 1710047-19**	**Prepared: 10/23/17 Analyzed: 10/24/17**									
Lead		0.141	0.500	mg/L		0.154			8.75	30	
Post Spike	**Source: 1710047-19**	**Prepared: 10/23/17 Analyzed: 10/24/17**									
Lead		2.64		mg/L	2.510	0.154	99.1	70-130			

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91166

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 2 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:
* Addon 10/12/17 via e-mail per Bob B. 4 day TAT
⊗ Addon 10/19/17 NTAT via e-mail per Bob.
✓ addon 10/23/17 via e-mail, or past HOLD per client.

ANALYSES REQUESTED:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C9-C36)	Lead	OCPs (8081)	STLC Pb	TCLP Pb				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1	10/4/17	10:30	WW1-N-3'		X			N	1	B	X	X	X						
2	↓	10:35	WW1-S-3'		↓			↓		↓	X	X	X						
3		10:40	WW1-W-3'								X	X	X						
4		11:00	S7-N-3'								X	X	/						
5		11:02	S7-N-1.5'									X							
6		11:05	S7-E-3'								X	X	/						
7		11:07	S7-E-1.5'									X							
8		11:15	S7-S-3'								X	X	/	*	⊗				
9		11:17	S7-S-1.5'									X							
10	↓	11:10	S7-W-3'		↓			↓		↓	X	X	/	*	⊗				

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

COPY

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 31, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710170
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 24, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-N2-3' Soil (1710170-01) Sampled:10/23/17 10:15 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	**74.8**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**660**		10	ug/kg	160	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**1390**		10	ug/kg	160	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	**178**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.4 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*122 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-N2-2' Soil (1710170-02) Sampled:10/23/17 10:17 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-N2-2' Soil (1710170-02) Sampled:10/23/17 10:17 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*81.3 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*129 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-N3-3" Soil (1710170-03) Sampled:10/23/17 10:20 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**36.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**16.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*131 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-E2-3" Soil (1710170-04) Sampled:10/23/17 10:30 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	**11.4**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	**35.1**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	**14.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**59.7**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**70.4**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	**39.6**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-E2-3' Soil (1710170-04) Sampled:10/23/17 10:30 Received:10/24/17 10:40

Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.3 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*120 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-E2-2' Soil (1710170-05) Sampled:10/23/17 10:32 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.4 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*132 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-S2-3' Soil (1710170-06) Sampled:10/23/17 10:50 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	**23.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDE	**47.9**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4´-DDT	**110**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-S2-3" Soil (1710170-06) Sampled:10/23/17 10:50 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*78.6 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*82.0 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-E-3' Soil (1710170-07) Sampled:10/23/17 09:55 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.0 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*114 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-E2-3" Soil (1710170-08) Sampled:10/23/17 10:00 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	**36.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-E2-3' Soil (1710170-08) Sampled:10/23/17 10:00 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
gamma-Chlordane	**45.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	**23.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**113**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**114**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	**31.0**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*76.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*113 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-E2-1.5' Soil (1710170-09) Sampled:10/23/17 10:02 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*131 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-E2-3' Soil (1710170-10) Sampled:10/23/17 10:04 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-E2-3' Soil (1710170-10) Sampled:10/23/17 10:04 Received:10/24/17 10:40

alpha-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*83.9 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*120 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-E3-3' Soil (1710170-11) Sampled:10/23/17 10:10 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	**14.3**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	**32.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	**12.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**75.8**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**125**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	**24.9**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*78.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S9-E3-3" Soil (1710170-11) Sampled:10/23/17 10:10 Received:10/24/17 10:40

Surrogate: Decachloroblphenyl	*125 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S9-S-3' Soil (1710170-12) Sampled:10/23/17 09:50 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.7 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachloroblphenyl	*136 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

Sample ID: S8-E3-3" Soil (1710170-13) Sampled:10/23/17 10:40 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
alpha-Chlordane	**37.7**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
gamma-Chlordane	**236**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDD	**25.2**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDE	**57.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
4,4'-DDT	**296**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Dieldrin	**42.5**		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-E3-3" Soil (1710170-13) Sampled:10/23/17 10:40 Received:10/24/17 10:40

Heptachlor	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Methoxychlor	ND	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	10/25/17	10/27/17	al	BJ72641
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*80.2 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*
Surrogate: Decachlorobiphenyl	*104 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*10/25/17*	*10/27/17*	*al*	*BJ72641*

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Certificate of Analysis

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ72641 - EPA 3550C										
Blank	**Prepared: 10/25/17 Analyzed: 10/26/17**									
Aldrin	ND	0.750	ug/kg							
alpha-BHC	ND	0.750	ug/kg							
beta-BHC	ND	0.750	ug/kg							
delta-BHC	ND	0.750	ug/kg							
gamma-BHC (Lindane)	ND	0.750	ug/kg							
alpha-Chlordane	ND	0.750	ug/kg							
gamma-Chlordane	ND	0.750	ug/kg							
4,4'-DDD	ND	0.750	ug/kg							
4,4'-DDE	ND	1.50	ug/kg							
4,4'-DDT	ND	1.50	ug/kg							
Dieldrin	ND	0.750	ug/kg							
Endosulfan I	ND	1.50	ug/kg							
Endosulfan II	ND	0.750	ug/kg							
Endosulfan sulfate	ND	0.750	ug/kg							
Endrin	ND	0.750	ug/kg							
Technical Chlordane	ND	3.75	ug/kg							
Endrin aldehyde	ND	0.750	ug/kg							
Endrin ketone	ND	2.25	ug/kg							
Heptachlor	ND	0.750	ug/kg							
Heptachlor epoxide	ND	0.750	ug/kg							
Methoxychlor	ND	3.75	ug/kg							
Toxaphene	ND	11.2	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.22*		ug/kg	*12.50*		*65.8*	*55-126*			
Surrogate: Decachlorobiphenyl	*11.8*		ug/kg	*12.50*		*94.8*	*49-133*			
LCS	**Prepared: 10/25/17 Analyzed: 10/26/17**									
Aldrin	12.3	2.00	ug/kg	13.33		92.2	56-130			
gamma-BHC (Lindane)	11.3	2.00	ug/kg	13.33		84.5	56-133			
4,4'-DDT	13.8	4.00	ug/kg	13.33		104	56-133			
Dieldrin	14.1	2.00	ug/kg	13.33		105	62-119			
Endrin	12.2	2.00	ug/kg	13.33		91.8	59-127			
Heptachlor	12.9	2.00	ug/kg	13.33		96.9	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.2*		ug/kg	*16.67*		*73.2*	*54-108*			
Surrogate: Decachlorobiphenyl	*18.0*		ug/kg	*16.67*		*108*	*54-127*			
Matrix Spike Source: 1710177-01	**Prepared: 10/25/17 Analyzed: 10/26/17**									
Aldrin	8.85	1.50	ug/kg	10.00	ND	88.5	39-124			
gamma-BHC (Lindane)	8.09	1.50	ug/kg	10.00	ND	80.9	44-120			
4,4'-DDT	25.8	3.00	ug/kg	25.00	ND	103	48-150			
Dieldrin	24.8	1.50	ug/kg	25.00	ND	99.4	48-144			
Endrin	24.2	1.50	ug/kg	25.00	ND	96.7	54-149			

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 10/31/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ72641 - EPA 3550C										
Heptachlor	7.79	1.50	ug/kg	10.00	ND	77.9	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.44*		ug/kg	*12.50*		*67.5*	*57-126*			
Surrogate: Decachlorobiphenyl	*12.4*		ug/kg	*12.50*		*99.0*	*43-136*			
Matrix Spike Dup Source: 1710177-01	**Prepared: 10/25/17 Analyzed: 10/26/17**									
Aldrin	8.43	1.50	ug/kg	10.00	ND	84.3	39-124	4.83	30	
gamma-BHC (Lindane)	7.76	1.50	ug/kg	10.00	ND	77.6	44-120	4.18	30	
4,4´-DDT	26.7	3.00	ug/kg	25.00	ND	107	48-150	3.47	30	
Dieldrin	24.5	1.50	ug/kg	25.00	ND	97.9	48-144	1.57	30	
Endrin	24.3	1.50	ug/kg	25.00	ND	97.1	54-149	0.396	30	
Heptachlor	7.59	1.50	ug/kg	10.00	ND	75.9	46-135	2.59	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.30*		ug/kg	*12.50*		*66.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*12.8*		ug/kg	*12.50*		*102*	*43-136*			

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91173

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 10/23/17 PAGE 1 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171070

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pol

AIRBILL NO: GSO 538087626 2.4°C

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 661-831-7111

SAMPLER NAME: R. Beck (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ____

ANALYSES REQUESTED: OCPs (8081)

COOLER TEMP: 2.4°C

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/23/17	10:15	S8-N2-3"		X			N	1	B	X	
2			10:17	S8-N2-2"								X	
3			10:20	S8-N3-3"								X	
4			10:22	S8-N3-2"									Hold
5			10:30	S8-E2-3"								X	
6			10:32	S8-E2-2"								X	
7			10:50	S8-S2-3"								X	
8			10:52	S8-S2-2"									Hold
9			9:55	S9-E-3"								X	
10		↓	10:00	S9-E2-3"		↓			↓	↓	↓	X	

Relinquished By: (Signature and Printed Name) (Robt Beck)	Received By: (Signature and Printed Name)	Date: 10/24/17	Time: 10:40
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name) Lupe Gutierrez	Date: 10.24.17	Time: 1040
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 10/23/17

LAB COPY

91174

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/23/17 PAGE 2 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171070

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

AIRBILL NO: GSO 538087626 COOLER TEMP: 2.4°C

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED: OCPs (8081)

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/23/17	10:02	S9-E2-1.5'		X			N	1	B	X	
2		"	10:04	S9-E2-3'		"			"	"	"	X	
3		"	10:10	S9-E3-3"		"			"	"	"	X	
4		"	10:12	S9-E3-2'		"			"	"	"		Hold
5		"	9:50	S9-5-3'		"			"	"	"	X	
6		"	10:40	S8-E3-3"		"			"	"	"	X	
7		↓	10:42	S8-E3-2'		↓			↓	↓	↓		Hold
8													
9													
10													

Relinquished By: (Signature and Printed Name) Robert Beck Received By: (Signature and Printed Name) Date: 10/26/17 Time: 10:40

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10.24.17 Time: 1040.

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 10/23/17

LAE

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

November 01, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710047
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 05, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/01/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S7-N-1.5' Soil (1710047-14) Sampled:10/04/17 11:02 Received:10/05/17 12:01

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
4,4´-DDE	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
4,4´-DDT	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endrin	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Toxaphene	ND	R4	1	ug/kg	120	EPA 3550C	EPA 8081A	10/30/17	10/31/17	al	BJ73132
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*79.9 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*10/30/17*	*10/31/17*	*al*	*BJ73132*
Surrogate: Decachlorobiphenyl	*96.5 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*10/30/17*	*10/31/17*	*al*	*BJ73132*

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/01/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ73132 - EPA 3550C										
Blank	**Prepared: 10/30/17 Analyzed: 10/31/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4´-DDD	ND	2.00	ug/kg							
4,4´-DDE	ND	4.00	ug/kg							
4,4´-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.3*		ug/kg	*16.67*		*73.5*	*55-126*			
Surrogate: Decachlorobiphenyl	*15.3*		ug/kg	*16.67*		*91.9*	*49-133*			
LCS	**Prepared: 10/30/17 Analyzed: 10/31/17**									
Aldrin	11.7	2.00	ug/kg	13.33		87.8	56-130			
gamma-BHC (Lindane)	11.6	2.00	ug/kg	13.33		87.2	56-133			
4,4´-DDT	11.3	4.00	ug/kg	13.33		85.0	56-133			
Dieldrin	13.8	2.00	ug/kg	13.33		103	62-119			
Endrin	11.1	2.00	ug/kg	13.33		83.0	59-127			
Heptachlor	13.8	2.00	ug/kg	13.33		103	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*12.6*		ug/kg	*16.67*		*75.6*	*54-108*			
Surrogate: Decachlorobiphenyl	*14.7*		ug/kg	*16.67*		*88.0*	*54-127*			
Matrix Spike Source: 1710047-14	**Prepared: 10/30/17 Analyzed: 10/31/17**									
Aldrin	13.1	8.00	ug/kg	13.33	ND	98.2	39-124			
gamma-BHC (Lindane)	12.4	8.00	ug/kg	13.33	ND	93.0	44-120			
4,4´-DDT	27.2	16.0	ug/kg	33.33	ND	81.6	48-150			
Dieldrin	37.4	8.00	ug/kg	33.33	ND	112	48-144			
Endrin	32.6	8.00	ug/kg	33.33	ND	97.9	54-149			

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/01/17
Submitted: 10/05/17
PLS Report No.: 1710047

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BJ73132 - EPA 3550C										
Heptachlor	10.8	8.00	ug/kg	13.33	ND	81.3	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.8*		ug/kg	*16.67*		*88.5*	*57-126*			
Surrogate: Decachlorobiphenyl	*19.1*		ug/kg	*16.67*		*115*	*43-136*			
Matrix Spike Dup **Source: 1710047-14**	**Prepared: 10/30/17 Analyzed: 10/31/17**									
Aldrin	12.2	8.00	ug/kg	13.33	ND	91.4	39-124	7.13	30	
gamma-BHC (Lindane)	11.6	8.00	ug/kg	13.33	ND	86.9	44-120	6.73	30	
4,4'-DDT	23.3	16.0	ug/kg	33.33	ND	69.8	48-150	15.6	30	
Dieldrin	35.6	8.00	ug/kg	33.33	ND	107	48-144	4.94	30	
Endrin	29.7	8.00	ug/kg	33.33	ND	89.1	54-149	9.38	30	
Heptachlor	10.3	8.00	ug/kg	13.33	ND	77.4	46-135	4.95	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.0*		ug/kg	*16.67*		*84.0*	*57-126*			
Surrogate: Decachlorobiphenyl	*17.1*		ug/kg	*16.67*		*103*	*43-136*			

Notes and Definitions

R4	Analysis requested past Holding Time.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91165

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 1 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-Pos

AIRBILL NO: EXSO 933810346 0

COOLER TEMP: 0.4°C

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PRESERVED: _____

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C5-C36)	OCPs (8081)	Lead					SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	8:45	PL1-6"		X			N	1	B	X							
2			9:06	PL2-6"								X							
3			9:25	PL3-6"								X							
4			9:42	S1-SE-3"									X						
5			9:44	S1-SE-1.5"															Hold
6			9:55	S3-SW-3"									X						
7			10:00	S3-NW-3"									X						
8			10:10	S3-N-3"									X						
9			9:48	S4-SE-3"									X						
10			10:25	WW1-E-3"								X	X	X					

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert Becker Date: 10/5/17 Time: 1201

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Dave Gribner Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 Days Frozen days

By _____ Date 10/4/17

LAB COPY

91166

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 2 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 710247

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:
* Addon 10/12/17 via e-mail per Bob B. 4 day TAT
⊗ Addon 10/19/17 NTAT via e-mail per BOB.
\ addon 10/23/17 via e-mail, ok past HOLD per client.

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (C9-C36)	Lead	OCPs (8081)	STLC Pb	TCLP Pb				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:30	WW1-N-3"		X			N	1	B	X	X	X						
2			10:35	WW1-S-3"								X	X	X						
3			10:40	WW1-W-3"								X	X	X						
4			11:00	S7-N-3"								X	X	/						
5			11:02	S7-N-1.5'									X	/						Addon 10/27/17 3day TAT
6			11:05	S7-E-3"								X	X	/						
7			11:07	S7-E-1.5'									X							
8			11:15	S7-S-3"								X	X	/	*	⊗				
9			11:17	S7-S-1.5'									X							
10			11:10	S7-W-3"								X	X	/	*	⊗				

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: 10/5/17 Time: 210

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91167

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 3 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD / 16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: * see pg 2

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Lead	TPH(C5-C36)	BTEX	STLC Pb				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	11:12	S7-W-4.5'		X			N	1	B		X	~~X~~ RSB						
2			12:15	S7-T-6'		X				1	B		X	X	X	*				
3			1:10	S8-4'								X								
4			1:57	~~S8-4'~~								X		X						~~Hold~~ RSB
5			1:15	S8-E-3"								X								
6			1:17	S8-E-2.5'								*								Hold
7			1:25	S8-N-3"								X								
8			1:27	S8-N-2.5'								*								Hold
9			1:20	S8-W-3"								X								
10			1:22	S8-W-2.5'																Hold

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) Robert Becker Lupe Gutierrez Date: 10/5/17 @ Time: 1201

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

91168

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 10/4/17 PAGE 4 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-Pol

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS: * see pg 2

ANALYSES REQUESTED: OCPs (8081)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	1:30	S8-S-3'		X			N	1	B	X	
2			1:32	S8-S-2.5'								*	Hold
3			1:55	S12-2'								X	
4			2:20	S9-N-3"								X	
5			2:22	S9-N-1.5'									Hold
6			2:25	S9-E-3"								X	
7			2:27	S9-E-1.5'								*	Hold
8			2:30	S9-W-3"								X	
9			2:32	S9-W-1.5'								*	Hold
10			2:35	S9-S-3"								X	

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 12:01

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 30 days

By RJB Date 10/4/17

LAB COPY

91169

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 5 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1711047

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 0.4°

PRESERVED: _____

REMARKS: *see pg 2

ANALYSES REQUESTED: OCPs (8081) | TPH (C9 - C36)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	TPH (C9 - C36)	SAMPLE CONDITION/ CONTAINER/COMMENTS:
1		10/4/17	2:37	S9-S-1.5'		X			N	1	B	*		Hold
2			2:10	S11-W-3"								X	X	33
3			2:12	S11-W-1.5'										Hold
4			2:05	S11-N-3"								X	X	
5			2:07	S11-N-1.5'										Hold
6			2:15	S11-S-3"								X	X	
7			2:17	S11-S-1.5'										Hold
8			2:00	S12-E-3"								X	X	34
9			2:02	S12-E-1.5'								*	*	Hold
10			9:57	S3-SW-1.5'										Hold

Relinquished By: (Signature and Printed Name) Robert Becker Received By: (Signature and Printed Name) Date: 10/5/17 Time: 2:10

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days
By _____ Date _____

LAB COPY

91170

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/4/17 PAGE 6 OF 6

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1710047

CLIENT NAME: SES Project Name/No. KCCO/16268 P.O. NO. 16268-Pos

ADDRESS: 4400 Yeager Way Bakersfield, CA 93313

PROJECT MANAGER: R. Bech PHONE NO: 661-831-5700 FAX NO: 831-2111

SAMPLER NAME: R. Bech (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

AIRBILL NO: _____

COOLER TEMP: 0.4°C

PRESERVED: _____

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/4/17	10:02	S3-NW-1.5'		X			N	1	B	Hold
2			10:12	S3-N-1.5'								
3			9:50	S4-SE-1.5'								
4			10:25	WW1-E-1.5'								
5			10:32	WW1-N-1.5'								
6			10:42	WW1-W-1.5'								
7			10:37	WW1-S-1.5'								
8												
9												
10												

Relinquished By: (Signature and Printed Name) Robert Bech — Received By: (Signature and Printed Name) _____ — Date: 10/6/17 — Time: 12:01

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ — Date: _____ — Time: _____

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ — Date: _____ — Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

November 06, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1710170
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on October 24, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/06/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: S8-E3-2' Soil (1710170-14) Sampled:10/23/17 10:42 Received:10/24/17 10:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	11/02/17	11/03/17	al	BK70307
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*88.8 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*11/02/17*	*11/03/17*	*al*	*BK70307*
Surrogate: Decachlorobiphenyl	*102 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*11/02/17*	*11/03/17*	*al*	*BK70307*

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/06/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BK70307 - EPA 3550C										
Blank	**Prepared: 11/02/17 Analyzed: 11/03/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.3*		ug/kg	*16.67*		*86.1*	*55-126*			
Surrogate: Decachlorobiphenyl	*17.1*		ug/kg	*16.67*		*103*	*49-133*			
LCS	**Prepared: 11/02/17 Analyzed: 11/03/17**									
Aldrin	12.7	2.00	ug/kg	13.33		95.2	56-130			
gamma-BHC (Lindane)	12.1	2.00	ug/kg	13.33		90.6	56-133			
4,4'-DDT	13.4	4.00	ug/kg	13.33		101	56-133			
Dieldrin	14.4	2.00	ug/kg	13.33		108	62-119			
Endrin	14.4	2.00	ug/kg	13.33		108	59-127			
Heptachlor	15.5	2.00	ug/kg	13.33		116	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.5*		ug/kg	*16.67*		*80.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*16.4*		ug/kg	*16.67*		*98.3*	*54-127*			
Matrix Spike Source: 1711013-02	**Prepared: 11/02/17 Analyzed: 11/03/17**									
Aldrin	13.2	8.00	ug/kg	13.33	ND	99.3	39-124			
gamma-BHC (Lindane)	12.0	8.00	ug/kg	13.33	ND	90.2	44-120			
4,4'-DDT	22.0	16.0	ug/kg	33.33	ND	66.0	48-150			
Dieldrin	34.7	8.00	ug/kg	33.33	ND	104	48-144			
Endrin	31.7	8.00	ug/kg	33.33	ND	95.2	54-149			

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 11/06/17
Submitted: 10/24/17
PLS Report No.: 1710170

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BK70307 - EPA 3550C										
Heptachlor	12.4	8.00	ug/kg	13.33	ND	93.0	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.9*		ug/kg	*16.67*		*89.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*15.2*		ug/kg	*16.67*		*91.4*	*43-136*			
Matrix Spike Dup **Source: 1711013-02**	**Prepared: 11/02/17 Analyzed: 11/03/17**									
Aldrin	11.7	8.00	ug/kg	13.33	ND	88.1	39-124	12.0	30	
gamma-BHC (Lindane)	11.0	8.00	ug/kg	13.33	ND	82.5	44-120	8.96	30	
4,4'-DDT	19.7	16.0	ug/kg	33.33	ND	59.0	48-150	11.3	30	
Dieldrin	31.8	8.00	ug/kg	33.33	ND	95.3	48-144	8.76	30	
Endrin	28.8	8.00	ug/kg	33.33	ND	86.3	54-149	9.82	30	
Heptachlor	11.6	8.00	ug/kg	13.33	ND	87.3	46-135	6.34	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.9*		ug/kg	*16.67*		*83.3*	*57-126*			
Surrogate: Decachlorobiphenyl	*14.3*		ug/kg	*16.67*		*85.5*	*43-136*			

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

91173

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/23/17 PAGE 1 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171070

CLIENT NAME: SEI Project Name/No. KCCD/16268 P.O. NO. 16268-POI

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 661-831-2111

SAMPLER NAME: R. Beck (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: GSO 538087626
COOLER TEMP: 2.4 °C
PRESERVED: _____

REMARKS:

ANALYSES REQUESTED: OCPs (8081)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/23/17	10:15	S8-N2-3"		X			N	1	B	X	
2		"	10:17	S8-N2-2"		"			"	"	"	X	
3		"	10:20	S8-N3-3"		"			"	"	"	X	
4		"	10:22	S8-N3-2"		"			"	"	"		Hold
5		"	10:30	S8-E2-3"		"			"	"	"	X	
6		"	10:32	S8-E2-2"		"			"	"	"	X	
7		"	10:50	S8-S2-3"		"			"	"	"	X	
8		"	10:52	S8-S2-2"		"			"	"	"		Hold
9		"	9:55	S9-E-3"		"			"	"	"	X	
10		"	10:00	S9-E2-3"		"			"	"	"	X	

Relinquished By: (Signature and Printed Name) (Robert Beck) Received By: (Signature and Printed Name) Date: 10/24/17 Time: 10:40

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Lupe Gutierrez Date: 10.24.17 Time: 1040

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 10/23/17

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91174

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 10/23/17 PAGE 2 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171070

CLIENT NAME: SEI

Project Name/No. KCCD/16268

P.O. NO. 16268-POS

AIRBILL NO: GSO 538087626

COOLER TEMP: 2.4°C

PRESERVED: _____

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED: OCPs (8081)

REMARKS: ✓ adday MTAT Rel R.B. 10/31/17 @ 2:55p via Email (attached)

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		10/23/17	10:02	S9-E2-1.5'		X			N	1	B	X	
2		"	10:04	S9-E2-3'		"			"	"	"	X	
3		"	10:10	S9-E3-3"		"			"	"	"	X	
4		"	10:12	S9-E3-2'		"			"	"	"		Hold
5		"	9:50	S9-5-3'		"			"	"	"	X	
6		"	10:40	S8-E3-3"		"			"	"	"	X	
7		↓	10:42	S8-E3-2'		✓			↓	↓	↓	✓	Off Hold
8													
9													
10													

Relinquished By: (Signature and Printed Name) Robert Beck	Received By: (Signature and Printed Name)	Date: 10/24/17	Time: 1040
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name) Luis Guevara	Date: 10.24.17	Time: 1040.

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 10/23/17

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LAB SERVICE

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(213) 745-5312 FAX (213) 745-6372

December 06, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1711217
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on November 29, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: C6A-3", C6B-3", C6C-3", C6D-3" Composite Soil (1711217-01) Sampled:11/28/17 10:00 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
4,4'-DDE	**43.3**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
4,4'-DDT	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	11/29/17	11/30/17	lk	BK73028
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*105 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*11/29/17*	*11/30/17*	*lk*	*BK73028*
Surrogate: Decachlorobiphenyl	*112 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*11/29/17*	*11/30/17*	*lk*	*BK73028*

Sample ID: C6B-3" Soil (1711217-02) Sampled:11/28/17 09:40 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**7.64**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119

Sample ID: TF2-1-2' Soil (1711217-03) Sampled:11/28/17 08:30 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**3.56**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111
Surrogate: n-Tetracosane	*94.2 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*11/30/17*	*lk*	*BL70111*

Sample ID: TF2-2-3" Soil (1711217-04) Sampled:11/28/17 09:10 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**15.0**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*80.6 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: TF2-2-3' Soil (1711217-04) Sampled:11/28/17 09:10 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Surrogate: a,a,a-Trifluorotoluene	*108 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Arsenic	**10.5**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Barium	**157**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Chromium	**11.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cobalt	**7.74**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Copper	**7.64**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Lead	**3.97**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Nickel	**7.42**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Vanadium	**34.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Zinc	**50.5**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	12/01/17	12/01/17	cg	BL70116
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**7.9**		1	pH Units	0.1	-	EPA 9045C	12/01/17	12/01/17	am	BL70127

Sample ID: TF2-2-2' Soil (1711217-05) Sampled:11/28/17 09:12 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**8.07**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*89.7 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*108 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Arsenic	**11.9**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Barium	**175**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Chromium	**13.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cobalt	**9.28**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Copper	**8.72**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Lead	**3.41**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Nickel	**7.13**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: TF2-2-2' Soil (1711217-05) Sampled:11/28/17 09:12 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Vanadium	**39.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Zinc	**55.5**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	12/01/17	12/01/17	cg	BL70116
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.0**		1	pH Units	0.1	-	EPA 9045C	12/01/17	12/01/17	am	BL70127

Sample ID: TF2-2-6' Soil (1711217-06) Sampled:11/28/17 09:14 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*79.7 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*99.9 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*

Sample ID: TF2-2-9' Soil (1711217-07) Sampled:11/28/17 09:15 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*82.1 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*125 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*

Sample ID: TF2-3-2' Soil (1711217-08) Sampled:11/28/17 09:30 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**4.35**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*84.0 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*

Sample ID: TF2-4-2' Soil (1711217-09) Sampled:11/28/17 08:55 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111

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File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: TF2-4-2' Soil (1711217-09) Sampled:11/28/17 08:55 Received:11/29/17 11:34

TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	11/30/17	lk	BL70111
Surrogate: n-Tetracosane	*88.4 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*11/30/17*	*lk*	*BL70111*

Sample ID: P1 Soil (1711217-10) Sampled:11/28/17 08:50 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**157**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	**640**		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	**106**		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*90.2 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*101 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Arsenic	**6.30**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Barium	**125**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Chromium	**10.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cobalt	**6.25**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Copper	**8.17**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Lead	**9.73**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Nickel	**7.89**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Vanadium	**29.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Zinc	**42.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	12/01/17	12/01/17	cg	BL70116
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.0**		1	pH Units	0.1	-	EPA 9045C	12/01/17	12/01/17	am	BL70127

Sample ID: P2 Soil (1711217-11) Sampled:11/28/17 10:05 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	**16.0**		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	**109**		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*82.8 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040

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File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: P2 Soil (1711217-11) Sampled:11/28/17 10:05 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*
Antimony	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Arsenic	**11.2**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Barium	**177**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Chromium	**14.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Cobalt	**8.53**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Copper	**13.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Lead	**37.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Nickel	**10.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Selenium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Thallium	ND		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Vanadium	**36.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Zinc	**76.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	12/01/17	12/01/17	CG	BL70119
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	**0.188**		1	mg/kg	0.100	EPA 7471A	EPA 7471A	12/01/17	12/01/17	cg	BL70116
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
pH	**8.1**		1	pH Units	0.1	-	EPA 9045C	12/01/17	12/01/17	am	BL70127

Sample ID: PL4-6' Soil (1711217-12) Sampled:11/28/17 10:30 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
TPH C9 - C22	ND		1	mg/kg	2.50	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C23 - C32	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
TPH C33 - C36	ND		1	mg/kg	100	EPA 3550C	EPA 8015B	11/30/17	12/01/17	lk	BL70111
Surrogate: n-Tetracosane	*82.6 %*			*68-133*		*EPA 3550C*	*EPA 8015B*	*11/30/17*	*12/01/17*	*lk*	*BL70111*
Benzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Toluene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Ethylbenzene	ND		1	ug/kg	1.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Xylenes (total)	ND		1	ug/kg	2.00	EPA 5030B	EPA 8021B	11/30/17	11/30/17	lk	BK73040
Surrogate: a,a,a-Trifluorotoluene	*100 %*			*46-132*		*EPA 5030B*	*EPA 8021B*	*11/30/17*	*11/30/17*	*lk*	*BK73040*

POSITIVE LAB SERVICE

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Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL70111 - EPA 3550C										
Blank	**Prepared & Analyzed: 11/30/17**									
TPH C9 - C22	ND	2.50	mg/kg							
TPH C23 - C32	ND	100	mg/kg							
TPH C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*17.8*		mg/kg	*20.83*		*85.4*	*68-133*			
LCS	**Prepared & Analyzed: 11/30/17**									
Diesel	651	6.25	mg/kg	554.7		117	69-137			
Surrogate: n-Tetracosane	*22.2*		mg/kg	*20.83*		*107*	*64-140*			
Matrix Spike **Source: 1711217-03**	**Prepared & Analyzed: 11/30/17**									
Diesel	114	2.50	mg/kg	110.9	15.6	89.0	53-138			
Surrogate: n-Tetracosane	*19.7*		mg/kg	*20.83*		*94.4*	*68-133*			
Matrix Spike Dup **Source: 1711217-03**	**Prepared & Analyzed: 11/30/17**									
Diesel	114	2.50	mg/kg	110.9	15.6	89.0	53-138	0.101	30	
Surrogate: n-Tetracosane	*19.9*		mg/kg	*20.83*		*95.3*	*68-133*			
Batch BK73040 - EPA 5030B										
Blank	**Prepared & Analyzed: 11/30/17**									
Benzene	ND	1.00	ug/kg							
Toluene	ND	1.00	ug/kg							
Ethylbenzene	ND	1.00	ug/kg							
Xylenes (total)	ND	2.00	ug/kg							
Surrogate: a,a,a-Trifluorotoluene	*14.9*		ug/kg	*15.00*		*99.2*	*46-132*			
LCS	**Prepared & Analyzed: 11/30/17**									
Benzene	89.9	1.00	ug/kg	100.0		89.9	76-117			
Toluene	87.1	1.00	ug/kg	100.0		87.1	74-113			
Ethylbenzene	88.3	1.00	ug/kg	100.0		88.3	75-122			
Xylenes (total)	256	2.00	ug/kg	300.0		85.2	68-121			
Surrogate: a,a,a-Trifluorotoluene	*15.4*		ug/kg	*15.00*		*102*	*67-130*			
Matrix Spike **Source: 1711217-12**	**Prepared & Analyzed: 11/30/17**									
Benzene	38.2	1.00	ug/kg	40.00	ND	95.5	51-129			
Toluene	36.6	1.00	ug/kg	40.00	ND	91.4	37-129			
Ethylbenzene	38.5	1.00	ug/kg	40.00	ND	96.2	45-129			
Xylenes (total)	111	2.00	ug/kg	120.0	ND	92.7	52-113			
Surrogate: a,a,a-Trifluorotoluene	*15.8*		ug/kg	*15.00*		*105*	*46-132*			
Matrix Spike Dup **Source: 1711217-12**	**Prepared & Analyzed: 11/30/17**									
Benzene	38.8	1.00	ug/kg	40.00	ND	96.9	51-129	1.52	30	
Toluene	37.3	1.00	ug/kg	40.00	ND	93.2	37-129	1.92	30	
Ethylbenzene	39.9	1.00	ug/kg	40.00	ND	99.9	45-129	3.72	30	
Xylenes (total)	113	2.00	ug/kg	120.0	ND	94.1	52-113	1.41	30	

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Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BK73040 - EPA 5030B										
Surrogate: a,a,a-Trifluorotoluene	*15.6*		ug/kg	*15.00*		*104*	*46-132*			
Batch BK73028 - EPA 3550C										
Blank	**Prepared & Analyzed: 11/29/17**									
Aldrin	ND	0.750	ug/kg							
alpha-BHC	ND	0.750	ug/kg							
beta-BHC	ND	0.750	ug/kg							
delta-BHC	ND	0.750	ug/kg							
gamma-BHC (Lindane)	ND	0.750	ug/kg							
alpha-Chlordane	ND	0.750	ug/kg							
gamma-Chlordane	ND	0.750	ug/kg							
4,4'-DDD	ND	0.750	ug/kg							
4,4'-DDE	ND	1.50	ug/kg							
4,4'-DDT	ND	1.50	ug/kg							
Dieldrin	ND	0.750	ug/kg							
Endosulfan I	ND	1.50	ug/kg							
Endosulfan II	ND	0.750	ug/kg							
Endosulfan sulfate	ND	0.750	ug/kg							
Endrin	ND	0.750	ug/kg							
Technical Chlordane	ND	3.75	ug/kg							
Endrin aldehyde	ND	0.750	ug/kg							
Endrin ketone	ND	2.25	ug/kg							
Heptachlor	ND	0.750	ug/kg							
Heptachlor epoxide	ND	0.750	ug/kg							
Methoxychlor	ND	3.75	ug/kg							
Toxaphene	ND	11.2	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*9.07*		ug/kg	*12.50*		*72.6*	*55-126*			
Surrogate: Decachlorobiphenyl	*10.3*		ug/kg	*12.50*		*82.6*	*49-133*			
LCS	**Prepared & Analyzed: 11/29/17**									
Aldrin	11.5	2.00	ug/kg	13.33		86.5	56-130			
gamma-BHC (Lindane)	12.5	2.00	ug/kg	13.33		93.9	56-133			
4,4'-DDT	15.4	4.00	ug/kg	13.33		115	56-133			
Dieldrin	14.2	2.00	ug/kg	13.33		107	62-119			
Endrin	19.0	2.00	ug/kg	13.33		142	59-127			
Heptachlor	17.2	2.00	ug/kg	13.33		129	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*13.1*		ug/kg	*16.67*		*78.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*14.3*		ug/kg	*16.67*		*85.5*	*54-127*			
Matrix Spike **Source: 1711215-01**	**Prepared & Analyzed: 11/29/17**									
Aldrin	9.98	1.50	ug/kg	10.00	ND	99.8	39-124			
gamma-BHC (Lindane)	9.68	1.50	ug/kg	10.00	ND	96.8	44-120			

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File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BK73028 - EPA 3550C										
4,4´-DDT	31.9	3.00	ug/kg	25.00	ND	128	48-150			
Dieldrin	28.1	1.50	ug/kg	25.00	ND	112	48-144			
Endrin	39.8	1.50	ug/kg	25.00	ND	159	54-149			
Heptachlor	12.1	1.50	ug/kg	10.00	ND	121	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*10.8*		ug/kg	*12.50*		*86.1*	*57-126*			
Surrogate: Decachlorobiphenyl	*10.9*		ug/kg	*12.50*		*87.1*	*43-136*			
Matrix Spike Dup **Source: 1711215-01**	**Prepared & Analyzed: 11/29/17**									
Aldrin	9.98	1.50	ug/kg	10.00	ND	99.8	39-124	0.0601	30	
gamma-BHC (Lindane)	9.62	1.50	ug/kg	10.00	ND	96.2	44-120	0.622	30	
4,4´-DDT	33.9	3.00	ug/kg	25.00	ND	135	48-150	5.92	30	
Dieldrin	28.8	1.50	ug/kg	25.00	ND	115	48-144	2.53	30	
Endrin	41.0	1.50	ug/kg	25.00	ND	164	54-149	3.02	30	
Heptachlor	12.2	1.50	ug/kg	10.00	ND	122	46-135	0.962	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*10.6*		ug/kg	*12.50*		*84.9*	*57-126*			
Surrogate: Decachlorobiphenyl	*11.4*		ug/kg	*12.50*		*91.2*	*43-136*			
Batch BL70119 - EPA 3050B										
Blank	**Prepared & Analyzed: 12/01/17**									
Arsenic	ND	2.00	mg/kg							
LCS	**Prepared & Analyzed: 12/01/17**									
Arsenic	48.9	2.00	mg/kg	50.00		97.7	80-120			
Matrix Spike **Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Arsenic	57.2	2.00	mg/kg	50.00	11.2	92.1	75-125			
Matrix Spike Dup **Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Arsenic	58.6	2.00	mg/kg	50.00	11.2	95.0	75-125	3.02	30	
Batch BL70119 - EPA 3050B										
Blank	**Prepared & Analyzed: 12/01/17**									
Antimony	ND	2.00	mg/kg							
Arsenic	ND	2.00	mg/kg							
Barium	ND	1.00	mg/kg							
Beryllium	ND	1.00	mg/kg							
Cadmium	ND	1.00	mg/kg							
Chromium	ND	1.00	mg/kg							
Cobalt	ND	1.00	mg/kg							
Copper	ND	1.00	mg/kg							
Lead	ND	1.00	mg/kg							
Molybdenum	ND	1.00	mg/kg							
Nickel	ND	1.00	mg/kg							
Selenium	ND	2.00	mg/kg							

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File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL70119 - EPA 3050B										
Silver	ND	1.00	mg/kg							
Thallium	ND	2.00	mg/kg							
Vanadium	ND	1.00	mg/kg							
Zinc	ND	5.00	mg/kg							
LCS	**Prepared & Analyzed: 12/01/17**									
Antimony	46.7	2.00	mg/kg	49.80		93.7	60-140			
Arsenic	48.9	2.00	mg/kg	50.00		97.7	80-120			
Barium	198	1.00	mg/kg	199.3		99.2	80-120			
Beryllium	4.67	1.00	mg/kg	4.940		94.6	80-120			
Cadmium	5.27	1.00	mg/kg	4.990		106	80-120			
Chromium	20.9	1.00	mg/kg	19.86		105	80-120			
Cobalt	52.0	1.00	mg/kg	49.57		105	80-120			
Copper	24.9	1.00	mg/kg	25.04		99.6	80-120			
Lead	51.4	1.00	mg/kg	50.20		102	80-120			
Molybdenum	47.3	1.00	mg/kg	50.10		94.4	80-120			
Nickel	53.3	1.00	mg/kg	49.73		107	80-120			
Selenium	46.1	2.00	mg/kg	50.00		92.2	80-120			
Silver	5.16	1.00	mg/kg	4.970		104	80-120			
Thallium	49.9	2.00	mg/kg	49.37		101	80-120			
Vanadium	46.2	1.00	mg/kg	50.10		92.1	80-120			
Zinc	52.6	5.00	mg/kg	49.98		105	80-120			
Matrix Spike **Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Antimony	43.6	2.00	mg/kg	49.80	1.05	85.4	60-140			
Arsenic	57.2	2.00	mg/kg	50.00	11.2	92.1	75-125			
Barium	345	1.00	mg/kg	199.3	177	84.3	75-125			
Beryllium	4.92	1.00	mg/kg	4.940	0.326	93.1	75-125			
Cadmium	4.93	1.00	mg/kg	4.990	0.196	94.8	75-125			
Chromium	32.3	1.00	mg/kg	19.86	14.1	91.7	75-125			
Cobalt	56.2	1.00	mg/kg	49.57	8.53	96.1	75-125			
Copper	36.4	1.00	mg/kg	25.04	13.4	91.6	75-125			
Lead	97.4	1.00	mg/kg	50.20	37.9	118	75-125			
Molybdenum	45.5	1.00	mg/kg	50.10	0.796	89.3	75-125			
Nickel	55.6	1.00	mg/kg	49.73	10.0	91.7	75-125			
Selenium	44.8	2.00	mg/kg	50.00	ND	89.5	75-125			
Silver	4.68	1.00	mg/kg	4.970	ND	94.1	75-125			
Thallium	43.2	2.00	mg/kg	49.37	ND	87.6	75-125			
Vanadium	81.8	1.00	mg/kg	50.10	36.8	89.7	75-125			
Zinc	122	5.00	mg/kg	49.98	76.1	92.4	75-125			
Matrix Spike Dup **Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Antimony	44.7	2.00	mg/kg	49.80	1.05	87.6	60-140	2.47	30	

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File #:73443
Report Date: 12/06/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL70119 - EPA 3050B											
Arsenic		58.6	2.00	mg/kg	50.00	11.2	95.0	75-125	3.02	30	
Barium		350	1.00	mg/kg	199.3	177	87.0	75-125	3.20	30	
Beryllium		4.96	1.00	mg/kg	4.940	0.326	93.8	75-125	0.772	30	
Cadmium		5.01	1.00	mg/kg	4.990	0.196	96.4	75-125	1.69	30	
Chromium		33.5	1.00	mg/kg	19.86	14.1	97.8	75-125	6.47	30	
Cobalt		56.5	1.00	mg/kg	49.57	8.53	96.8	75-125	0.668	30	
Copper		36.9	1.00	mg/kg	25.04	13.4	93.7	75-125	2.31	30	
Lead		80.7	1.00	mg/kg	50.20	37.9	85.3	75-125	32.5	30	V-2
Molybdenum		46.6	1.00	mg/kg	50.10	0.796	91.4	75-125	2.32	30	
Nickel		55.2	1.00	mg/kg	49.73	10.0	90.8	75-125	0.951	30	
Selenium		45.2	2.00	mg/kg	50.00	ND	90.4	75-125	1.02	30	
Silver		4.83	1.00	mg/kg	4.970	ND	97.1	75-125	3.12	30	
Thallium		44.2	2.00	mg/kg	49.37	ND	89.4	75-125	2.09	30	
Vanadium		83.7	1.00	mg/kg	50.10	36.8	93.5	75-125	4.16	30	
Zinc		124	5.00	mg/kg	49.98	76.1	95.9	75-125	3.73	30	
Batch BL70116 - EPA 7471A											
Blank		**Prepared & Analyzed: 12/01/17**									
Mercury		ND	0.100	mg/kg							
LCS		**Prepared & Analyzed: 12/01/17**									
Mercury		0.834	0.100	mg/kg	0.8358		99.8	80-120			
Matrix Spike	**Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Mercury		1.04	0.100	mg/kg	0.8358	0.188	102	75-125			
Matrix Spike Dup	**Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
Mercury		1.07	0.100	mg/kg	0.8358	0.188	106	75-125	3.46	30	
Batch BL70127 - --											
Duplicate	**Source: 1711217-11**	**Prepared & Analyzed: 12/01/17**									
pH		8.1	0.1	pH Units		8.1			0.247	5	

Notes and Definitions

V-2	Out-of-Range recovery was due to sample Heterogeneity.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

97442

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 11/28/17 PAGE 1 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171127

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-Pos

AIRBILL NO: 8660 4388424861

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

COOLER TEMP: 1.7°C

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

PRESERVATIVE:

REMARKS:
⊗ = discrete analysis
X = Composite analysis

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	TPH (C9-C36)	BTEX (8021)	Cam 17 Metals	pH	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		11/28/17	8:40	C6A-3"		X			N	1	B							
2			9:40	C6B-3"								X	⊗					
3			10:00	C6C-3"														
4			9:50	C6D-3"														
5			8:30	TF2-1-2'										⊗				
6			9:10	TF2-2-3"										⊗	⊗	⊗	⊗	
7			9:12	TF2-2-2'										⊗	⊗	⊗	⊗	
8			9:14	TF2-2-6'										⊗	⊗			
9			9:15	TF2-2-9'										⊗	⊗			
10			9:30	TF2-3-2'										⊗				

Composite

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Robert Becker	Rose Cisneros	11/29/17	@ 11:34
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

LAB COPY

97443

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 11/28/17 PAGE 2 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171128-7

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-POS

AIRBILL NO: _____

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

COOLER TEMP: 1.7°C

PROJECT MANAGER: R. Beck PHONE NO: 661-831-5100 FAX NO: 831-2111

PRESERVATIVE:

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

REMARKS:

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED: TPH(C9-C36) | BTEX (8021) | CAM 17 Metals | pH

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(C9-C36)	BTEX (8021)	CAM 17 Metals	pH	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		11/28/17	8:55	TF2-4-2'		X			N	1	B	⊗				
2			8:50	P1								⊗	⊗	⊗	⊗	
3			10:05	P2								⊗	⊗	⊗	⊗	
4			10:30	P2 4-6'					↓			⊗	⊗			
5			8:42	C6A-2'												Hold
6			9:42	C6B-2'												
7			10:02	C6C-2'												
8			9:52	C6D-2'												
9			8:32	TF2-1-4.5'												
10			9:32	TF2-3-4.5'												
11		↓	8:57	TF2-4-4.5'		↓				↓	↓					

Relinquished By: (Signature and Printed Name) Robert Beck Received By: (Signature and Printed Name) Date: 11/29/17 Time: @ 11:39

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/28/17

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

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POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

December 08, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1711217
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on November 29, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/08/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: TF2-2-3' Soil (1711217-04) Sampled:11/28/17 09:10 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Soluble Chloride	**407**		1	mg/kg	5.00	DI-Leach	EPA 300.0 M	12/07/17	12/07/17	cg	BL70805

Sample ID: TF2-2-2' Soil (1711217-05) Sampled:11/28/17 09:12 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Soluble Chloride	**564**		1	mg/kg	5.00	DI-Leach	EPA 300.0 M	12/07/17	12/07/17	cg	BL70805

Sample ID: TF2-2-6' Soil (1711217-06) Sampled:11/28/17 09:14 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Soluble Chloride	**482**		1	mg/kg	5.00	DI-Leach	EPA 300.0 M	12/07/17	12/07/17	cg	BL70805

Quality Control Data

Analyte		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL70805 - DI-Leach											
Blank		**Prepared & Analyzed: 12/07/17**									
Soluble Chloride		ND	5.00	mg/kg							
LCS		**Prepared & Analyzed: 12/07/17**									
Soluble Chloride		50.1	5.00	mg/kg	50.00		100	70-130			
Duplicate	**Source: 1711217-05**	**Prepared & Analyzed: 12/07/17**									
Soluble Chloride		577	5.00	mg/kg		564			2.23	30	
Matrix Spike	**Source: 1711217-05**	**Prepared & Analyzed: 12/07/17**									
Soluble Chloride		608	5.00	mg/kg	50.00	564	87.4	70-130			
Matrix Spike Dup	**Source: 1711217-05**	**Prepared & Analyzed: 12/07/17**									
Soluble Chloride		609	5.00	mg/kg	50.00	564	90.5	70-130	3.49	30	

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

97443

POSITIVE LAB SERVICE

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(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 11/28/17 PAGE 2 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171127

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-POS

AIRBILL NO: _____

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

COOLER TEMP: 1.7°C

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

PRESERVATIVE:

SAMPLER NAME: R. Bec (Printed) _____ (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

REMARKS:
(*) Addon 12/8/17 @ 1025AM 3day TAT per B. Becker

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(C9-C36)	BTEX (8021)	CAM 17 Metals	pH	(*)				SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		11/28/17	8:55	TF2-4-2'		X			N	1	B	⊘								
2			8:50	P1								⊘	⊘	⊘	⊘	(*)				
3			10:05	P2								⊘	⊘	⊘	⊘	(*)				
4			10:30	P2 4-6'								⊘	⊘							
5			8:42	C6A-2'																Hold
6			9:42	C6B-2'																
7			10:02	C6C-2'																
8			9:52	C6D-2'																
9			8:32	TF2-1-4.5'																
10			9:32	TF2-3-4.5'																
11			8:57	TF2-4-4.5'																

Relinquished By: (Signature and Printed Name) Robert Bec — Received By: (Signature and Printed Name) _____ Date: 11/28/17 Time: 11:39

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ Date: _____ Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/28/17

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

LAB COPY

97442

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 11/28/17 PAGE 1 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171127

CLIENT NAME: SEI Project Name/No. 16768 / KCCD P.O. NO. 16768-Pos

AIRBILL NO: GSO 6986124089

COOLER TEMP: 1.7°C

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Beck (Printed) _____ (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

PRESERVATIVE:

REMARKS:
⊗ = discrete analysis
X = Composite analysis

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	TPH (C9-C36)	BTEX (8021)	Cam 17 Metals	pH	Chloride via e-mail 12/6/17 3 day	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		11/28/17	8:40	C6A-3"		X			N	1	B								
2			9:40	C6B-3"								⊗							
3			10:00	C6C-3"							X								
4			9:50	C6D-3"															
5			8:30	TF2-1-2'									⊗						
6			9:10	TF2-2-3"									⊗	⊗	⊗	⊗	*		
7			9:12	TF2-2-2'									⊗	⊗	⊗	⊗	*		
8			9:14	TF2-2-6'									⊗	⊗			*		
9			9:15	TF2-2-9'									⊗	⊗					
10		↓	9:30	TF2-3-2'		↓		↓	↓	↓			⊗						

Composite

Relinquished By: (Signature and Printed Name) Robert Beck — Received By: (Signature and Printed Name) _____ — Date: 11/29/17 — Time: @ 11:34

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) Cliff Gutierrez — Date: _____ — Time: _____

Relinquished By: (Signature and Printed Name) _____ — Received By: (Signature and Printed Name) _____ — Date: _____ — Time: _____

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

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LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

December 13, 2017

Mr. Robert Becker
Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Report No.: 1711217
Project Name: 16268 KCCD / P.O. # 16268-POS

Dear Mr. Robert Becker,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on November 29, 2017.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/13/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: P1 Soil (1711217-10) Sampled:11/28/17 08:50 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDE	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDT	**20.6**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Toxaphene	ND		1	ug/kg	120	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*79.7 %*			*55-126*		*EPA 3550C*	*EPA 8081A*	*12/11/17*	*12/12/17*	*al*	*BL71238*
Surrogate: Decachlorobiphenyl	*76.1 %*			*49-133*		*EPA 3550C*	*EPA 8081A*	*12/11/17*	*12/12/17*	*al*	*BL71238*

Sample ID: P2 Soil (1711217-11) Sampled:11/28/17 10:05 Received:11/29/17 11:34

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
alpha-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
beta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
delta-BHC	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
gamma-Chlordane	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDD	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDE	**18.8**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
4,4'-DDT	**21.2**		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Dieldrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan I	ND		1	ug/kg	16.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan II	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Endrin ketone	ND		1	ug/kg	24.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Heptachlor	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Methoxychlor	ND		1	ug/kg	40.0	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/13/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Sample ID: P2 Soil (1711217-11) Sampled:11/28/17 10:05 Received:11/29/17 11:34

Toxaphene	ND	1	ug/kg	120	EPA 3550C	EPA 8081A	12/11/17	12/12/17	al	BL71238
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.6 %*		*55-126*		*EPA 3550C*	*EPA 8081A*	*12/11/17*	*12/12/17*	*al*	*BL71238*
Surrogate: Decachlorobiphenyl	*94.4 %*		*49-133*		*EPA 3550C*	*EPA 8081A*	*12/11/17*	*12/12/17*	*al*	*BL71238*

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/13/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL71238 - EPA 3550C										
Blank	**Prepared: 12/11/17 Analyzed: 12/12/17**									
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.0*		ug/kg	*16.67*		*90.3*	*55-126*			
Surrogate: Decachlorobiphenyl	*17.8*		ug/kg	*16.67*		*107*	*49-133*			
LCS	**Prepared: 12/11/17 Analyzed: 12/12/17**									
Aldrin	11.3	2.00	ug/kg	13.33		84.5	56-130			
gamma-BHC (Lindane)	12.4	2.00	ug/kg	13.33		93.2	56-133			
4,4'-DDT	13.9	4.00	ug/kg	13.33		104	56-133			
Dieldrin	14.2	2.00	ug/kg	13.33		107	62-119			
Endrin	13.8	2.00	ug/kg	13.33		104	59-127			
Heptachlor	16.0	2.00	ug/kg	13.33		120	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*15.0*		ug/kg	*16.67*		*89.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*17.9*		ug/kg	*16.67*		*107*	*54-127*			
Matrix Spike Source: 1712073-01	**Prepared: 12/11/17 Analyzed: 12/12/17**									
Aldrin	11.0	8.00	ug/kg	13.33	ND	82.5	39-124			
gamma-BHC (Lindane)	11.5	8.00	ug/kg	13.33	ND	86.0	44-120			
4,4'-DDT	38.4	16.0	ug/kg	33.33	ND	115	48-150			
Dieldrin	37.3	8.00	ug/kg	33.33	2.92	103	48-144			
Endrin	39.5	8.00	ug/kg	33.33	ND	118	54-149			

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Soils Engineering Inc.
4400 Yeager Way
Bakersfield, CA 93313

Attn: Mr. Robert Becker Phone: (661) 831-5100 FAX:(661) 831-2111

File #:73443
Report Date: 12/13/17
Submitted: 11/29/17
PLS Report No.: 1711217

Project: 16268 KCCD / P.O. # 16268-POS

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL71238 - EPA 3550C										
Heptachlor	14.6	8.00	ug/kg	13.33	ND	109	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.3*		ug/kg	*16.67*		*85.6*	*57-126*			
Surrogate: Decachlorobiphenyl	*18.6*		ug/kg	*16.67*		*112*	*43-136*			
Matrix Spike Dup Source: 1712073-01	**Prepared: 12/11/17 Analyzed: 12/12/17**									
Aldrin	12.0	8.00	ug/kg	13.33	ND	90.1	39-124	8.83	30	
gamma-BHC (Lindane)	12.2	8.00	ug/kg	13.33	ND	91.6	44-120	6.28	30	
4,4'-DDT	39.5	16.0	ug/kg	33.33	ND	118	48-150	2.65	30	
Dieldrin	39.0	8.00	ug/kg	33.33	2.92	108	48-144	4.71	30	
Endrin	39.4	8.00	ug/kg	33.33	ND	118	54-149	0.0964	30	
Heptachlor	13.5	8.00	ug/kg	13.33	ND	101	46-135	7.61	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*14.8*		ug/kg	*16.67*		*88.9*	*57-126*			
Surrogate: Decachlorobiphenyl	*19.7*		ug/kg	*16.67*		*118*	*43-136*			

Notes and Definitions

NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

97443

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 11/28/17 PAGE 2 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171217

CLIENT NAME: SEI

Project Name/No. 16268 / KCCD

P.O. NO. 16268-POS

ADDRESS: 4400 Yeager Wy, Bakersfield, CA 93313

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Becker (Printed) _____ (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 1.7°C

PRESERVATIVE:

REMARKS: (*)Addon 12/8/17 @ 1025AM 3day TAT per B. Becker

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH(C9-C36)	BTEX (8021)	CAM 17 Metals	pH	BOBI	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1		11/28/17	8:55	TF2-4-2'		X			N	1	B	⊘					
2			8:50	P1								⊘	⊘	⊘	⊘	(*)	
3			10:05	P2								⊘	⊘	⊘	⊘	(*)	
4			10:30	P2 4-6'					↓			⊘	⊘				
5			8:42	C6A-2'													Hold
6			9:42	C6B-2'													
7			10:02	C6C-2'													
8			9:52	C6D-2'													
9			8:32	TF2-1-4.5'													
10			9:32	TF2-3-4.5'													
11		↓	8:57	TF2-4-4.5'		↓			↓	↓	↓						↓

Relinquished By: (Signature and Printed Name) Robert Becker — Received By: (Signature and Printed Name) — Date: 11/29/17 — Time: @ 11:39

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/28/17

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

LAB COPY

97442

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 11/28/17 PAGE 1 OF 2

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 171127

CLIENT NAME: SEI Project Name/No. 16268 / KCCD P.O. NO. 16268-Pos

AIRBILL NO: 660 6486424864

ADDRESS: 4400 Yeager Way, Bakersfield, CA 93313

COOLER TEMP: 1.7°C

PROJECT MANAGER: R. Becker PHONE NO: 661-831-5100 FAX NO: 831-2111

SAMPLER NAME: R. Bec (Printed) (Signature)

TAT (Analytical Turn Around Time): 0 = Same Day; 1 = 1 Day; 2 = 2 Days; 3 = 3 Days; N = Normal (5-7 Working Days)

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y (N) - Global ID# _____

ANALYSES REQUESTED:

PRESERVATIVE:

REMARKS: ⊗ = discrete analysis; X = Composite analysis

SAMPLE CONDITION/ CONTAINER /COMMENTS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	OCPs (8081)	Arsenic	TPH (C9-C36)	BTEX (8021)	CAM 17 Metals	pH	Chloride via e-mail 12/6/17 3 day	
1		11/28/17	8:40	C6A-3'		X			N	1	B								
2			9:40	C6B-3' (Composite)								X	⊗						
3			10:00	C6C-3' (Composite)															
4			9:50	C6D-3' (Composite)															
5			8:30	TF2-1-2'										⊗					
6			9:10	TF2-2-3'										⊗	⊗	⊗	⊗	*	
7			9:12	TF2-2-2'										⊗	⊗	⊗	⊗	*	
8			9:14	TF2-2-6'										⊗	⊗			*	
9			9:15	TF2-2-9'										⊗	⊗				
10			9:30	TF3-3-2'										⊗					

Relinquished By: (Signature and Printed Name) Robert Bec — Received By: (Signature and Printed Name) — Date: 11/28/17 — Time: 11:34

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? (YES) NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: 60 days

By _____ Date 11/

PRESERVATIVE: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

LAB COPY

September 14, 2017

Robert Becker
Soil Engineers, Inc.
4400 Yeager Way
Bakersfield, CA 93313

RE: South of Arvin High School Arvin, CA. 93203

Enclosed are the results of analyses for soil gas samples received by Environmental Support Technologies laboratory on 09/13/17 16:18. The analyses were performed according to the prescribed method as outlined by EPA 8260B. A shut in test was performed, leak test was performed, equipment blank was run, and selected purge volume was 3PV. If you have any questions concerning this report, please feel free to contact Project Manager.

Sincerely,

Ashley Flores

Ashley Flores
Project Manager

Environmental Support Technologies laboratories are certified by the California Department of Health Services (CDHS), Environmental Laboratory Accreditation Program (ELAP) No's. 2772, 2773, and 2767.

8 Goodyear, Suite 125, Irvine, California 92618
Telephone: (949) 679-9500 Fax: (949) 679-9501

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Analyzed
Equipment Blank	4I71301-01	Air	13-Sep-17 08:45	13-Sep-17 09:01
Material Blank	4I71301-02	Air	13-Sep-17 09:15	13-Sep-17 09:30
SG-1-5 3PV	4I71301-03	Air	13-Sep-17 09:45	13-Sep-17 09:58
SG-1-15 3PV	4I71301-04	Air	13-Sep-17 10:45	13-Sep-17 10:55
SG-2-5 3PV	4I71301-05	Air	13-Sep-17 11:10	13-Sep-17 11:24
SG-2-15 3PV	4I71301-06	Air	13-Sep-17 11:40	13-Sep-17 11:53
SG-3-5 3PV	4I71301-07	Air	13-Sep-17 12:10	13-Sep-17 12:22
SG-3-15 3PV	4I71301-08	Air	13-Sep-17 12:35	13-Sep-17 12:50
SG-4-5 3PV	4I71301-09	Air	13-Sep-17 13:05	13-Sep-17 13:19
SG-4-15 3PV	4I71301-10	Air	13-Sep-17 13:35	13-Sep-17 13:48
SG-5-5 3PV	4I71301-11	Air	13-Sep-17 14:05	13-Sep-17 14:17
SG-5-15 3PV	4I71301-12	Air	13-Sep-17 14:45	13-Sep-17 15:02
SG-6-5 3PV	4I71301-13	Air	13-Sep-17 15:15	13-Sep-17 15:31
SG-6-15 3PV	4I71301-14	Air	13-Sep-17 15:45	13-Sep-17 16:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

8 Goodyear, Suite 125, Irvine, California 92618
Telephone: (949) 679-9500 Fax: (949) 679-9501

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Equipment Blank (4I71301-01) Air Sampled: 09/13/17 08:45 Analyzed: 09/13/17 09:01									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	4711301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Equipment Blank (4I71301-01) Air Sampled: 09/13/17 08:45 Analyzed: 09/13/17 09:01									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.2 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*96.4 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.4 %*	*75-125*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Material Blank (4I71301-02) Air Sampled: 09/13/17 09:15 Analyzed: 09/13/17 09:30									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Material Blank (4I71301-02) Air Sampled: 09/13/17 09:15 Analyzed: 09/13/17 09:30									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.1 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*95.2 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.9 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-1-5 3PV (4I71301-03) Air Sampled: 09/13/17 09:45 Analyzed: 09/13/17 09:58									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	4I11301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-1-5 3PV (4I71301-03) Air Sampled: 09/13/17 09:45 Analyzed: 09/13/17 09:58									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**220**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**390**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.0 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-1-15 3PV (4I71301-04) Air Sampled: 09/13/17 10:45 Analyzed: 09/13/17 10:55									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-1-15 3PV (4I71301-04) Air Sampled: 09/13/17 10:45 Analyzed: 09/13/17 10:55									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*93.2 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.0 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-2-5 3PV (4I71301-05) Air Sampled: 09/13/17 11:10 Analyzed: 09/13/17 11:24									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-2-5 3PV (4I71301-05) Air Sampled: 09/13/17 11:10 Analyzed: 09/13/17 11:24									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**160**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*96.1 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.3 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-2-15 3PV (4I71301-06) Air Sampled: 09/13/17 11:40 Analyzed: 09/13/17 11:53									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-2-15 3PV (4I71301-06) Air Sampled: 09/13/17 11:40 Analyzed: 09/13/17 11:53									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**110**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*94.9 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.9 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-3-5 3PV (4I71301-07) Air Sampled: 09/13/17 12:10 Analyzed: 09/13/17 12:22									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-3-5 3PV (4I71301-07) Air Sampled: 09/13/17 12:10 Analyzed: 09/13/17 12:22									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**120**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**200**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*96.2 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.9 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-3-15 3PV (4I71301-08) Air Sampled: 09/13/17 12:35 Analyzed: 09/13/17 12:50									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-3-15 3PV (4I71301-08) Air Sampled: 09/13/17 12:35 Analyzed: 09/13/17 12:50									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**100**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*95.0 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-4-5 3PV (4I71301-09) Air Sampled: 09/13/17 13:05 Analyzed: 09/13/17 13:19									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-4-5 3PV (4I71301-09) Air Sampled: 09/13/17 13:05 Analyzed: 09/13/17 13:19									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**170**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**290**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*109 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*89.7 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-4-15 3PV (4I71301-10) Air Sampled: 09/13/17 13:35 Analyzed: 09/13/17 13:48									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-4-15 3PV (4I71301-10) Air Sampled: 09/13/17 13:35 Analyzed: 09/13/17 13:48									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**240**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**410**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*109 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*91.1 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*75-125*	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-5-5 3PV (4I71301-11) Air Sampled: 09/13/17 14:05 Analyzed: 09/13/17 14:17									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	**120**	1000	"	"	"	"	"	"	J
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-5-5 3PV (4I71301-11) Air Sampled: 09/13/17 14:05 Analyzed: 09/13/17 14:17									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**210**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**240**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*109 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*91.0 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-5-15 3PV (4I71301-12) Air Sampled: 09/13/17 14:45 Analyzed: 09/13/17 15:02									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-5-15 3PV (4I71301-12) Air Sampled: 09/13/17 14:45 Analyzed: 09/13/17 15:02									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*110 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*91.6 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-6-5 3PV (4I71301-13) Air Sampled: 09/13/17 15:15 Analyzed: 09/13/17 15:31									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-6-5 3PV (4I71301-13) Air Sampled: 09/13/17 15:15 Analyzed: 09/13/17 15:31									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	**270**	500	"	"	"	"	"	"	J
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	**420**	500	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*114 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*91.1 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-6-15 3PV (4I71301-14) Air Sampled: 09/13/17 15:45 Analyzed: 09/13/17 16:00									
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
1,1,1-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	200	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethane	ND	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	500	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1000	"	"	"	"	"	"	
1,2-Dibromoethane	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,3-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
2,2-Dichloropropane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	500	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	500	"	"	"	"	"	"	
Bromochloromethane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Chloroethane	ND	200	"	"	"	"	"	"	
Chloroform	ND	200	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SG-6-15 3PV (4171301-14) Air Sampled: 09/13/17 15:45 Analyzed: 09/13/17 16:00									
cis-1,3-Dichloropropene	ND	500	ug/m³ Air	1	47I1301	09/13/17	09/13/17	EPA 8260B	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Dibromomethane	ND	500	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	200	"	"	"	"	"	"	
Ethylbenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	500	"	"	"	"	"	"	
meta- and para-Xylenes	ND	500	"	"	"	"	"	"	
Methylene Chloride	ND	200	"	"	"	"	"	"	
Naphthalene	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	1000	"	"	"	"	"	"	
n-Propylbenzene	ND	500	"	"	"	"	"	"	
ortho-Xylene	ND	200	"	"	"	"	"	"	
p-Isopropyltoluene	ND	500	"	"	"	"	"	"	
sec-Butylbenzene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	200	"	"	"	"	"	"	
Vinyl Chloride	ND	100	"	"	"	"	"	"	
2-Propanol	ND	290	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*110 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*93.8 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*75-125*		"	"	"	"	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
Blank (47I1301-BLK1)				Prepared & Analyzed: 09/13/17						
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air							
1,1,1-Trichloroethane	ND	200	"							
1,1,2,2-Tetrachloroethane	ND	200	"							
1,1,2-Trichloroethane	ND	200	"							
1,1,2-Trichloro-trifluoroethane	ND	200	"							
1,1-Dichloroethane	ND	200	"							
1,1-Dichloroethene	ND	100	"							
1,1-Dichloropropene	ND	500	"							
1,2,3-Trichlorobenzene	ND	1000	"							
1,2,3-Trichloropropane	ND	500	"							
1,2,4-Trichlorobenzene	ND	1000	"							
1,2,4-Trimethylbenzene	ND	500	"							
1,2-Dibromo-3-chloropropane	ND	1000	"							
1,2-Dibromoethane	ND	500	"							
1,2-Dichlorobenzene	ND	500	"							
1,2-Dichloroethane	ND	200	"							
1,2-Dichloropropane	ND	500	"							
1,3,5-Trimethylbenzene	ND	500	"							
1,3-Dichlorobenzene	ND	500	"							
1,3-Dichloropropane	ND	500	"							
1,4-Dichlorobenzene	ND	500	"							
2,2-Dichloropropane	ND	500	"							
2-Chlorotoluene	ND	500	"							
4-Chlorotoluene	ND	500	"							
Benzene	ND	100	"							
Bromobenzene	ND	500	"							
Bromochloromethane	ND	500	"							
Bromodichloromethane	ND	500	"							
Bromoform	ND	500	"							
Bromomethane	ND	500	"							
Carbon disulfide	ND	500	"							
Carbon tetrachloride	ND	100	"							
Chlorobenzene	ND	500	"							

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8 Goodyear, Suite 125, Irvine, California 92618
Telephone: (949) 679-9500 Fax: (949) 679-9501

Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
Blank (47I1301-BLK1)				Prepared & Analyzed: 09/13/17						
Chloroethane	ND	200	ug/m³ Air							
Chloroform	ND	200	"							
Chloromethane	ND	500	"							
cis-1,2-Dichloroethene	ND	200	"							
cis-1,3-Dichloropropene	ND	500	"							
Dibromochloromethane	ND	500	"							
Dibromomethane	ND	500	"							
Dichlorodifluoromethane	ND	200	"							
Ethylbenzene	ND	200	"							
Hexachlorobutadiene	ND	1000	"							
Isopropylbenzene	ND	500	"							
meta- and para-Xylenes	ND	500	"							
Methylene Chloride	ND	200	"							
Naphthalene	ND	1000	"							
n-Butylbenzene	ND	1000	"							
n-Propylbenzene	ND	500	"							
ortho-Xylene	ND	200	"							
p-Isopropyltoluene	ND	500	"							
sec-Butylbenzene	ND	500	"							
Styrene	ND	500	"							
tert-Butylbenzene	ND	500	"							
Tetrachloroethene	ND	100	"							
Toluene	ND	500	"							
trans-1,2-Dichloroethene	ND	200	"							
trans-1,3-Dichloropropene	ND	500	"							
Trichloroethene	ND	100	"							
Trichlorofluoromethane	ND	200	"							
Vinyl Chloride	ND	100	"							
2-Propanol	ND	290	"							
Surrogate: Dibromofluoromethane	*12500*		"	*12500*		*100*	*75-125*			
Surrogate: Toluene-d8	*11800*		"	*12500*		*94.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*12300*		"	*12500*		*98.1*	*75-125*			

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
LCS (47I1301-BS1)				Prepared & Analyzed: 09/13/17						
1,1,1,2-Tetrachloroethane	13000	200	ug/m³ Air	12500		104	75-136			
1,1,1-Trichloroethane	12800	200	"	12500		102	73-134			
1,1,2,2-Tetrachloroethane	12100	200	"	12500		96.5	56-149			
1,1,2-Trichloroethane	13100	200	"	12500		105	67-137			
1,1,2-Trichloro-trifluoroethane	12500	200	"	12500		100	83-125			
1,1-Dichloroethane	13000	200	"	12500		104	80-121			
1,1-Dichloroethene	12500	100	"	12500		99.8	73-137			
1,1-Dichloropropene	12500	500	"	12500		99.8	77-122			
1,2,3-Trichlorobenzene	13200	1000	"	12500		105	67-133			
1,2,3-Trichloropropane	12100	500	"	12500		96.6	56-145			
1,2,4-Trichlorobenzene	12900	1000	"	12500		103	71-135			
1,2,4-Trimethylbenzene	12800	500	"	12500		103	76-120			
1,2-Dibromo-3-chloropropane	12300	1000	"	12500		98.4	43-158			
1,2-Dibromoethane	13000	500	"	12500		104	80-123			
1,2-Dichlorobenzene	12600	500	"	12500		101	67-139			
1,2-Dichloroethane	12900	200	"	12500		104	70-131			
1,2-Dichloropropane	12800	500	"	12500		102	62-144			
1,3,5-Trimethylbenzene	12800	500	"	12500		102	78-125			
1,3-Dichlorobenzene	13100	500	"	12500		105	82-120			
1,3-Dichloropropane	12000	500	"	12500		96.2	61-145			
1,4-Dichlorobenzene	12500	500	"	12500		99.9	84-120			
2,2-Dichloropropane	13000	500	"	12500		104	76-134			
2-Chlorotoluene	12300	500	"	12500		98.2	69-127			
4-Chlorotoluene	12600	500	"	12500		101	70-127			
Benzene	12800	100	"	12500		102	79-118			
Bromobenzene	12900	500	"	12500		103	69-140			
Bromochloromethane	12300	500	"	12500		98.6	61-141			
Bromodichloromethane	12900	500	"	12500		103	67-137			
Bromoform	12700	500	"	12500		102	57-152			
Bromomethane	12800	500	"	12500		103	51-148			
Carbon disulfide	13000	500	"	12500		104	61-140			
Carbon tetrachloride	12600	100	"	12500		101	74-143			
Chlorobenzene	12400	500	"	12500		98.8	67-140			

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
LCS (47I1301-BS1)				Prepared & Analyzed: 09/13/17						
Chloroethane	12900	200	ug/m³ Air	12500		103	60-137			
Chloroform	12800	200	"	12500		102	82-125			
Chloromethane	13200	500	"	12500		105	58-139			
cis-1,2-Dichloroethene	12900	200	"	12500		103	85-125			
cis-1,3-Dichloropropene	12200	500	"	12500		97.4	66-142			
Dibromochloromethane	13200	500	"	12500		105	61-140			
Dibromomethane	13000	500	"	12500		104	66-143			
Dichlorodifluoromethane	12800	200	"	12500		102	47-129			
Ethylbenzene	13100	200	"	12500		105	83-115			
Hexachlorobutadiene	12800	1000	"	12500		103	71-145			
Isopropylbenzene	12900	500	"	12500		103	85-116			
meta- and para-Xylenes	24700	500	"	25000		99.0	83-115			
Methylene Chloride	12500	200	"	12500		100	81-126			
Naphthalene	12300	1000	"	12500		98.1	56-136			
n-Butylbenzene	12400	1000	"	12500		99.2	60-149			
n-Propylbenzene	12200	500	"	12500		97.8	77-129			
ortho-Xylene	12200	200	"	12500		97.7	85-115			
p-Isopropyltoluene	13100	500	"	12500		105	63-144			
sec-Butylbenzene	12200	500	"	12500		97.8	70-128			
Styrene	13000	500	"	12500		104	65-142			
tert-Butylbenzene	12900	500	"	12500		103	70-128			
Tetrachloroethene	12400	100	"	12500		99.1	66-144			
Toluene	12600	500	"	12500		101	70-115			
trans-1,2-Dichloroethene	12400	200	"	12500		98.8	72-133			
trans-1,3-Dichloropropene	13100	500	"	12500		105	68-140			
Trichloroethene	12400	100	"	12500		99.4	68-132			
Trichlorofluoromethane	13100	200	"	12500		105	62-144			
Vinyl Chloride	12900	100	"	12500		103	66-137			
Surrogate: Dibromofluoromethane	*12800*		"	*12500*		*102*	*75-125*			
Surrogate: Toluene-d8	*12100*		"	*12500*		*96.5*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*12300*		"	*12500*		*98.6*	*75-125*			

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
Duplicate (47I1301-DUP1)	**Source: 4I71301-03**		Prepared & Analyzed: 09/13/17							
1,1,1,2-Tetrachloroethane	ND	200	ug/m³ Air		ND				50	
1,1,1-Trichloroethane	ND	200	"		ND				50	
1,1,2,2-Tetrachloroethane	ND	200	"		ND				50	
1,1,2-Trichloroethane	ND	200	"		ND				50	
1,1,2-Trichloro-trifluoroethane	ND	200	"		ND				50	
1,1-Dichloroethane	ND	200	"		ND				50	
1,1-Dichloroethene	ND	100	"		ND				50	
1,1-Dichloropropene	ND	500	"		ND				50	
1,2,3-Trichlorobenzene	ND	1000	"		ND				50	
1,2,3-Trichloropropane	ND	500	"		ND				50	
1,2,4-Trichlorobenzene	ND	1000	"		ND				50	
1,2,4-Trimethylbenzene	ND	500	"		ND				50	
1,2-Dibromo-3-chloropropane	ND	1000	"		ND				50	
1,2-Dibromoethane	ND	500	"		ND				50	
1,2-Dichlorobenzene	ND	500	"		ND				50	
1,2-Dichloroethane	ND	200	"		ND				50	
1,2-Dichloropropane	ND	500	"		ND				50	
1,3,5-Trimethylbenzene	ND	500	"		ND				50	
1,3-Dichlorobenzene	ND	500	"		ND				50	
1,3-Dichloropropane	ND	500	"		ND				50	
1,4-Dichlorobenzene	ND	500	"		ND				50	
2,2-Dichloropropane	ND	500	"		ND				50	
2-Chlorotoluene	ND	500	"		ND				50	
4-Chlorotoluene	ND	500	"		ND				50	
Benzene	ND	100	"		ND				50	
Bromobenzene	ND	500	"		ND				50	
Bromochloromethane	ND	500	"		ND				50	
Bromodichloromethane	ND	500	"		ND				50	
Bromoform	ND	500	"		ND				50	
Bromomethane	ND	500	"		ND				50	
Carbon disulfide	ND	500	"		ND				50	
Carbon tetrachloride	ND	100	"		ND				50	
Chlorobenzene	ND	500	"		ND				50	

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 47I1301 - Volatiles										
Duplicate (47I1301-DUP1)	**Source: 4I71301-03**		Prepared & Analyzed: 09/13/17							
Chloroethane	ND	200	ug/m³ Air		ND				50	
Chloroform	ND	200	"		ND				50	
Chloromethane	ND	500	"		ND				50	
cis-1,2-Dichloroethene	ND	200	"		ND				50	
cis-1,3-Dichloropropene	ND	500	"		ND				50	
Dibromochloromethane	ND	500	"		ND				50	
Dibromomethane	ND	500	"		ND				50	
Dichlorodifluoromethane	ND	200	"		ND				50	
Ethylbenzene	ND	200	"		ND				50	
Hexachlorobutadiene	ND	1000	"		ND				50	
Isopropylbenzene	ND	500	"		ND				50	
meta- and para-Xylenes	230	500	"		220			4.44	50	J
Methylene Chloride	ND	200	"		ND				50	
Naphthalene	ND	1000	"		ND				50	
n-Butylbenzene	ND	1000	"		ND				50	
n-Propylbenzene	ND	500	"		ND				50	
ortho-Xylene	ND	200	"		ND				50	
p-Isopropyltoluene	ND	500	"		ND				50	
sec-Butylbenzene	ND	500	"		ND				50	
Styrene	ND	500	"		ND				50	
tert-Butylbenzene	ND	500	"		ND				50	
Tetrachloroethene	ND	100	"		ND				50	
Toluene	390	500	"		390			0.00	50	J
trans-1,2-Dichloroethene	ND	200	"		ND				50	
trans-1,3-Dichloropropene	ND	500	"		ND				50	
Trichloroethene	ND	100	"		ND				50	
Trichlorofluoromethane	ND	200	"		ND				50	
Vinyl Chloride	ND	100	"		ND				50	
2-Propanol	ND	290	"		ND				200	
Surrogate: Dibromofluoromethane	*12400*		"	*12500*		*99.0*	*75-125*			
Surrogate: Toluene-d8	*11900*		"	*12500*		*95.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*11900*		"	*12500*		*95.4*	*75-125*			

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Soil Engineers, Inc. 4400 Yeager Way Bakersfield, CA 93313	Project: South of Arvin High School Arvin, CA. 93203 Project Number: EST3112 Project Manager: Robert Becker	**Reported:** 14-Sep-17 14:37

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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FORM 1 (CONTINUED) - CERTIFICATE OF COMPLIANCE FOR METHANE TEST DATA

Part 2: Test Data - Shallow Soil Gas Test and Gas Probe Test

Site Address: South ARVIN High School Vansity & Campus DR.

Description of Gas Analysis Instrument(s):

Instrument Name and Model: RKI Eagle 2 #38853 Instrument Accuracy: ± 0.0 - 3.0 ppmv. %

City of Los Angeles Testing License #: 102-18

Date	Time	Probe Set #	Concentration (ppmv)	Pressure (inches water column)	Probe Depth (feet)	Description / Probe Location OXY	#28	CO
09/13/17	0950	SG1	70.0	0.0	5'	20.6	0.0	0.0
	1000	↓	0.0	0.0	15'	20.9	0.0	0.0
	1040	SG2	0.0	0.0	5'	20.9	0.0	0.0
	1050	↓	0.0	0.0	15'	20.9	0.0	0.0
	1115	SG3	0.0	0.0	5'	20.9	0.0	0.0
	1125	↓	0.0	0.0	15'	20.9	0.0	0.0
	1150	SG4	0.0	0.0	5'	20.9	0.0	0.0
	1200	↓	0.0	0.0	15'	20.8	0.0	0.0
	1325	SG5	0.0	0.0	5'	20.9	0.0	0.0
	1335	↓	0.0	0.0	15	20.9	0.0	0.0
	1410	SG6	0.0	0.0	5'	20.9	0.0	0.0
	1420	↓	0.0	0.0	15'	20.8	0.0	0.0

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. For efficient handling of information internally and in the internet, conversion to this new format of code related and administrative information bulletins including MGD and RGA that were previously issued will allow flexibility and timely distribution of information to the public.

Boring Completion	ANALYSES Lab: Vapor Samples (Vocs in ug/m3 methane & H2S in ppm)	ANALYSES Field: PID	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	Lithology symbol	U. S. C. S. desig.	SOIL DESCRIPTION
Vapor Sampling & Purging Unit; Syringe or Hand-held Meter; 1/8" Poly line				0					Dirt Surface
									Continuous Core
Hydrated Bentonite; 12" Dry Bentonite; #3 Sand Pack (1'); Porous Filter				2.5				SM	Silty Sand - med yel brn, damp, vfn gr sand, no odor or staining
	SG1-5' VOCs T= 390 X=220 Meth =70 H2S = 0	0		5		SG1-5'		SM	Silty Sand - med yel brn, damp, vfn gr sand, no odor or staining
				7.5					
		0		10		SG1-10'		SM	Silty Sand as above
Hydrated Bentonite; 12" Dry Bentonite; #3 Sand Pack (1'); Porous Filter 2.5" Diam Hole				12.5					
	SG1-15' VOCs All ND Meth =60 H2S = 0	0		15		SG1-15'		SM	Silty Sand - med yel brn, damp, vfn to fn gr sand, no odor or staining

Drilled: 9/13/15
Total Depth: 15'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

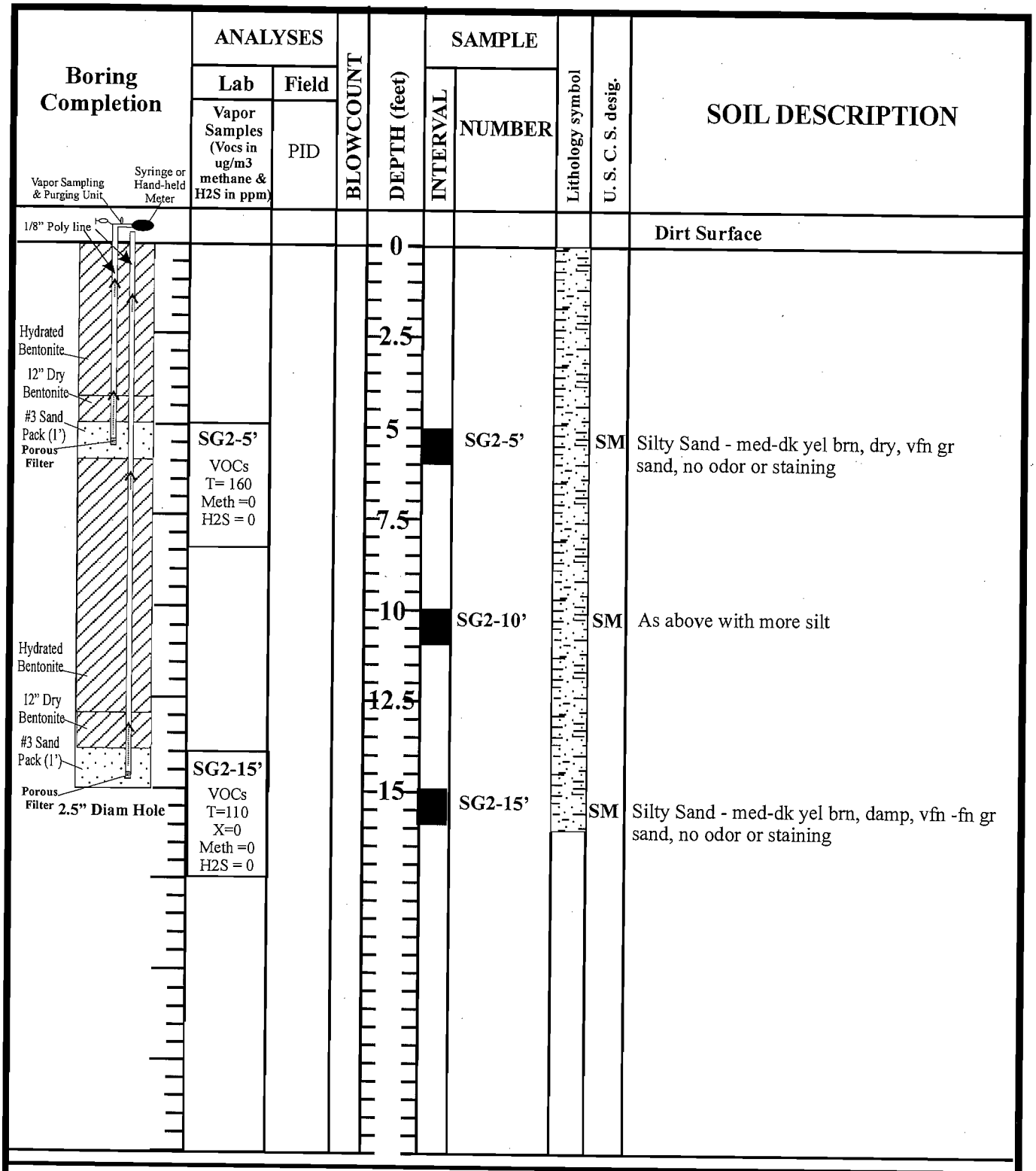
Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr.
Arvin, California

BORING LOCATION: N. Side of Tank Setting (35.21566,-118.83883)

SG-1 BORING LOG

PLATE



Drilled: 9/13/15
Total Depth: 15'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

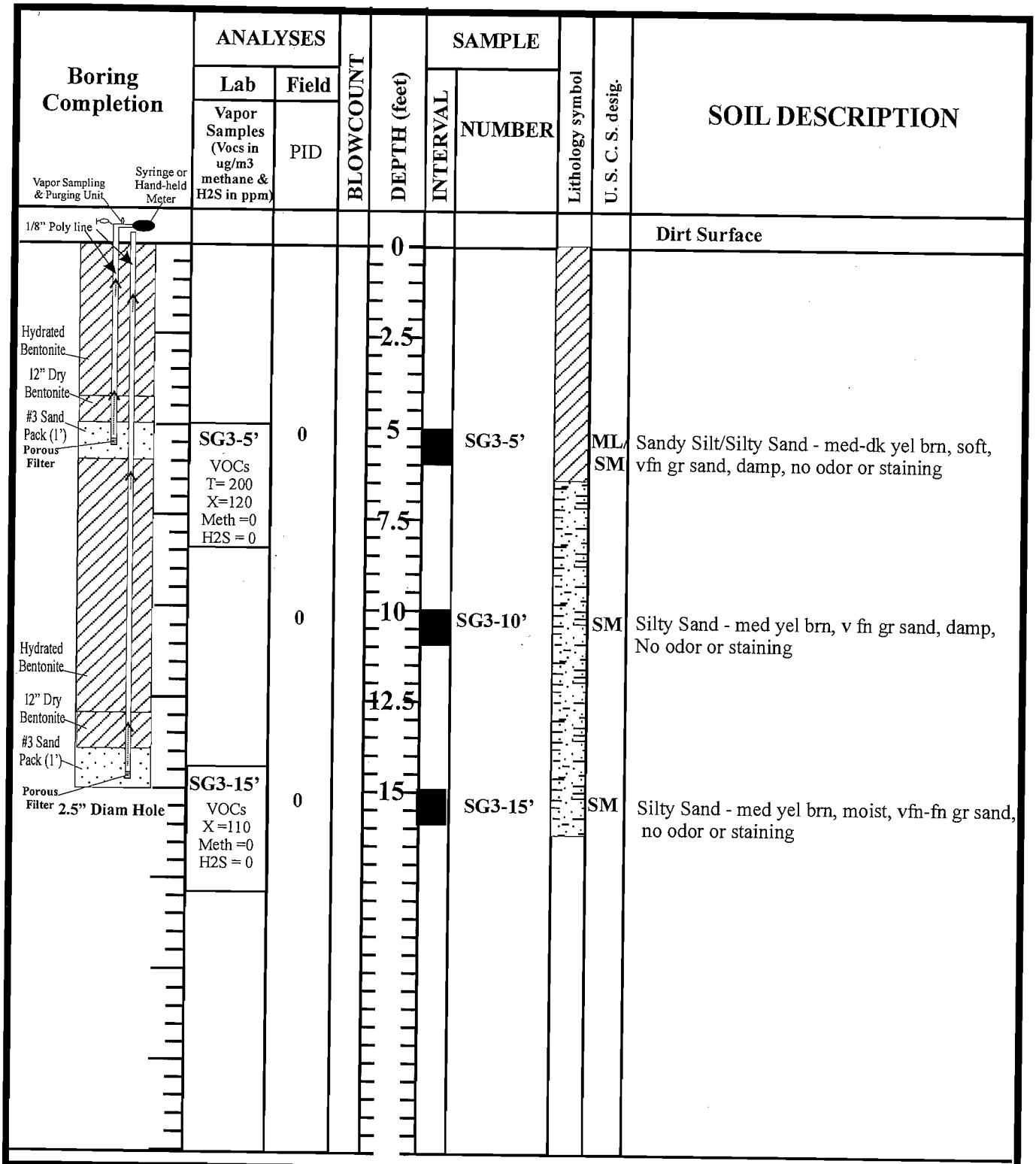
Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr.
Arvin, California

BORING LOCATION: ~20' S. Of Tank Setting (35.21519,-118.83815)

SG-2 BORING LOG

PLATE



Drilled: 9/13/15
Total Depth: 15'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

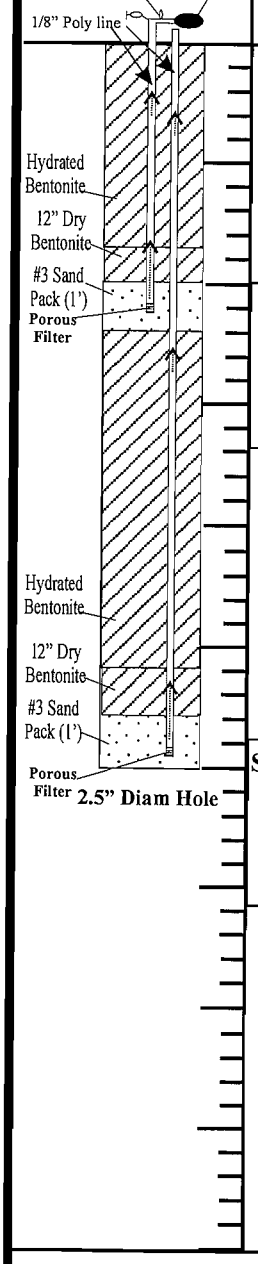
Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr. Arvin, California

BORING LOCATION: SW Corner of Site (35.21412,-118,83916)

SG-3 BORING LOG

PLATE



Boring Completion	ANALYSES Lab: Vapor Samples (Vocs in ug/m3 methane & H2S in ppm)	ANALYSES Field: PID	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	Lithology symbol	U. S. C. S. desig.	SOIL DESCRIPTION
				0					Dirt Surface
	SG4-5' VOCs T= 290 X=170 Meth =0 H2S = 0	0		5	SG4-5'	SG4-5'		SM	Silty Sand - lt-med yel brn, damp, vfn-fn gr sand, no odor or staining
		0		10	SG4-10'	SG4-10'		SM	Silty Sand - med yel brn, vfn gr, moist, No odor or staining
	SG4-15' VOCs = T=410 X=240 Meth =0 H2S = 0	0		15	SG4-15'	SG4-15'		SM/SP	Silty Sand/Sand - med yel brn, moist, vfn-fn gr sand, no odor or staining

Drilled: 9/13/15
Total Depth: 15'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

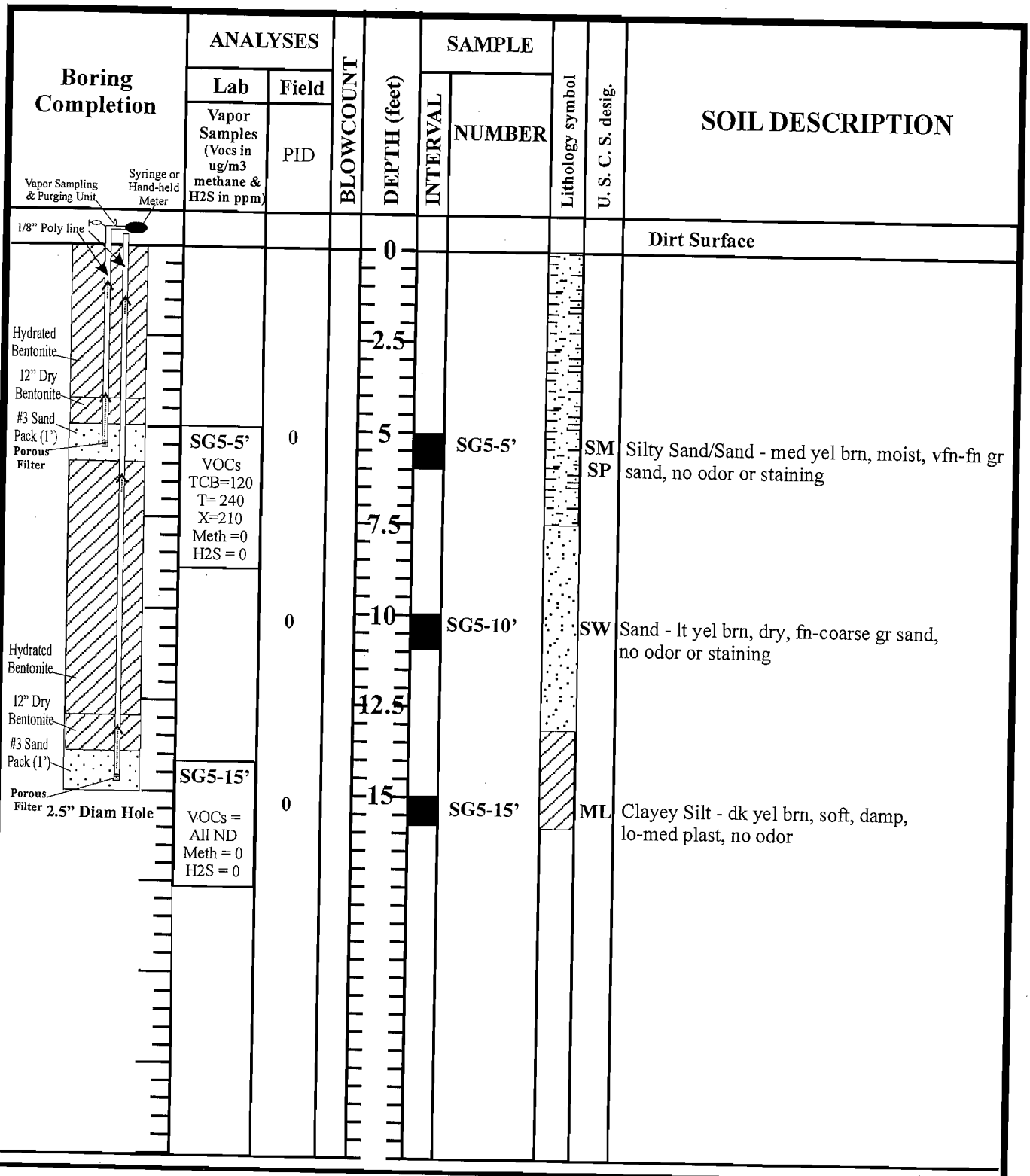
Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr. Arvin, California

BORING LOCATION: S- Middle Border (35.21416,-118.83686)

SG-4 BORING LOG

PLATE



Drilled: 9/13/15
Total Depth: 17'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

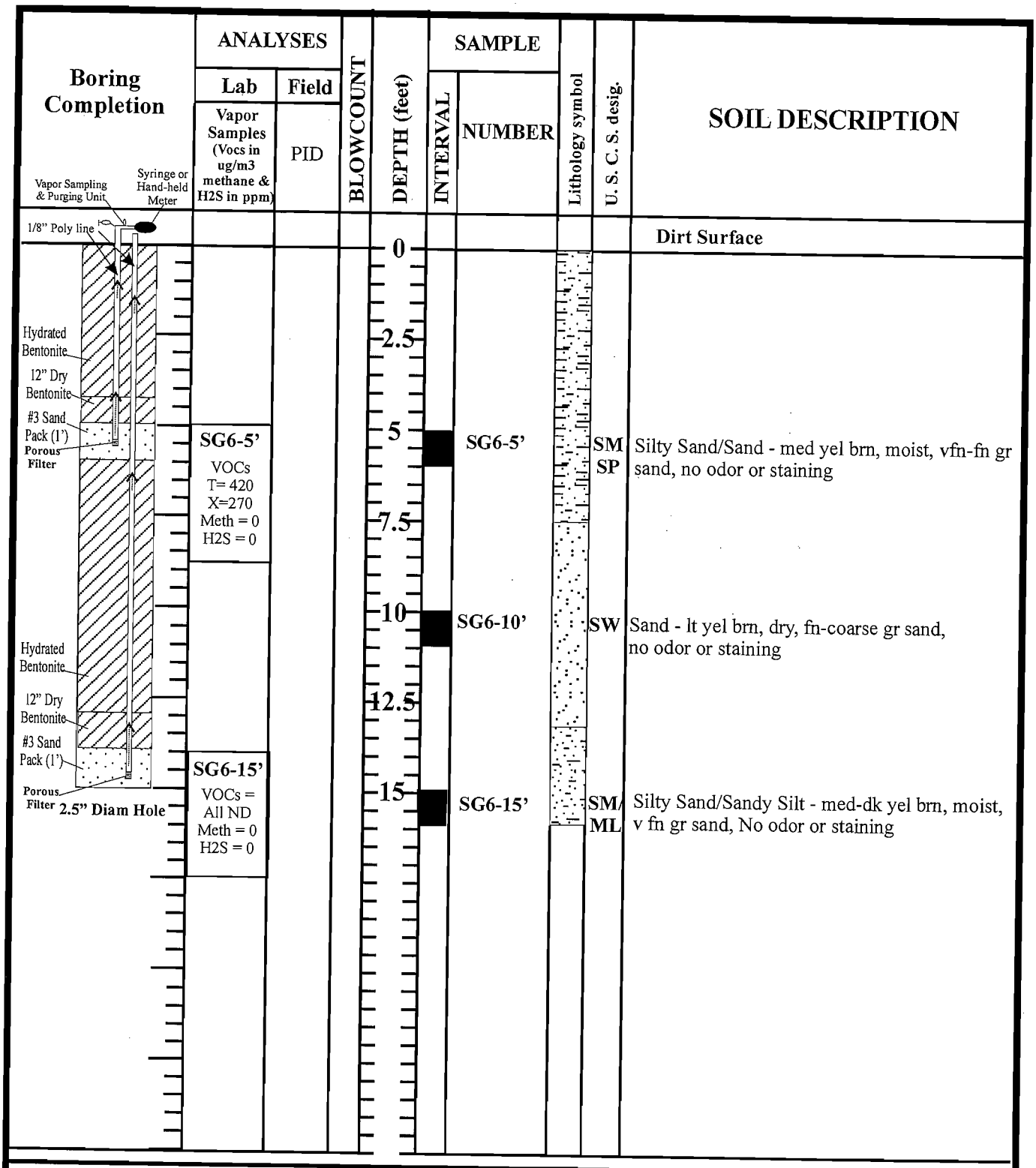
Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr.
Arvin, California

BORING LOCATION: SE Corner of Site (35.21457,-118.83403)

SG-5 BORING LOG

PLATE



Drilled: 9/13/15
Total Depth: 15'

Drill Rig: Geoprobe
Depth to Water: NA

SOILS ENGINEERING, INC.
4400 Yeager Way
Bakersfield, CA 93313

Project Number: 16268
DATE: 11/17

PROJECT NAME: Proposed KCCD Site
SITE NAME: SW of Varsity Ave. & Campus Dr.
Arvin, California

BORING LOCATION: NE Corner of Site (35.21612-118.83363)

SG-6 BORING LOG

PLATE

Field Data Report

Nelson Court, Arvin California

Stantec

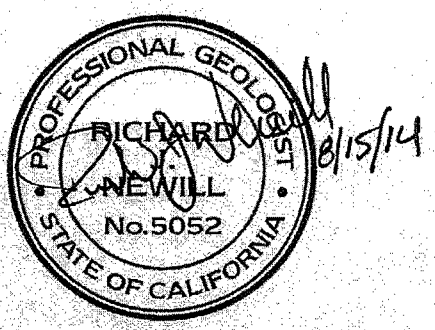
Prepared for:
Wall, Wall & Peake
on Behalf of Petro Capital
Resources, LLC

Prepared by:
Stantec Consulting Services Inc.
25864-F Business Center Drive
Redlands, CA 92374

August 15, 2014
Revision 0

Sign-off Sheet

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(signature)

Deb Gray, Ph.D., DABT

Stantec

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Abbreviations

µg/Kg	Microgram per kilogram
µg/m^3	Microgram per meter cubed
1,1-DFA	1,1-difluoroethane
AGE	Advanced GeoEnvironmental, Inc.
CFM	Cubic feet per minute
DTSC	California Department of Toxic Substances Control
FID	Flame ionization detector
H&P	H&P Mobile Geochemistry, Inc.
LEL	Lower explosive limit
mL/min	Milliliter per minute
PCR	Petro Capital Resources, LLC
PID	Photo ionization detector
PVC	Poly vinyl chloride
SVE	Soil vapor extraction
TPHg	Total petroleum hydrocarbons gasoline range organics
VOC	Volatile organic compound

1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

The project site is located near the intersections of Varsity Road, Mahin Drive and Nelson Court in the city of Arvin, California, southeast of Bakersfield, California (Figure 1). The site consists of a residential neighborhood in a current and former agricultural and oil production area (Figure 2).

As operator of a well field gas pipeline passing north of the residential neighborhood, Petro Capital Resources, LLC (PCR) was contacted by Kern County on March 12, 2014, regarding a reported gas leak in the area. PCR shut in all sources of field gas and depressurized the line stopping the potential for leakage on March 12. On March 13-17, PCR permanently decommissioned in place the affected section of its field gas pipeline. On March 18, PCR pressure tested the decommissioned section of pipeline with water and identified an apparent leak in the vicinity of the intersection of Varsity Road and Mahin Drive. The County issued a mandatory evacuation order for the homes at 1300, 1302, 1304, 1306, 1308, 1312, 1314, and 1316 Nelson Court as a precaution because of high combustible gas level measurements at some of the homes.

Beginning on March 19, PCR initiated response actions including:

- Mitigation planning
- Installation of temporary vent wells at each home
- Drilling of soil borings
- Installation of soil vapor probes
- Collection and analysis of indoor air, soil vapor and soil samples
- Installation of a soil vapor extraction (SVE) system. This SVE system was subsequently upgraded and modified.

Stantec's involvement in the project began in late May, 2014. The first scope items were to review existing data and attend a meeting with the homeowners/residents. Subsequently, Stantec was authorized to install sub-slab soil vapor sampling ports and vapor mitigation systems in the homes at 1302, 1304, 1306, 1308, 1312, 1314, and 1316 Nelson Court, conduct soil sampling in the yards of those homes and in background areas, collect and analyze sub-slab vapor, soil vapor, indoor air, and ambient air samples, and assess and upgrade the SVE system performance. No work was conducted after May 2014 at 1300 Nelson Court because the homeowner denied access to the home and property.

1.2 SCOPE OF FIELD WORK

The scope of the Stantec field work consisted of the following activities at the homes at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court, at nearby background locations and at the SVE system:

- Meetings with homeowners/residents regarding field activities in each home (June 2014);
- Abandonment of temporary vent well systems at each home (June 2014);
- Dismantling of temporary ventilation systems and modification of two exterior vapor probes to address safety (tripping hazard) concerns (June 2014);
- Installation of two sub-slab vapor ports in each home (June 2014);
- Soil sampling in home yards and in background areas (June 2014);
- Installation of a sub-slab vapor mitigation system in each home (June 2014);
- Sampling and analysis of sub-slab vapor (June and July 2014);
- Sampling and analysis of indoor air in the homes and outside ambient air (June and July 2014);
- Installation, sampling and analysis of four exterior vapor probes in the vicinity of 1300 Nelson Court (July 2014);
- Field measurements using field instruments (June and July 2014);
- SVE system performance assessment (June and July 2014); and
- SVE system modification, including installation of new SVE dual-nested wells and vapor probes, and pilot and rebound testing (June and July 2014)

2.0 FIELD ACTIVITIES

Stantec conducted field activities from June 9 through July 30, 2014. Table 1 lists the field activities conducted in June and July. Field activities were conducted in general accordance with the June 2, 2014 Work Plan for Additional Sampling and Analysis and Mitigation Activities, 1300, 1302, 1304, 1306, 1308, 1312, 1314, and 1316 Nelson Court, Arvin, California (Revised) (Stantec 2014a), and the July 15, 2014 Amendment to Workplan for Additional Sampling and Analysis and Mitigation Activities, 1302, 1304, 1306, 1308, 1312, 1314, and 1316 Nelson Court, Arvin, California (Revised) (Stantec, 2014b). The Work Plan and Amendment were approved by the County in emails dated June 2 and July 15, 2014.

2.1 MEETINGS WITH HOMEOWNERS/RESIDENTS

Stantec personnel met with the homeowners and/or residents of each of the homes at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court on June 9 through 12, 2014 to select locations for placement of sub-slab vapor sampling ports and vapor mitigation systems. A PCR representative facilitated communications with Spanish-speaking homeowners/residents. The resident at 1312 Nelson Court requested that previously installed exterior soil vapor probes be modified to make them flush with the patio surface to address a tripping hazard.

During the meetings, each of the homeowners/residents was asked to remove household chemicals that could interfere with indoor air sampling results, including:

- Cleaning products
- Solvents, paint thinner, acetone, oils
- Nail polish and remover
- Hair spray and aerosol spray cans
- Paint
- Perfume and cologne
- Marking pens, Sharpies
- Cosmetics
- Fragrances, air fresheners, scented candles, incense
- Gasoline and other fuels

Homeowners were asked to place any such chemicals in plastic buckets on their patios. In addition, homeowners/residents were asked to remove gasoline-powered vehicles and equipment from the garages and to avoid performing yard work, cleaning and other activities at the homes during the period when samples were being collected.

During field activities, Stantec personnel noted strong cleaning chemical odors at 1312 Nelson Court on the morning of June 23, prior to conducting the indoor air sampling. Stantec was also told by the security guard at the site that the resident of 1312 Nelson Court performed some

automotive work and entered the home during the morning of June 24, when indoor air sampling was being conducted at the home.

2.2 VENT WELL ABANDONMENT

Vent well systems had been previously installed and operated by PCR in the yards of the homes as an initial response action (Figures 2 through 9). Each vent well was constructed with 2-inch diameter polyvinyl chloride (PVC) casing and screen. The wells were screened with 0.020-inch screen from 1 to 6 feet below ground surface. The annular space around the well screen was filled with #3 sand and hydrated bentonite was used to seal the upper one foot of the wells. The wells were piped together with above ground PVC pipe and then manifolded to a PVC stand pipe running up the side of the home to the roof eave. Each standpipe was equipped with a fan capable of approximately 158 cubic feet per minute (CFM) (Advanced GeoEnvironmental, Inc., AGE 2014).

The vent well systems were shut down once the initial SVE system was installed by the previous contractor (AGE) and began operation. The vent wells had been inactive since that time. The vent wells were no longer needed and had the potential to act as short-circuiting pathways for atmospheric air to enter the subsurface, thereby limiting the radius of influence of the SVE system in the vicinity of the homes. To address this concern, the vent wells were abandoned and the piping systems dismantled by Stantec.

Well abandonment was accomplished by pulling the PVC casings from the ground and backfilling the boreholes with hydrated bentonite to within 2 feet of the ground surface. The top two-foot section of the borehole was filled with soil. The PVC piping systems were dismantled for disposal. The vent well fans were salvaged for use in the sub-slab vapor mitigation systems. All vent well system materials were disposed of offsite at a local landfill.

2.3 TEMPORARY VENTILATION SYSTEM DISMANTLING AND EXTERIOR VAPOR PROBE MODIFICATION

Temporary in-home air ventilation systems had been previously installed and operated by PCR in some of the homes as an initial response. The temporary ventilation systems consisted of flexible ventilation ducting that was mounted to an exterior window to draw outdoor air into the in-home ventilation system intake. These systems were no longer necessary and were removed. Stantec dismantled the systems and disposed of all materials at an off-site landfill.

The resident at 1312 Nelson Court requested that Stantec modify the existing exterior soil vapor probes previously installed in a concrete slab. The probes extended above the surface of the concrete and posed a tripping hazard. The concrete was cut around the vapor probes and the probes were cut below the slab grade. Flush-grade well boxes were installed around each of the probes.

2.4 SOIL SAMPLING

Soil sampling was conducted in the yards at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court and at three background locations west, northeast and east of the residential development (Figures 2 through 9). Two 2-foot-deep soil borings were drilled at each home and at the background locations (10 background boreholes total) using a hand auger. Soil samples were collected at depths of 0.5 and 2 feet below grade using Terracore samplers (Method 5035). The samples were submitted for analysis for volatile organic compounds (VOCs) and gasoline range total petroleum hydrocarbons (TPHg) by Method 8260B. Following sampling, the boreholes were backfilled with soil.

At locations 1306-W and 1306-E at 1306 Nelson Court, a strong odor was noted in the boreholes. The field sampler characterized the odor as degraded petroleum hydrocarbon or sewer odor at both sample locations at a depth of 18 to 24 inches below grade. Dark staining was also present at this sampling interval.

2.5 INSTALLATION OF SUB-SLAB VAPOR PORTS

Two sub-slab vapor ports were installed in each of the homes at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court (Figures 2 through 9). The ports were installed in unobtrusive locations (generally inside closets) selected in consultation with the homeowners/residents. The ports were installed by drilling approximately 1.5-inch diameter holes through the concrete slabs and about 6 inches into the sub-slab fill material. Stainless steel vapor ports with Nylaflow tubing were inserted in each hole. The holes surrounding the ports were filled with sand around the port screen interval, a 1-inch layer of powdered bentonite, a 1-inch layer of hydrated bentonite, and a 2-inch layer of cement-bentonite grout.

Based on indications that the ports had potentially leaked during sampling conducted in late June (see Section 2.7), the ports were tested on July 17-18, 2014 using a helium shroud for leak detection. Initial testing of the ports at the first several homes indicated the ports were leaking, probably as a result of desiccation of the hydrated bentonite seals. All of the ports were re-sealed with hydrated bentonite and re-tested using the helium shrouds. No leakage was observed in any of the ports following the re-sealing. One probe (1306-SS2), located at 1306 Nelson Court was replaced due to excessive vacuum, which suggested that the probe screen may have been clogged.

2.6 INSTALLATION OF SUB-SLAB VAPOR MITIGATION SYSTEMS

Sub-slab vapor mitigation systems were installed beneath each home at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court (Figures 2 through 9). Each mitigation system consists of 2-inch PVC piping and a short screen interval extending about 6 inches below the home slabs within the living space of the home. The annular space between the piping and the concrete slab

was sealed with cement grout. Piping extends from the slab penetration and through the nearest exterior wall and up the exterior wall to the roof line. The fans recovered from the abandoned vent well systems were installed in the piping to draw vapors from the sub-slab areas beneath the living spaces of the homes. Electrical power for the fans was provided from the home electrical panels.

The systems were initially operated on June 20, 2014, following collection of the first set of sub-slab vapor samples. Vacuum and vapor measurements were made prior to and at several times following startup of the sub-slab vapor mitigation systems.

One system, located at 1306 Nelson Court, suffered a failure related to a faulty electrical outlet. That system was repaired and resumed operation in late July.

2.7 SAMPLING OF SUB-SLAB VAPOR PORTS

Three rounds of sub-slab vapor sampling were conducted at the homes at 1302, 1304, 1308, 1312, 1314 and 1316 Nelson Court. The first round occurred on June 20, 2014 following restart of the upgraded AGE SVE system (see Section 2.12) and prior to startup of the in-home sub-slab mitigation systems later that day. The second round occurred on June 24, 2014 following indoor air sampling in the homes with the upgraded AGE SVE system and sub-slab mitigation systems running. The third round occurred on July 17-18, 2014 following indoor air sampling in the homes with the AGE SVE system and sub-slab mitigation systems running.

Samples were collected by connecting laboratory-supplied one-liter batch-certified summa canisters equipped with 200 milliliter per minute (mL/min) flow regulators to the Teflon tubing extending from each sub-slab vapor probe. A battery-powered pump was used to purge the vapor probes prior to sample collection. The valves on the regulators were opened and the canisters were allowed to fill to a pre-determined vacuum reading (i.e., typically between 3 and 4 inches of mercury). The valves were then closed and the canisters were stored under chain of custody protocol and shipped to the analytical laboratories. Samples collected on June 20 and 24 were sent to Advanced Technology Laboratories for VOC and methane analysis. Samples collected on July 17-18 were sent to ALS Environmental for VOC, methane, TPHg, and fixed gases analysis. Analytical methods included EPA Methods TO-15, TO-15 SIM, TO-3 methane, TO-3 C1-C6 hydrocarbons, and TO-3C Fixed Gases.

During the June sampling events, isopropyl alcohol was used as a leak detection compound for the sub-slab vapor sampling. A cloth soaked in isopropyl alcohol was contained in a sealable plastic container. The container was opened and placed near the vapor port during sampling. The sub-slab vapor samples were tested for the presence of isopropyl alcohol (i.e., 2-propanol), which was detected in multiple sub-slab vapor samples indicating an ambient air leak from the surface seal. The leaking surface seals may have resulted from desiccation of the hydrated bentonite seals over the intervening days between port installation and sample collection.

Prior to the July sampling event, H&P Mobile Geochemistry (H&P) evaluated the sub-slab ports for leakage and subsequently retrofitted each port with additional hydrated bentonite and retested the ports using a helium shroud; each port was verified to be sealed. One port at 1306 Nelson Court was replaced by H&P due to a clogged probe screen.

Following testing of each port, H&P sampled the sub-slab ports in accordance with the Department of Toxic Substances Control guidance (DTSC, 2012). At seven of the sub-slab locations, leak testing was conducted using a helium shroud that covered the port and the entire sampling train and canister. No significant leakage from the surface seals or sample trains was detected prior to sampling using this leak detection method. At the other seven locations (1302-SS1, 13012-SS1 and –SS2, 1314-SS1 and –SS2, and 1316-SS1 and -SS2), space limitations required use of a smaller helium shroud that covered only the sample ports. A 1,1-difluoroethane (1,1-DFA) soaked cloth in a zip-lock bag was used for leak detection testing for the above-slab connections at those locations. The helium testing at those locations verified that the seals were not leaking prior to sample collection. The 1,1-DFA results verified that no significant leaks were detected.[1]

2.8 SAMPLING OF INDOOR AND AMBIENT AIR

Indoor air samples were collected in each home at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court on June 23-24 and July 16-17, 2014 (Figures 2 through 9). Ambient air samples were also collected on those dates to assess background concentrations at three outdoor locations west (BG-West) and east (BG-East) of the residential neighborhood, and in the front yard of the home at 1308 Nelson Court (1308-BG) (Figure 2).

During the June 23-24 and July 16-17 sampling events, one indoor air sample per home was collected by placing a 6-liter summa canister equipped with a regulator supplied by the laboratory within the living area of the home. The canister was placed on tables or countertops within the breathing zone. Prior to collection of indoor air samples, the indoor ventilation system fans of the homes were operated with all windows and doors closed. The ambient air canisters were placed on the ground at the selected exterior locations and the intake tubing was extended up steel posts to a height of approximately 5 feet above ground.

The valves on the regulators, which were set by the laboratory to collect samples over an approximate 24-hour period, were opened and the canisters were allowed to fill. The valves were then closed at the end of the sampling period and the canisters were stored under chain of custody protocol. At the conclusion of sampling, the canisters were shipped to laboratory for analysis. Air samples were analyzed for VOCs, methane, and TPHg by Methods TO-15, TO-15 SIM, and TO-3.

[1] 1,1-DFA was detected at a concentration of 12 µg/m^3 in the sample collected at 1314-SS2 at 1314 Nelson Court. The detected concentration is less than 10 times the method detection limit (2 µg/m^3). DTSC guidance (DTSC 2012) allows for detections of leak detection compound at less than 10 times the method detection limit without corrective action.

2.9 INSTALLATION OF EXTERIOR SOIL VAPOR PROBES IN THE VICINITY OF 1300 NELSON COURT

Four exterior soil vapor probes were installed at locations in the vicinity of the property at 1300 Nelson Court (Figure 2). Two of the probes (1300-VP-3 and 1300-VP-4) were installed north and east of the 1300 Nelson Court property, near the northern and eastern walls. The remaining two probes (1302-VP-4 and 1302-VP-5) were installed on the 1302 Nelson Court property adjacent to the eastern wall separating that property from 1300 Nelson Court. Stantec advanced a 3.5-inch hand auger bucket to a total depth of 5.5 feet. Upon reaching the desired depth, ¼-inch Nylaflow® tubing with a small airstone filter attached to the end was inserted into the open borehole. The airstone filter was gently lifted up approximately 6 inches and #3 sand was poured down the borehole to encase the filter with 1 foot of sand pack. Approximately 1 foot of dry granular bentonite was poured down the borehole and then the boring was completed to the surface with hydrated bentonite.

2.10 SAMPLING OF EXTERIOR SOIL VAPOR PROBES

On July 24, 2014, Geosyntec Consultants sampled the four soil vapor probes (1300-VP-3, 1300-VP-4, 1302-VP-4 and 1302-VP-5) surrounding the property at 1300 Nelson Court. Soil vapor sampling and testing procedures were conducted in accordance with DTSC guidance (DTSC, 2012). Prior to purging and sampling, a shut-in test was conducted to check for leaks in the above ground fittings. Subsequently, a surface shroud was placed around the probe and sample train and flooded with helium tracer gas while the probe was purged of stagnant air. Purged volumes were collected into a Tedlar® bag and screened using field instruments for fixed gases (i.e., oxygen, carbon dioxide and methane), VOCs, and the presence of tracer gas (i.e., helium) that would be indicative of an ambient air leak. Following purging, soil vapor samples were collected in one-liter Summa canisters using dedicated flow controllers calibrated by the analytical laboratory to an approximate fill rate of 200 mL/min. Following sample collection, the canisters were labeled and stored under chain of custody protocol before being shipped to the analytical laboratory. The samples were analyzed for VOCs, methane, and fixed gases by Methods TO-15, TO-3, and TO-3C.

2.11 FIELD MEASUREMENTS

Field measurements were made using field instruments including vacuum gauges, a flame ionization detector (FID), photoionization detector (PID), and a GEM 2000T landfill gas monitor for analysis of methane, oxygen, carbon dioxide, and carbon monoxide. A vendor-supplied calibration gas standard was used to calibrate field instruments at the beginning of each day of sampling. The field instruments were periodically checked against the gas standard throughout the day and a final calibration check was performed at the end of each sampling event. Field measurements were made in exterior soil vapor and interior sub-slab vapor probes, SVE wells, indoor air in the homes, and at the SVE treatment system. Table 2 summarizes the field measurement data.

2.12 SVE SYSTEM PERFORMANCE ASSESSMENT FIELD ACTIVITIES

The SVE system initially installed at the site by a previous contractor (AGE) consisted of nine extraction wells (VW1 through VW9; one well located north of each the eight homes along the south sidewalk of Varsity Road and one located in the median of Mahin Drive). A tenth well (VW10) located across Varsity Road was installed but never used as an extraction well. AGE SVE wells VW1 through VW10 were drilled to depths of 16.5 feet with 15 feet of 2-inch PVC 0.020 well screen and 1.5 feet of well blank. The borehole annular space was filled with sand to the top of the well screen. 1.5-foot bentonite and concrete plugs were used to seal the boreholes at the ground surface. Each AGE well was piped to a 4-inch Schedule 80 PVC trunk line. The trunk line was placed above ground in the planter area south of the southern sidewalk along Varsity Road. The piping travels underground below Mahin Drive and in the vacant lot east of the residential development to the Jewett Oil lease, where the SVE treatment unit was situated. Each AGE SVE well-head was equipped with a ball valve and a sampling port (AGE 2014). The initial AGE SVE system treatment unit was a 300 CFM liquid ring thermal oxidizer (Figure 2).

In May 2014, the AGE SVE system was modified and upgraded to place the wells on the east and west sides of Mahin Drive on separate pipelines to the treatment system. The two pipelines were connected via a manifold to a new 500 cfm positive displacement thermal oxidizer unit on June 19, 2014.

The upgraded AGE SVE system was initially tested and sampled for operation the afternoon of June 19 and was then shut down to allow the subsurface system to equilibrate. The system was restarted the morning of June 20. Prior to and periodically following restart through June 25, the system was monitored for vacuum, methane, and vapor concentrations at the extraction wells, at the SVE treatment unit, and at exterior and sub-slab vapor probes across the site.

Based on the results of assessment of the system performance in late June, PCR determined that further upgrade of the SVE system would improve the effectiveness of the system. In mid-July, four new 40-foot-deep SVE well nests (SVE-1, SVE-2, SVE-3 and SVE-4), each containing two wells (designated S and D for shallow and deep, respectively), were installed by Stantec along the southern sidewalk of Varsity Road in the vicinities of 1306, 1312/1314, and 1316 Nelson Court, and at the southeastern corner of Varsity Road and Mahin Drive (Figure 2). Each Stantec SVE well nest consists of a single borehole with separate 2-inch PVC wells installed and screened at depths of 10-20 feet and 30-40 feet (Figure 10). Each screened interval is surrounded by a sand filter pack extending from one foot below to one foot above the screened interval. The two filter-packed intervals are separated by an approximately 8-foot-thick bentonite seal. The borehole annulus above the uppermost screened interval is sealed with bentonite-cement grout, a concrete cap and well access vault flush with the sidewalk. The wells are connected via headers to the existing two SVE system trunk lines. Borehole logs and well completion diagrams are presented in Appendix A.

Concurrent with the new Stantec SVE well nest installations, the existing AGE VW-1 through VW-10 wells were abandoned. Each well was drilled out and the boreholes were backfilled with

cement-bentonite grout. Following grouting, the sidewalk concrete was restored at each location.

After installation of SVE-1 and allowing a sufficient period for the well seals to set up, a pilot test was conducted to assess vacuum radius of influence. To support this assessment, a total of three 5-foot deep vapor probes (SVE-1-5', SVE-1-10' and SVE-1-20') were installed at approximately 5, 10 and 20 feet away from the SVE-1 well nest. Stantec advanced a 3.5-inch hand auger bucket to a total depth of 5.5 feet at each monitoring probe locations. Upon reaching the desired depth, ¼-inch Nylaflow® tubing with a small airstone filter attached to the end was inserted into the open borehole. The airstone filter was gently lifted up approximately 6 inches and #3 sand was poured down the borehole to encase the filter with 1 foot of sand pack. Approximately 1 foot of dry granular bentonite was poured down the borehole and then the boring was completed to the surface with hydrated bentonite. During pilot testing, the monitoring probes and other nearby exterior vapor probes were monitored for vacuum to evaluate radius of influence. The results of the pilot test indicated that a radius of influence of at least 70 feet was obtained. Based on the results of the pilot test, Stantec installed three additional dual-well nests (SVE-2, SVE-3 and SVE-4) at the locations indicated on Figure 2.

Following installation and connection of the Stantec SVE wells, vacuum and combustible gas (as methane) measurements (percent lower explosive limit [% LEL]) were collected from the extraction wells and exterior soil vapor probes at the site. Based on this monitoring, induced vacuum was measured in most of the exterior probes at 1306 through 1316 Nelson Court, including the probes installed south of the homes (in the front yards). Methane levels measured in vapor probes surrounding the homes were nearly all below the instrument detection limit and VOCs did not exceed a few ppm (Table 2). Influent methane concentrations at the treatment system had decreased to 0% of the LEL.

The current SVE system of four SVE nests and the 500 cfm positive displacement treatment unit was operated over the next several days on a cycled basis, operating each nest alone (with all other nests closed from the system) at maximum sustainable flow rate for a period of approximately 24 hours. At the completion of each cycle, the well nest was closed, another was opened and the process was repeated. On July 28, once all four nests had completed a SVE cycle, the system was shut down for a period of 48 hours to conduct a rebound test. Exterior vapor probes were monitored for combustible gases and VOC concentrations at the conclusion of this rebound period on July 30 using field instruments to assess if concentrations had increased. Based on this monitoring, no rebound of combustible gases or VOC concentrations was observed (Table 2). This was confirmed during a second round of measurements completed on August 8, after the system had been shut down for approximately two weeks.

Following another round of planned indoor air and sub-slab vapor sampling events to be conducted on August 11-15, the current SVE system will be restarted as a precautionary measure pending receipt and evaluation of sampling data. PCR will consult with the County regarding continued operation of the SVE system once the August data are available.

3.0 ANALYTICAL RESULTS

Table 3 summarizes the results of June 2014 analytical testing of soil at the homes at 1302, 1304, 1306, 1308, 1312, 1314 and 1316 Nelson Court and at the background locations. Tables 4a through 4g and 5a through 5g summarize the results of analytical testing of soil vapor and air samples at those homes and at ambient locations in June and July 2014, respectively. Table 6 summarizes the results of July 2014 analytical testing of vapor samples from the vapor probes in the vicinity of 1300 Nelson Court. Table 7 summarizes the results of SVE Treatment system influent and effluent sampling conducted on June 19 and July 22, 2014. Appendix B provides laboratory data reports.

Based on the soil sample results, VOCs and TPHg were not detected in any of the soil samples collected from the yards or background locations with the exception of a single detection of 1,2,4-trimethylbenzene. This compound was detected at a concentration of 7.5 micrograms per kilogram (µg/kg) in the sample collected from 1306-W at 2 feet below grade. This concentration is slightly above the laboratory reporting limit for 1,2,4-trimethylbenzene in this sample.

The sub-slab vapor and indoor/ambient air samples collected on June 20 through 24, 2014 were initially submitted for analysis by Method TO-15 SIM to achieve low detection limits meeting risk-based screening levels. The SIM method achieves low detection limits for a limited number of constituents, including petroleum compounds (i.e., BTEX and naphthalene) and certain chlorinated solvents not associated with the pipeline release. To provide data for the broader list of petroleum compounds not included in the SIM analysis method, the samples were subsequently run by the standard TO-15 method, which yields a much broader suite of VOCs at higher detection limits.

Most of the June 2014 sub-slab vapor and air samples analyzed for VOCs required dilution, which resulted in elevated reporting limits and/or estimated value flags. The laboratory (Advanced Technology Laboratories) identified the presence of unidentified non-target hydrocarbon constituents that interfered with the ability of the method to achieve typical method reporting levels. The source of the non-target hydrocarbon is not known. Separate split samples submitted to another laboratory (ALS Environmental) also required dilution due to the presence of a non-target hydrocarbon.

As discussed in Section 2.7, isopropyl alcohol (2-propanol) was detected in sub-slab vapor samples collected in June 2014. Isopropyl alcohol was used for leak detection testing during collection of those samples. As a result, some sub-slab sample results may have been affected by indoor air and may not be fully representative of sub-slab vapor conditions.

A summa canister intended as a trip blank during the June sampling event was inadvertently opened in the field for a brief period of time. The result is that the canister is not representative as a trip blank and the results are not usable for that purpose. Trip blanks were not used during the subsequent July sampling event. Trip blanks are not necessary for quality assurance/quality

control assessment of air and vapor samples collected in canisters. Per DTSC guidance (DTSC 2012), trip blanks are not required if samples are collected in canisters.

4.0 REFERENCES

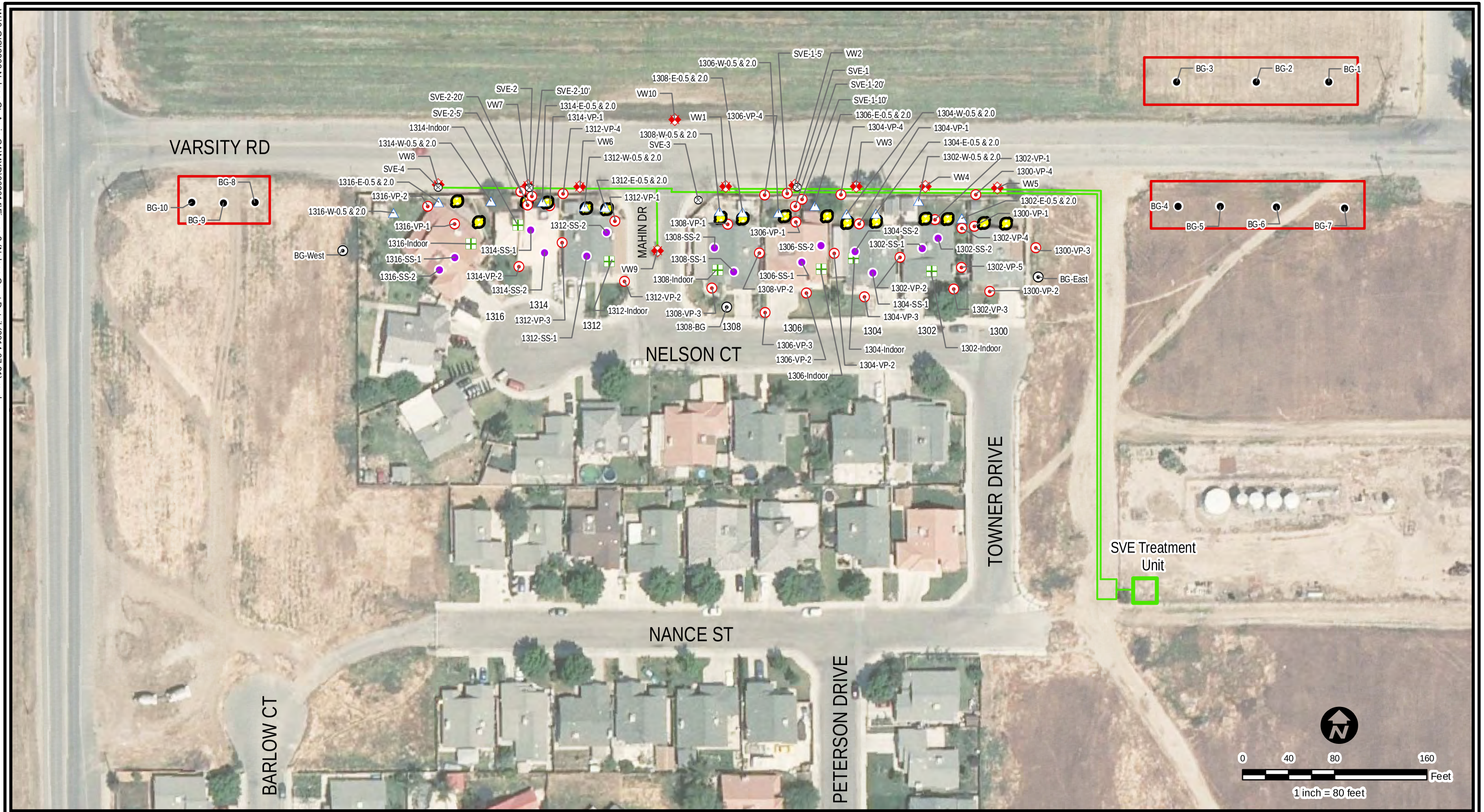
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Stantec. 2014 b. Amendment to Workplan for Additional Sampling and Analysis and Mitigation Activities, 1302, 1304, 1306, 1308, 1312, 1314, and 1316 Nelson Court, Arvin, California (Revised). July 15.

W:\0-GIS\3200 Nelson Ct, Arvin CA\MXD\063014\Figure 2 (Nelson Court Detail (2014-07-31).mxd



Legend

- Yard Soil Sample Location (approximate)
- Ambient Air Sampling Location
- Soil Background Sampling Location
- Abandoned Vapor Extraction Well
- Exterior Soil Vapor Probe
- Abandoned Vent Well
- SVE Well Nest
- Sub-Slab Vapor Ports
- Indoor Air Sample
- Soil Background Sampling Area
- SVE System Piping

Stantec
2335 HIGHWAY 36 WEST
ST. PAUL, MINNESOTA 55113
PHONE: (651) 636-4600 FAX: (651) 636-1311

FOR:			FIGURE:
NELSON COURT	**NELSON COURT FIELD ACTIVITY LOCATIONS**		2
JOB NUMBER: 18583237	DRAWN BY: TF	CHECKED BY: JS	APPROVED BY: RN	DATE: 07/31/14

Kern County Environmental Health Division
Hazardous Release/Spill Response Report

Service Request #: SR0015757 **Cal EMA #:**

ER Name/Location: PETRO CAPITAL - JEWETT DRILLSITE, Varsity Rd and Mahin Rd and homes on the north side of Nelson Rd

Latitude:	Longitude:	APN:

Incident Start Date and Time:	Incident Reported to KCEHSD Date and Time:	Incident reported to KCEHSD by:
03/11/2014	03/12/2014 17:30.00	KCFD

Responsible Party: Petro Captial Resources
2703 PATTON WAY
BAKERSFIELD, CA 93308

Type of Incident and Materials Involved: Fixed Facility

Name of Material	Quantity Released	Unit of Measure	Physical State	Source of Release
Field Gas	Unk			Pipe/Pipeline 3 inch gas line poly

Location:	Site:	Media Impacted:
Suburban	City Street	Soil

On-Scene Activities (check all that apply):

- ☒ Barriers Established
- ☒ Road Restricted
- ☐ Road Closed
- ☐ Shelter in Place
- ☒ Evacuation
- ☐ Hospitalization - Civilians
- ☐ Hospitalization - Responders
- ☐ None
- ☐ Other - explained in Narrative

Clean Up Activities:

- ☐ Contain and Remove
- ☐ Neutralization
- ☐ Absorption
- ☐ Sweep Down
- ☐ Wash Down
- ☒ Evaporation
- ☐ None
- ☐ Other - explained in Narrative

Clean Up Performed By:

City	County	State	Federal
☐ Fire	☒ Environmental Health	☐ CDF	☐ Forest Service
☐ Hazardous Materials	☒ Fire	☐ CHP	☐ BLM
☒ Police	☒ Fire - Hazardous Materials	☐ Cal Trans	☐ EPA
☐ Roads	☐ Sheriff	☐ Fish & Game	☐ China Lake NAWS
☐ Public Works	☐ Roads	☐ DTSC	☐ Edwards AFB
☐ Other	☐ Public Works	☐ RWQCB	☐ FBI
	☐ Ag Department	☐ Public Health	☐ Homeland Security
	☐ Other	☐ Other	☐ Other

Contacts:

Name	Title	Agency/Company	Phone	Email

Primary Responder: DAN R STARKEY **Secondary Responder:** BILAL KORIN

Narrative:

Monday, December 22, 2014 3:22 PM - VICKY FURNISH

SR0015757 Arvin PCR Field Gas Incident
Furnish's Chronology

Sequence of Events:

3-11-2014 High levels of flammable gas were detected by So Cal Gas during a routine survey of their line near Varsity and Nelson Ct.

So Cal Gas responded to fix and remediate the leak.

So Cal Gas responded equipment and completed a vapor extraction of the soil around the foundation of 1308 Nelson Ct.

3-12-2014 So Cal Gas completed a soil gas survey using a gas chromatograph and determined that the gas did not match the analytical finger print of their gas.

So Cal Gas notified the City of Arvin. Arvin building and PD responded.

Arvin contacted KCFD and in turn contacted Environmental Health (EH) and both responded around 16:30.

PRC was notified the gas leak might be theirs. Petro Capital Resources (PCR) shut down multiple wells that evening around 21:30.

3-13-2014 EH responded and did follow up with PCR. PCR was investigating the location of their 3 inch pipeline. Both ends were exposed and PCR discovered that the 3 inch gas pipeline runs along Varsity Rd.

3-14-2014 EH contacted PCR to perform and determine status/ integrity of line the line.

3-17-2014 Meeting at PH with PCR and So Cal Gas

EH began field samples inside and outside the homes on Nelson Ct (1300, 1302, 1304, 1306, 1316, 1314, 1308, 1312). Spoke with residences informing them of the concern and the ongoing investigation. High levels of flammable gas LEL were detected in the front and back yards of those homes. LEL levels were not detected inside the homes at the time (18:30) Samples of the front yards on the South side of Nelson Ct. were also sampled. No levels of LEL were detected there. Sampling along Varsity and side of Arvin High School was also conducted. No LEL levels were detected.

3-18-2014 Pressure test of gas pipeline was conducted. Source of location was identified. Field tested the inside of the homes and high LEL levels of flammable gas were detected in 1308 and 1312 Nelson Ct. Residents were then notified to evacuate immediately due to the explosive hazard. Fire shut off gas and electric to those homes.

3-19-2014 Temporary Vapor Mitigation Plan submitted by PCR's consultant: Advanced GeoEnvironmental, Inc (Advanced Geo). Upon review EH made recommendations to the scope of work and requested a new revised work plan.

Remediation System Monitoring Workplan was submitted by Advance Geo. Review of the plan and revisions were made by EH.

3-21-2014 Advance GEO submitted a revised Temporary Vapor Mitigation Plan. Kern County EH approved.

3-24-2014 Meeting with PCR, Advanced Geo, EH, Fire, and Supervisor Perez on plan of remediation

3-24-2014 First set of indoor air sampling was completed by Advanced Geo at 1300, 1302, 1304, 1306, 1308, 1312, 1314, 1316.

3-25-2014 Research and correspondences with agencies:

CalEPA, CalOES, OEHHA, ATSDR, CDC, CDPH, DTSC, CUPA Forum Emergency Response group, OSHA, and FedEPA.

3-25-2014 Preliminary sampling results from 3/24/2014 for indoor air samples were provided and reviewed. Indoor air samples were tested for Volatile Organics and Methane from SUMMA canisters. Afternoon conference call with

PCR, Fire, EH, and Advanced Geo.

6 ft deep vertical borings approximately 4-8 ft from residences; installation of vapor wells, pipe, and well heads to the temporary individual evacuation fan unit plumbed to the roofline.

(2) 2-in soil gas vent wells in each backyard
(10) 2-in vapor extraction wells, (8) of which are between residences and the release point

Installation of 10 ft. deep boring @ NE corner of Varsity and Mahin Dr. Installation of vapor probes at 5 and 10 ft for sampling.

3-26-2014 Soil samples and soil gas samples were taken through 3-28-2014 to determine the scope and range of contamination. Conference call.

3-27-2014 Connection and pilot test of temporary vapor extraction unit and wells to portable treatment system. Treatment system is located in PCR's Jewett lease.

3-28-2014 Site visit to witness site sampling. Conference call.

3-28-2014 San Joaquin APCD obtained 3 outdoor air samples from SUMMA canisters.

3-30-2014 Site visit to verify trenching and piping for vapor extraction unit. Conference call.

3-31-2014 Second round of indoor and ambient air sampling at 1300, 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

3-31-2014 Received soil analysis (3/26/2014) report for borings, wells, soil gas, and vapor extraction wells. Soil was tested for hydrocarbons and volatile organics and total petroleum hydrocarbons (TPH). Results indicated high levels of methane, TPH, and volatile organics. Well head gas (source of release) was also sampled and identified. Conference call.

EH sampled for levels of flammable gas on Comanche and Varsity.

3-31-2014 As requested by EH, PCR installed 3 combustible gas detectors in each of the homes. Each home was provided an informational packet along with contact phone numbers.

4-1-2014 Conference call on second round of indoor air samples, vapor wells, and boring soil samples. Results indicated an increase due to barometric pressure.

APCD air samples were provided to EH.

4-2-2014 Conference call on update and status of SVE unit. Provided letter to PCR and Fire to provide to residents regarding thermoxidizer unit.

4-3-2014 Operations begin on the semi-permanent soil vapor extraction unit

4-3-2014 Sampled influent/effluent for methane, volatile organics and TPH. High levels of BTEX and TPH and methane were still present. Vapor extraction systems' analytical results were provided.

4-4-2014 EH obtained a 3rd party industrial hygienist (IH) to assist in the evaluation of the project

4-7-2014 Advanced Geo submitted a new workplan suggesting additional work. A conference call was set up in the afternoon to discuss about the workplan.
EH met with IH to discuss scope of work and workplan.

4-9-2014 Received soil data from the drillings and borings during the well installation. Conference call was conducted later that afternoon.

4-11-2014 Received initial vapor extraction system analytical results from the 1st two days of operations. Results indicated detected levels of TPH, BTEX, and methane. Conference call was conducted later that afternoon.

4-15-2014 Sampled 1315 Nelson Ct. for an odor complaint. No readings found.
3rd Indoor and outdoor ambient air samples were completed in 1300, 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

4-16-2014 Sampling results from (4-15-2014) air samples were reviewed during a conference call. Levels in 1308 for benzene were still above CHSSL limits.

4-23-2014 Advanced Geo submitted draft Criteria for Reoccupation of Residences to EH for review. EH submitted comments back to Advanced Geo after conference call for review of plan.

4-24-2014 Conference call regarding Advanced Geo's Reoccupation workplan. EH disagreed along with APCD on the identified "background ambient air concentration utilized for proposed indoor air target concentration".

4-25-2014 Meeting with Supervisor Perez to provide update

5-6-2014 Townhall meeting at City of Arvin to provide residents and City Council members update on progress.

5-7-2014 Provide copies of all data related to sampling to public records request.

5-19-2014 Sampling completed on the south side of Nelson Ct. No levels of flammable gas were detected in the front, back, and the insides of 1301, 1303, 1307, 1309, 1311, 1313, 1315. 1305 did not grant us access inside the home. EH performed at a minimum 2 rounds of soil vapor and air screening in the front/back yard and did not detect levels of flammable gas at each home.

5-20-2014 City of Arvin council meeting to present latest on going issues. Presentation of sampling efforts on the south side of Nelson Ct. was presented.

5-21-2014 PCR obtained new consultant – Stantec to perform subsurface investigation and remediation/ evaluation. Spoke with Richard Newill with Stantec and went over proposed project.

5-28-2014 Stantec submitted draft workplan for additional sampling and analysis for mitigation activities for Nelson Ct. EH and IH reviewed workplan and discussed additional measures. Conference call with Stantec, EH, IH, and PCR.

5-29-2014 Stantec submitted revised workplan based off of 5-28-2014 discussion. Upon EH review, additional questions came up. EH resubmitted to Stantec for modification.

5-30-2014 Visit with Arvin residents to go over workplan.

6-2-2014 Stantec resubmitted workplan to EH for review. EH approved.

6-9-2014 Stantec completed yard and background area soil samples

6-16-2014 Stantec installs sub-slab vapor probes and sub slab vapor mitigation systems
Indoor air sampling and sub-slab vapor sampling to continue this and next week.

6-16-2014 Communication with Stantec regarding abandonment of vent wells near 1302, 1304, 1306, 1308, 1312, 1314, 1316. PCR proposes to abandon existing inactive vent wells and piping system in yards. Wells were installed for temporary SVE unit pending the current SVE unit in operations. They had been identified to cause interference with existing pathways and limiting radius of influence. Vent wells to homes roof lines will be removed. Vent system fans will still be utilized for the sub-slab mitigation system. EH approved the abandonment of inactive wells and process.

6-20-2014 Stantec proposes variances to work plan to include:
2 additional upwind ambient air samples (total of 3) – taken 6-23-2014
1 additional testing set of sub-slab vapor samples in each home to create baseline (total of 2 sampling sets) – taken 6-20-2014 and 6-24-2014
EH approves of additional variance to workplan.

7-7-2014 Visit with Arvin residents to provide an update and progress of remediation.

7-14-2014 Spoke with Stantec re: status on project. Indicated that vapor extraction wells installed by Advanced Geo will were leaking and zone of influence was decreased by the leaks. Dual nested wells will be installed by Stantec. Also informed EH that 1300 had not provided consent for remediation.

7-15-2014 Stantec provided an amendment to workplan for additional sampling and analysis and mitigation activities. EH and IH reviewed and approved of additional sampling and mitigation activities including abandonment and installation of new wells.

Existing sub-slab vapor ports were found to be leaking and needed replacement.

Installation of 4 new exterior vapor probes near 1300. Collection and analysis of vapor samples from probes.

7-16-2014 Stantec completed indoor air and ambient air sampling in 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

7-17-2014 Stantec initiated drilling and installation of SVE wells. Well installation, pilot test, and well abandonment to continue to next week.

Sub-slab vapor port leak testing and sub-slab vapor sampling will be conducted and continued on til 7-18-2014.

Site visit to look at sub-slab vapor port test at 1306 and old SVE wells.

7-21-2014 Stantec installed 4 well nests along Varsity Rd. SVE-1 installed north of 1306 Nelson Ct., SVE-2 installed north of 1314, SVE-3 installed at the eastern corner of Mahin and Nelson Ct., SVE-4 installed north of 1316 Nelson Ct. All wells are now connected to VES piping and treatment unit. SVE wells will be operated on a cycle basis and shut down for rebound test. Zone of influence is approximately 70 ft.

7-22-2014 Stantec monitored levels of methane at extraction wells and exterior soil vapor probes did not detect LEL except for 4 probes had 1-3% LEL. Influent methane concentration at treatment systems were 0% LEL.

7-23-2014 Received phone call from Deldi Reyes with FedEPA. Provided recap of events. Pete Guria with Emergency Response Branch was also cc'd in notes. I provided Deldi edits to her notes to took from our conversation.

Donn Zuroski with FedEPA called for update and overview of the incident.

Craig Benson with FedEPA also called for an update and overview. Craig indicated an individual with the Arvin Superintendent of Schools had met with FedEPA in DC and had concerns over the incident and pipelines below schools and arsenic in water. FedEPA was asked to provide assistance.

Provided Zuroski, Benson, and Reyes summary of data from the original indoor air samples. Provided them updates on Arvin and indicated EH will provide Human Health Risk Assessment (HHRA) copy to them for review. FedEPA indicated that at this time that there is not much they can assist with. But would be willing to help with the review of the assessment.

7-24-2014 Received call from Ceaser Campos – KEEN. Indicated that he received a complaint from a resident via phone message of a gas odor on Nelson Ct. Campos also requested copies of the Advanced Geo data. I provided him an email copy of the public records request to send back.

I called Stantec to have their technicians conduct onsite sampling. Field technicians walked along Nelson Ct. using a PID and LEL meter and did not detect VOCs, methane, or levels of LEL.

7-28-2014 SVE system was shut down to complete rebound test.

Meeting at Supervisor Perez' office to provide update.

7-29-2014 Received a call from Mary Wesling, FedEPA regarding some questions on PCR's process. Provided facility maps and overview of incident from CERS.

7-30-2014 Stantec performed measurements of LEL and VOC in vapor probes surrounding homes and all were none detect. Except for 1308, one of the probes indicated 1% of LEL. VOC concentrations were detected at very low concentrations. Rebound test to continue for another week.

7-31-2014 Received phone call from Karen Riveles, OEHHA. Provided her email response and analytical interruption from Robert Knowles, Regional Director for ATSDR Region 9 and Dr. Gabriele Windgasse with CDPH. Informed Riveles she would be included in the email when the HHRA has been provided by Stantec.

8-8-2014 Stantec completes vacuum, methane, and VOC field measurements in SVE wells, sub-slab vapor probes, and exterior vapor probes around homes.

8-11-2014 Indoor air samples and ambient air samples were taken by Stantec in 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

8-13-2014 Received call from Paul Penn with CalEPA. Provided update to Arvin incident after he was asked by Arsenio Mataka (CalEPA Assistant Secretary for Environmental Justice).

Spoke with John Geroch with DOGGR. He wanted an overview and what he could assist with on the project. Indicated to him that we were having a conference call on Monday, August 18th. He would like to listen in and review the HHRA when available.

8-14-2014 Sub-slab vapor samples will be taken from 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

Soil vapor samples from exterior soil vapor probes will be collected and tested for VOCs and methane.

Received call from Fire to respond to 1307 Nelson Ct. for smell of gas. Arrived on scene with Engine 54 and Stantec. Surveyed and monitored inside and outside of home. Spoke with resident and explained to EH and Fire that the smell was more of a rotting animal smell. Monitoring instruments did not detect levels of VOCs or LEL. Provided information for pest control to resident. Informed resident if smell persist, to contact fire.

Resident at 1307 Nelson Ct. indicated that resident at 1308 Nance St., had odors as well. Surveyed and monitored home and closet of resident. Resident indicated smell occurred days after new carpet was installed inside the home. Sampled and no levels of VOC or LEL were detected. Informed resident if smell occurred again to contact the fire dept.

8-15-2014 Completion of rebound test on SVE wells.

Stantec submitted to EH for review:

Field Data results

Geosyntec Vapor Intrusion Risk Assessment for 1302, 1304, 1306, 1308, 1312, 1314, and 1316.

Vapor Intrusion Risk Assessment for 1300.

Received email questions and inquiry from Wesling. Provided her answers to some pipeline questions. Wesling indicated she would like a site visit the last week of August.

8-18-2014 Scheduled conference call with Stantec, PCR, EH, and IH to review over data.

8-26-2014 Conference call with CalEPA, DOGGR, State Water Board, OEHHA, and FedEPA to review data and scope of direction.

9-12-2014 Meeting with Arvin residents at apartments with Supervisor Perez and Matt Constantine to go over data and review next steps.

9-23-2014 Conference call with CalEPA, DOGGR, State Water Board, OEHHA, and FedEPA.

9-23-2014 Received notification from URS: Stephen Bahr that they would not be able to take on the sampling at Arvin.

9-24-2014 Conference call with DOGGR and EH on Arvin.

10-2-2014 Meeting with John Geroch with DOGGR, Matt, and Donna on Arvin.

10-7-2014 Conference call with CalEPA, DOGGR, State Water Board, OEHHA, and FedEPA.

10-15-2014 Received notification from BSK Associates: On Man Lau that they would not be able to perform the work.

10-20-2014 Meeting with Arvin residents at apartments with Supervisor Perez, Matt, and Donna to provide updates and get consent for flammable gas detection.

Received notification from Arcadis: Tim Limbers that they are not able to submit a bid proposal for the testing.

10-21-2014 EH sampled the front, back, and inside of 1302, 1306, 1308, 1312, 1314, and 1316 Nelson Ct. for flammable gases and did not detect any levels of flammable gases at any of the residences.

Conference call with CalEPA, DOGGR, State Water Board, OEHHA, and FedEPA.

10-22-2014 EH sampled the front, back, and inside of 1300 and 1304 Nelson Ct., for flammable gases and did not detect any levels of flammable gases at the two residences.

10-23-2014 Obtained quotes and contract with Citadel Environmental

10-27-2014 Draft work plan submitted from Citadel Environmental and sent to CalEPA, DOGGR, OEHHA, and FedEPA.

10-28-2014 Received confirmation from DOGGR regarding workplan. DOGGR agreed with the work plan.

10-29-2014 Conference call with DOGGR, Citadel, Stantec, and EH to review the work plan and questions or concerns.

10-30-2014 KCFD issued evacuation lift order to all the residents: 1300, 1302, 1304, 1306, 1308, 1310, 1312, 1314, 1316.

11-4-2014 Conference call with CalEPA, DOGGR, OEHHA, FedEPA, and State Water Board.

11-5-2014 Conference call with DOGGR and OEHHA to discuss about 11-7-2014 meeting with Arvin residents.

11-7-2014 Meeting with Arvin residents with DOGGR, OEHHA, and EH/PH to discuss 3rd party sampling (Citadel) and obtain consent.

11-10-2014 Met with Citadel and team to go over logistics and walk through of sampling locations in each home.
Checked in with Citadel in the afternoon to ensure all doors were locked.
1300 was to come every morning at 0800 to open their doors and 1700 to lock them up
1302 was to come every morning at 0800 to open their doors and Citadel/EH will lock up after the day's activities
1304 came to unlock the door. Lock at the end of testing activities
1306 came to unlock the door. Lock at the end of testing activities
1308 came to unlock the door. Lock at the end of testing activities
1312 came to unlock the door. Lock at the end of testing activities
1314 provided door code. To lock up at the end of each day.
1316 door is open. Lock at the end of testing activities

11-11-2014 Met with Citadel and team to go over sampling.
Checked up with them in the afternoon. All subslabs were completed, soil vapor probes sampling completed, and sampling canisters were placed in the homes at 14:00.
Obtained consent from owner of 1300 Nelson Ct.

11-12-2014 Met with Citadel on site to review sampling event. Made calls and locked up each home after sampling containers were removed after 14:00.

1300:	14:50
1302:	14:52
1304:	14:54
1306:	14:56
1308:	15:09
1312:	15:19
1314:	15:23
1316:	15:26

11-12-2014 Received an updated proposal from Citadel for 5 day turnaround sample test results

11-13-2014 Sample containers were sent over to lab for analysis.

11-21-2014 Received preliminary sample (incomplete) results from Citadel

12-1-2014 Received sample data analyticals from Citadel
Reviewed and sent analyticals to FedEPA, DOGGR, OEHHA, State Water Board, and CalEPA for review.

12-2-2014 Conference call with State to review data points

12-5-2014 Meeting with DOGGR, OEHHA, CalEPA and Arvin residents to go over Citadel's last test results and confirmation conclusions on health risk and levels.

12-6-2014 Meeting with DOGGR, OEHHA, CalEPA, Arvin City Counsel, and Arvin community members to go over incident and conclusion.

Narration by: Dan Starkey
Location: Varsity Rd and Mahin Rd intersection, Nelson Rd north side of the street
Comanche Rd and Varsity Rd Intersection

Possible Responsible Party:

Petro Capital Resources (PCR)
Jeff Williams – Production Manager
3600Pegasus Drive #6
Bakersfield CA 93309
661-303-3260 cell
jwilliams@petrocaptialresources.com

Jerry Anderson – Partner

Jewett Lease Well Site -Varsity Rd
Richard Lease & Richard Tank Farm Setting & Flair - Comanche Rd

CONTACTS:
Southern California Gas Company
Louie Ochoa
Field Operation Supervisor II
1510 N Chester Ave
Bakersfield CA 93308
661-979-6531
jochoa@semprautilities.com

Davis - Batt 5 KCFD
Shillenger – Capt. 54
Gaddis – Capt. 52 USAR
Arvin – Jack Highfill Building Inspector
Arvin – PD
Arvin – Water

Sequence of Events:
3-11-2014 Gas leak was detected by So Cal Gas during a routine survey of their lines. They considered the detection of the gas a Class 1which they consider the highest threat level.
3-12-2014 So Cal Gas completed a soil gas survey of the area and determined that the gas was not theirs. They were getting levels as high as 40% LEL at the block walls and more than 1% around the foundation.

So Cal Gas notified the City of Arvin. Arvin building and PD responded.
Arvin contacted KCFD and KCFD contacted EH and we both responded

The suspected leaking field gas line was shut down at 930 pm by PRC.

3-13-2014 I responded and did follow up with PCR. I witnessed that both ends of the pipeline were exposed and cut. The pipeline direction was confirmed to run a long Varsity Rd adjacent to the location where the gas was detected near the homes.

So Cal Gas provided copies of the legal notice and results of the gas tested at 1308 Nelson showing the gas does not belong to them.

3-14-2014 Starkey informed Canas that PCR is going to purge their field gas line that runs from the Jewett Lease to the Richards tank setting tomorrow and provided contact info. The Pipeline runs West on Varsity Rd to Comanche Rd. I told PCR that they are required to pressure test that field gas line to determine if it was leaking. I also provided the So Cal Gas info on 1308 Nelson to Williams via e-mail.

Joe contacted Williams to determine status of line purging and pressure test.

3-17-2014 Called and Spoke to Jeff Williams – pressure test by Wednesday. Called and updated Matt and Brian – regarding the pressure test. Contacted Pina and confirmed how gas was discovered. Pina sending So Cal Gas protocols for residential areas and gas leaks.

1300 -On site at witnessed PRC employees excavating and removing the 3inch gas line. Was told by PRC workers that they pressure tested the line to 20 psi and it did not leak. I informed them that that was not a valid test.

1430 - Conference call with Supervisor Perez, Matt, Brian, Joe& Dan.

1500 Meeting and conference call with Supervisor Perez, So Cal Gas and PCR at Matt's office. Brian, Joe& Dan also present.

1700 - Meeting at KCFD Arvin Station to plan canvasing and sampling of property. Those present at the meeting KCFD, Station 54, 66, Batt 5, KCEH, Arvin PD, Kim Rodriquez PH PIO, KCFD PIO.

1800 – Started notification of residents with three teams of agency reps. Furnish and Starkey started probing and analyzing soil gas around homes defining extent of gas plume. Homes surveyed inside for gas. Gas was not detected inside the homes during the survey using the MSA Altair 5 meters. Fire and PD left the scene. We stayed and surveyed the SW boundary to Arvin High School and the remaining homes on the south side of Nelson Rd. The 8 homes on the north side of Nelson all had soil contamination that appeared to extend under the foundations with the exception of the last home to the east. We left the site at approximately 2115. See Sampling Event map.

03-18-2014 At site at 1100 to witness the water pressure test of the 3 inch poly gas line. The water came up through the Cal Water meter cover in the intersection of Mahin Rd and Varsity Rd. I photographed the leak in the intersection and also some black liquid that came up through a probe hole next to the gutter that smelled like gas.

The home owner at 1314 Nelson stated that her house smelled like gas. I contacted the office and had Gabe Rubio respond because he spoke Spanish. When Gabe arrived we entered the house to try and determine if the odor was caused by the pressure test on the pipeline. Using the MSA Altair 5, I detected 51% LEL inside the back bedroom. The high concentration was coming from an electric outlet on the back wall closest to the back yard.

The home owner at 1308 Nelson also stated that her house smelled like gas. Rubio and I entered the house to try and find the cause of the odor and determine if the odor was also caused by the pressure test on the pipeline. Using the MSA Altair 5, we detected 53% LEL inside the northwest bedroom closet. The high concentration was coming from around the door jam on an inside wall. Notified Management of the contamination inside of the homes.

1700 PRC Sent press release to KGET.

Meeting at Arvin Fire Dept. to evacuating homes on the north side of Nelson that are affected by the soil gas. Fire evacuated homes and shut off gas.

03-19-2014 Joe Canas was on site see his notes

03-20-2014 Joe Canas was on site see his notes

03-21-2014 I was on site at 1030. Advanced Geo and their contractor Valued Engineering was on site installing the wells, piping and vapor extraction system on each home on the north side of Nelson Rd. Three systems were operational, 1308, 1314 and 1316. The remaining will be complete in the morning. I used the FLIR camera on the vents at 1308, 1314 & 1316.

03-22-2014 On site at 1100 to verify that the vapor systems have been installed and are operating. Surveyed soil gas and used the FLIR to determine if systems were venting vapors.

03-23-2014 On site with Beahm to survey the soil gas locations, sample the gas being vented and take FLIR photos of the gas exiting the vent at each address. We surveyed each home with the MSA Altair 5 Gas meter and did not detect any flammable gas. The two homes 1312 & 1308 were high levels of flammable gas were detected were surveyed and no gas was detected with our meters.

03-24-2014 On site at 0730 and surveyed 1316 & 1312 Nelson Rd because the homeowners stated that they smelled gas when they opened their doors. I used an MSA Altair 5 gas combustible gas meter and a PID to measure the levels inside the homes. At 1316 the levels were 0 % LEL and 0 PPM. At 1312 the levels were 0 % LEL and 1.5 PPM in the back room where high levels were detected previously on 03-18-2014. The SUMMA canisters were placed into the homes starting at 0900. The canisters were placed into the two homes 1312 & 1308 where levels were detected in the locations where the gas was found. PCR contractor was on site laying the PVC pipeline on the east end of the development for the permanent vapor extraction system.

At 1100 a meeting was held at the KCBOS office. The meeting was scheduled to discuss the progress made on removing the gas from the soil and plan additional operations.

03-26-2014 On site Advanced Geo Robert overseeing wells being drilled. Jones mobil lab on site to start analyzing samples.

03-27-2014 SJVAPCD took 3 grab SUMMA samples at breathing air height in the intersection of Varsity and Mahin Rd, 1312 Nelson and 1308 Nelson. The sample taken at 1312 Nelson could be influenced by the drilling rig that was operating on north side of the back fence.

Met with Rigo Ramos Maintenance Supervisor with the City of Arvin. I asked him about the dead trees and plants in the intersection of Mahin and Varsity Rd and along Varsity in the planters. Ramos stated that they had been dead for years and they have replanted the area four times and the plants and trees always die. I asked if he knew the date that the trees first started dying. He stated that one of his workers started the week they first cut down the dead trees. He started in April 2007. So the pipeline leak must have started sometime prior to April 2007. PCR has owned the lease for two years so the leak started under the previous owner and was never detected.

Advanced Geo is drilling and setting the wells for the vapor extraction system. Nine wells were installed including an additional well in the intersection of Mahin and Nelson to remediate the front yards of 1308 and 1312 Nelson Rd.

03-30-2014 On site from 1000 to noon VES system pre-startup.

03-31-2014 I was on site from 0830 to noon observing VES System Start up. In the office from 1600 – 1700 for a conference call.

Back on site from 1700 – 1830 doing a gas survey of Comanche Rd and Varsity intersection.

04-01-2014 Reviewed report and was on site from 1300-1530. Back in the office for the status conference call.

04-02-2014 On site to survey 1315 Nelson Ct for reported gas odor in the home. Rubio and I surveyed the home and yard with a CGI and PID Rubio. No gas was detected.

04-03-2014 On site from 1500 – 1630 to observe VES operation.

04-04-2014 On site 0700 – 1200 to photo the VES systems and equipment.

04-07-2014 Meeting 1300-1500 with Beadle the County hired IH.

04-09-2014 Meeting in our office where Pitts assigned the investigation to Furnish.

Refer to Furnish Report for additional info.
Friday, June 19, 2015 9:05 AM - CHRIS HOLLINGER

SUPERVISORIAL WAIVER OF MOST OF FEES FOR THIS SR

Person Preparing Report: DAN R STARKEY	**Phone:** (661) 862-8757	**Report Date:** 01/22/2015
Agency: Kern County Environmental Health Division 2700 M Street, Suite 300 Bakersfield, CA 93301		**Reviewed by:** DAN R STARKEY
		Review Date: 01/22/2015

Department of Conservation

Well Information

API #
02944449
Lease
Jewett
Well #
1-1
County
Kern [029]
District
4
Operator
Petro Capital Resources, LLC [P2520]
Field
Mountain View [490]
Area
Arvin, West, [06]
Section
23
Township
31S
Range
29E
Base Meridian
MD
Well Status
Active
Pool WellTypes
OG
SPUD Date
GIS Source
gps
Datum
83
Latitude
35.215414
Longitude
-118.839138
Map

Click to get Sum by County: **Kern [029]** or Field: **Mountain View [490]** or Operator: **Petro Capital Resources, LLC [P2520]**

Get sum by Field-Operator-Lease: **Jewett**

Well Records

Show 25 entries

‹ Previous 1 Next ›

Showing 1 to 3 of 3 entries

File Name	Type	Size	Modified on

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

REPORT OF PROPERTY AND WELL TRANSFER

Field or county Mountain View		District 04
Former owner Decker Brothers Inc.	Operator code D1350	Date 07/16/2012
Name and location of well(s) See attached list.		
Description of the land upon which the well(s) is (are) located Sec. 22 & 23 - 31S/29E		

Date of transfer, sale, assignment, conveyance, or exchange 01/01/2012	New owner Petro Capital Resources, LLC	Operator code P2520	Type of organization Lmtd. Liabilaty Corp.
	Address 2703 Patton Way Bakersfield, CA 93308		Telephone No. 661-589-2081

Reported by Decker Brothers Inc. (D1350)	
Confirmed by Petro Capital Resources, LLC (P2520)	
New operator new status (status abbreviation) PA	Request designation of agent
Old operator new status (status abbreviation) PA	Remarks Retain Spot Locs: None.

OPERATOR STATUS ABBREVIATIONS	Deputy Supervisor	Signature 7-16-12 Burton R. Ellison

PA – Producing Active
NPA – No Potential, Active
PI – Potential Inactive
NPI – No Potential, Inactive
Ab – Abandoned or No More Wells

FORM AND RECORD CHECK LIST

Form or record	Initials	Date	Form or record	Initials	Date
Form OGD121			Map and book		
Form OGD140			Notice to be cancelled		
New well cards			Bond status		
Well records			EDP files		
Electric logs			Computer Files		
Production reports					

DOGGR LIST
MATCHES LIST FROM DECKER BROS.

API#	Lease	Well#	Active	FieldName	BLM	S	T	R	B&M	UICProject	IdleWell	YearsIdle
029-44449	Jewett	1-1	Y	Mountain View	N	23	31S	29E	MD			
029-44679	Jewett	1-2	Y	Mountain View	N	23	31S	29E	MD			
029-47703	Jewett	1-3	Y	Mountain View	N	23	31S	29E	MD			

029-44449

RECORDS RECEIVED

Date Received 3-19-73
Well Summary (Form 100)
History (Form 103) ✓
Core Record (Form 101)
Elec. Log - Lge. Small
Direct. Survey
Sidewall Samples
Other

Notice of Records Due
Form 170

Date Final Records Received

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log ✓
3. Operator's Name ✓
4. Signature ✓
5. Well Designation ✓
6. Location —
7. Elevation —
8. Notices ✓
9. "T" Reports —
10. Casing Record ✓
11. Plugs —
12. Surface Inspection —
13. Production —

RECORDS NOT APPROVED
Reason:

RECORDS APPROVED [signature] 9/1/73

RELEASE BOND Not req
Date Eligible
(Use date last needed records were received.)

MAP & MAP BOOK

STATUS — DATE

Producing - Oil
Idle - Oil
Abandoned - Oil
Drilling - Idle
Abandoned - Dry Hole
Producing - Gas
Idle - Gas
Abandoned - Gas
Gas - Open to Oil Zone
Water Flood Source
Water Disposal
Water Flood
Steam Flood
Fire Flood
Air Injection
Gas Injection
CO_2 Injection
LPG Injection
Observation

RECOMPLETED 7/1/72

CLERICAL CHECK LIST

1. Location change ___ (F-165)
2. Elevation change ___ (F-165)
3. Form 121
4. Form 159 (Final Letter)
5. Form 150b (Release of Bond)

FORM 19

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

△ OSP

RECEIVED
MAR 19 1973
DIVISION OF OIL & GAS
BAKERSFIELD

029-08099

OPERATOR Gary Drilling Co. FIELD Mountain View

Well No. Jewett #1-1, Sec. 23, T. 31S, R. 29E, MD B. & M.

Date March 16, 19 73 Signed

323-8107
7001 Fruitvale Ext., Bakersfield, Ca. 93308 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
3-1-72	Pulled tubing and rods . Welex shot two ½" holes per foot in the interval 5551 to 5571 feet. Returned well to production.

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 472-386

Mr. Ed Green
GARY DRILLING COMPANY
7001 Fruitvale Extension
Bakersfield, Calif. 93308

Bakersfield, Calif.
March 9, 1972

DEAR SIR:

Your proposal to alter casing Well No. "Jewett" 1-1 (029-44449),
Section 23, T. 31S., R. 29E., M.D. B. & M., Mountain View Field, Kern County,
dated 2-29-72, received 3-8-72, has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL IS APPROVED.

3-8-73
E. Green/Land
work was done will
get J Decker to file history

RAW/lr
No bond required

JOHN F. MATTHEWS, JR., State Oil and Gas Supervisor

By A. B. Hluza, Deputy
GWR

57628-705 11-71 35M ⓓ OSP

FORM 107

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

RECEIVED
MAR 8 1972
DIVISION OF OIL & GAS
BAKERSFIELD

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Bakersfield Calif. February 29 1972

DIVISION OF OIL AND GAS

Bakersfield Calif.

(029-44464)

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of ~~deepening, redrilling, plugging or~~ (Cross out unnecessary words) altering casing at Well No. "Jewett" #1-1

, Sec. 23, T. 31 S, R. 29 E, M.D. B. & M.

Mountain View Field, Kern County.

The present condition of the well is as follows:

1. Total depth. 6641'

2. Complete casing record, including plugs:

Plug- 6178'
8-5/8"- 712'
5-1/2"-6177' Perfs. 5551-71', 5712- 28', 5742-50'-4 holes per ft. Gun.
5840'- 6177', 100M, 2"S, 6" C, 14R

3. Last produced. 2-17-72 (Date) 20 B/O (Net Oil) 33° (Gravity) 0.1% (Cut)

The proposed work is as follows:

Re- perf: 2 holes per foot- 5551'- 5571'.

ac REFERENCE TO FILE OF DATA

Map & Book	US GS	Bond	Card	Forms 114	Forms 121
		No bond req.	—	72-10	—

Gary Drilling Company
(Name of Operator)

By Ed Gary President

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED

49127 9-61 10M ⓢ SPO

029-04449

RECORDS RECEIVED		STATUS	DATE
Date Received	1-18-71	Producing - Oil	12-12-70
Well Summary (Form 100)	✓	Idle - Oil	
History (Form 103)	✓	Abandoned - Oil	
Core Record (Form 101)		Drilling - Idle	
Elec. Log - Lge. ✓ Small		Abandoned - Dry Hole	
Direct. Survey	Rec'd 4-12-71	Producing - Gas	
Sidewall Samples	✓	Idle - Gas	
Other		Abandoned - Gas	
		Gas - Open to Oil Zone	
Notice of Records Due Form 170		Water Flood Source	
		Water Disposal	
Date Final Records Received		Water Flood	
		Steam Flood	
		Fire Flood	
		Air Injection	
		Gas Injection	
		CO_2 Injection	
		LPG Injection	
		Observation	
		~~RECOMPLETED~~	

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.)	✓	
2. Electric Log	✓	
3. Operator's Name	✓	
4. Signature	✓	
5. Well Designation	✓	
6. Location	✓	
7. Elevation	✓	
8. Notices	✓	
9. "T" Reports	✓	
10. Casing Record	✓	
11. Plugs	✓	
12. Surface Inspection	—	
13. Production	✓	

CLERICAL CHECK LIST

1. Location change	(F-165)	
2. Elevation change	(F-165)	
3. Form 121	Or	2-25-71
4. Form 159 (Final Letter)		
5. Form 150b (Release of Bond)		2-10-71

RECORDS NOT APPROVED
Reason: ~~Add Log & prod.~~

RECORDS APPROVED 2-25-71 GEC

RELEASE BOND # 1717057, 11-2-70
Date Eligible 2-25-71
(Use date last needed records were received.)

MAP & MAP BOOK 433 RJK 2-26-71

FORM 19

FORM 100

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

SUBMIT IN DUPLICATE

029-09999

RECEIVED
JAN 18 1971
DIVISION OF OIL & GAS
BAKERSFIELD

Operator Gary Drilling Company Well No. "Jewett" #1-1

Sec. 23, T. 31S, R. 29E, M.D. B. & M. Mountain View Field Kern County.

Location 330' S and 1170'E of W 1/4 corner of Section 23
(Give location from property or section corner, or street center lines)

Elevation of ground above sea level 448 feet.

All depth measurements taken from top of Kelly Bushing which is 11 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

In compliance with Sec. 3215, of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date December 29, 1970. Signed [signature]

J. M. Decker (Engineer or Geologist) _____ (Superintendent) Title Operator (President, Secretary or Agent)

Commenced drilling 11-10-70

Completed drilling 12-6-70

Total depth 6641' Plugged depth 6178'

Junk none

GEOLOGICAL MARKERS — DEPTH

Geologic age at total depth: Plio- Miocene

Commenced producing 12-12-70 (Date) Flowing/gas lift/pumping (Cross out unnecessary words)

Name of producing zone chanac

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	60	35.	1.5%	30	100	500
Production after 30 days	50	34.	6%	30	40	210

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drilled	Number of Sacks of Cement	Depth of Cementing if through perforation
8-5/8	712'	Surface	24#	N	Seamless	J-55	12-1/4	455	
5-1/2	6177'	Surface	17#	N & used	Seamless	K-55&N-80	7-7/8	315	5838'
								+260	2617'

PERFORATED CASING
(Size, top, bottom, perforated intervals, size and spacing of perforation and method.)

5-1/2"	5490-5491 4-1/2" holes W.S.O.	Gun Perf.
5-1/2"	5551-71', 5712-28, 5742-50, 4-1/2" holes/ft.	Gun perf.
5-1/2"	5840-6177' 100M, 2"S, 6"C, 14R	Slotted

Electrical Log Depths 712'- 6641' (Attach Copy of Log)

(SPO)

FORM 103

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View-Arvin Area

Well No. Jewett #1-1, Sec. 23, T. 31 S, R. 29 E, M.D. B. & M.

Date December 29, 1970 Signed

7001 Fruitvale Ext., Bakersfield 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
11-10-70	Rigged up & spud in at 9:00 P.M. Drilled 12-1/4" hole to 340'.
11-11-70	Drilled 12-1/4" hole to 713'. Ran 16 joints of 8-5/8" 24# csg. W/Larkin guide shoe at 712' & centralizers at 697' & 667'. Cemented with 220 sax of class G cement mixed with 4% gel & 3% Cacl followed with 150 sax of class G cement with 3% Cacl. Displaced with 248 cu. ft. of mud using one top plug. Cement returns not to the surface. Hung 1" pipe at 60 ft. on hard cement & pumped 85 sax of class G cement with good cement returns to the surface. Dowell. B.OP.E.pressure tested & approved by D.O.G.
11-12-70 to 11-27	Drilled 7-7/8" hole 713'- 6520'.
11-28-70	Drilled 7-7/8" hole 6520'-6641'. Ran Welex I.E.S. log & sidewall samples.
11-29-70	Hung open-end 4" drill pipe at 6540'. Displaced 140 sax of Class "G" cement with 365 cu. ft. of mud. Dowell cementers. Found top of plug at 6399'.
11-30-70	Hung open-end drill pipe at 6398'. Displaced 70 sax Class "G" cement with 365 cu. ft. of mud. Found top of cement at 6335'. Hung open end drill pipe at 6334'. Displaced 120 sax of Class G cement with 360 cu. ft. of mud.
12-1-70	Ran in & found top of cement at 6175'. Polished off cement with 7-7/8" bit to 6178'. Conditioned mud & circulated hole to run casing.
12-2-70	Ran 9 joints of 5-1/2", 17#, N-80, LT&C, used casing slotted with 100 mesh, 14 rows, 2" slots & 6" centers with B&W solid cement shoe for a total of 336.47 feet followed with 153 joints, 5848.53' ft., 5-1/2", 17#, K-55, ST&C with solid cement shoe at 6177', top perfs at 5840', B&W solid baffle collar at 5840', B&W metal petal basket & four torch cut cement port holes at 5838', Dowell float collar at 5800' & Dowell D.V. cement port collar at 2617'. Centralizers at 6171', 6089', 6010', 5927', 5848', 5828', 5761', 5735', 5703' W/scratchers, 5582' W/scratchers, 5543' W/scratchers, 2625' W/scratchers, 2605' W/scratchers & 2192'. Cemented with 100 cu. ft. of water with CW-7 as wash ahead followed by 492 cu. ft. of slurry, consisting of 115 sax of class G cement with 115 sax of Litepoz 7, premixed with 1100 lbs. of salt, 541bs. of D-65, 26 lbs. of D-46 followed by 200 sax of Class G cement neat premixed with 1400 lbs. salt, 94 lbs. of D-65, & 40 lbs of D-46. Displaced with one top plug & 790 cu. ft. of mud. Opened D.V. ports at 2617'. Circulated hole. Cemented with 100 cu. ft. of water wash ahead followed by 540 cu. ft. of slurry, consisting of 210 sax of class G cement and 210 sax of Litepoz 7, with 2% Cacl, followed

FORM 103

SUBMIT IN DUPLICATE

STATE OF CALIFORNIA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View-Arvin Area

Well No. Jewett #1-1, Sec. 23, T. 31 S, R. 29 E, M.D. B. & M.

Date December 29, 1970 Signed [signature]

7001 Fruitvale Ext., Bakersfield 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

12-2-70 (Cont) by 50 sax of class G cement neat mixed with 2% Cacl. Displaced with one port closing plug with 352 cu. ft. of mud. Good wash water returns to surface. Standing cemented. Installed & tested tubing head.

12-3-70 Landed BOPE & tested to 1500#. Picked up 2-3/8" tubing & drilled out DV collar with 4-3/4" bit. Ran in to 5797 & circulated hole clean. Tested 2-3/8" pipe rams & hydril to 2000#.

12-4-70 With Cook shoot & test tools on dry 2-3/8" tubing, shot 4-1/2" holes at 5490'-5491'. Opened tool at 4:45 A.M. with packer set at 5450' & tail at 5475'. Light decreasing blow for 7 minutes then dead for the remainder of one hour test. Found 65' of drilling fluid in pipe. W.S.O. approved by the Division of Oil & Gas. Ran in with 4-3/4" bit & found cement at 5797'. Drilled out cement & float collar.

12-5-70 Drilled out cement & solid baffled collar & found no cement below baffle collar. Tagged cement shoe at 6177' & circulated hole clean. Changed over mud to Ken-X supreme. Washed liner.

12-6-70 Ran Welex radioactivity log. Shot 4 holes per foot 5742'-5750', 5712'-5728', & 5551'-5571'. Ran 189 joints of 2-3/8", 4.7#, K-55, 8rd. new tubing & hung at 6017'. Changed over to crude oil.

12-7-70 Swabbed well. Would not flow steady.

12-8 to 12-11-70 Installing pumping equipment.

12-12-70 Put well on pump.

FORM 103

SUBMIT IN DUPLICATE

Δ OSP

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View

Well No. Jewett #1-1, Sec. 23, T. 31 S, R. 29E, M.D. B. & M.

Date January 11, 1971 Signed Ed Green

7001 Fruitvale Ext., Bakersfield, 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

WELEX SIDEWALL SAMPLES

4719	1/2"	Sand, light to dark gray, silty to fine, fair sorting, easily friable, predominantly quartzitic, abundant biotite, poor porosity and permeability, no stain, odor or fluorescence.
5066	3/4"	Silt, dark gray, predominately very fine quartz grains, no odor, stain or fluorescence.
5290	3/4"	Silt dark to light gray, no odor, stain or fluorescence.
5533	1/2"	Sand, light gray, fine, good sorting, easily friable, mostly quartz grains with scattered kaolinitic grains, abundant biotite, fair P & P, no odor, stain or fluorescence.
5556	3/4"	Sand, gray, fine to silty, poor sorting, easily friable, predominately quartz grains, scattered biotite, fair P & P, uneven oil stained, good odor & fluorescence.
5568	1/2"	Oil sand, as last above with good odor, staining and fluorescence.
5657	3/4"	Silty sand, light to dark gray, fair sorting, easily friable, predominately quartz grains with abundant biotite, slight odor, no stain or fluorescence.
5715	1/2"	Oil sand, light gray, very fine, well sorted, even light brown oil stain, good odor and fluorescence.
5724	1/2"	Oil sand, as last above, good even brown oil stain.
5743	3/4"	Sand, dark gray, fine to silty, good sorting, low P & P, good odor, spotty fluorescence.
5858	3/4"	Sand, dark gray with light gray to white spots, good sorting, low P & P, fair odor and fluorescence.
5899	1/2"	Oil sand, light gray with even brown staining, poor sorting, fine to silty, good odor & fluorescence.
6178	3/4"	Oil sand, light gray with brownish cast, fine to very fine, fair sorting, predominately quartz grains with scattered biotite, good odor & fluorescence.
6243	1/2"	Oil sand, as last above, somewhat coarser grained, good odor and fluorescence.
6457	1/2"	Silty sand, dark greenish gray, silty to scattered coarse grains, poor sorting, very low P & P, no odor or stain, very slight fluorescence.
6587	3/4"	Sand, as last above, with fair odor & slight staining, spotty fluorescence.

FORM 109-A

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

(FORMATION TESTER)

No. T B 470-630

Mr. Ed Green
GARY DRILLING COMPANY INC.
7001 Fruitvale Ext.
Bakersfield, Calif 93308

Bakersfield Calif.
December 17, 1970

DEAR SIR: (029-44449)

Your well No. "Jewett" 1-1, Sec. 23, T. 31S, R. 29E, M.D. B & M.
Mountain View Field, in Kern County, was tested for water shut-off
on Dec. 4, 1970, Mr. Glen Campbell, designated by the supervisor was present
from 0700 to 0900 as prescribed by law; there were also present Jack Decker, Geologist

Shut-off data: 5½ in. 17 lb. casing was cemented through ports at 5840 ft.
on Dec. 2, 1970 in 7-7/8 in. hole with 115 ~~XXXX~~ sacks of cement
mixed 1:1 with Pozmix, plus 1100 lbs. of salt, followed by 200 sacks of cement
calculated to fill behind casing to 2980 ft. below surface.
Casing record of well: 16" cem. 30'; 8-5/8" cem. 712'; 5½" ld. 6177', c.p. 5840' and
2617', four holes 5490' WSO. Plugged with cement 6641'-6178'.

Present depth 6641 ft. cmt. bridge --- ft. to --- ft. Cleaned out cmt. --- ft. to --- ft. for test.
A Cook tester was run into the hole on 2-3/8 in. ~~XXXXXXX~~ tubing,
with --- ft. of water-mud cushion, and packer set at 5450 ft. with tailpiece to 5475 ft.
Tester valve, with ½ in. bean, was open for 1 hr. and --- min. During this interval there was a
light blow for 7 minutes and no blow thereafter.

Mr. Decker reported:

1. A 7-7/8" hole was drilled from 713' to 6641'.
2. On Nov. 29 and 30, 1970, a total of 330 sacks of cement was pumped into the hole through 4" drill pipe beginning at 6641', filling to 6175'.
3. Cement was drilled out of the 7-7/8" hole from 6175' to 6178'.
4. The 5½" casing was cemented as noted above and through ports at 2617' with 210 sacks of cement mixed 1:1 with Pozmix, plug 2% $CaCl_2$ calculated to fill behind casing to the surface.
5. The 5½" casing was gun perforated with four, ½" holes at 5490' for a test of water shut-off.

The Engineer noted the following:

1. When the drill pipe was removed 65' of normal drilling fluid was found above the tester.
2. The pressure recorder charts indicated that the tester functioned properly.

THE 5½" SHUT-OFF AT 5490' IS APPROVED.

GEC/lr

F. E. KASLINE
State Oil and Gas Supervisor

By G. W. Hunter Deputy
G. E. H.

27764-705 12-68 10M ② OSP

FORM 109-D

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T B 470-574

Mr. Ed Green
GARY DRILLING COMPANY INC.
7001 Fruitvale Ext.
Bakersfield, Calif. 93308

Bakersfield Calif.
November 18, 1970

DEAR SIR: (029-44449)

Operations at well No. "Jewett" 1-1, Sec. 23, T. 31S, R. 29E, M.D. B & M.
Mountain View Field, in Kern County, were witnessed
on Nov. 12, 1970, Mr. Glen Campbell, representative of the supervisor was present
from 0015 to 0100. There were also present Carl Armstrong, Foreman.

Present condition of well: 16" cem. 30'; 8-5/8" cem. 712'. T.D. 712' (standing cemented)

The operations were performed for the purpose of inspecting and pressure testing the blowout prevention equipment and installation.

Mr. --- reported:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

GEC/lr

F. E. KASLINE
State Oil and Gas Supervisor

By G. W. Hunter GB Deputy

35158-705 8-69 15M ② OSP

B. O. P. E. MEMO No. T_____

Company Gary Drilling Co. Date 11-12-70

Operations at well No. "Jewett" 1-1 Sec. ___, T___, R___, ___ B&M

Mt. View Field Kern County, were witnessed on 11-12-70. Mr. GEC, representative of the supervisor, was present from 0015 to 0100. There were also present Carl Armstrong, Fmn. Operations were performed for purpose of inspecting BOP equipment and installation.

Mr. Armstrong reported:

✓. On Nov. 11 1970, 8 5/8", 24 lb. casing was cemented in a 12 1/4" hole at 712' with 370 sacks/~~cu.ft.~~ of cement. w/4% gel

✓. Cement ~~returned~~/did not return to the surface.

✓. An additional 85 sacks/~~cu.ft.~~ of cement was placed around the 8 5/8" casing from the surface.

___. A_____" hole was being drilled ahead at ____'.

and the Engineer noted:

✓. The C50, the Pipe Rams, and the Hydril were each tested with a closed-in pressure of 1000 psi for 15 minutes, 1100 psi for 15 minutes, and 1050 psi for 15 minutes, respectively.

✓. All lines and fittings were tested with a closed-in pressure of 1000 psi for 15 minutes.

THE ENGINEER NOTED THAT the well was equipped with the following BOP equipment:

✓. A Shaffer manually and hydraulically operated double control gate for closing in the well with the drill pipe/~~tubing~~ out of the hole, and for closing around the 4" drill pipe/~~tubing~~.

___. A_____manually and hydraulically operated control gate for closing in the well with the drill pipe/tubing out of the hole.

___. A_____manually and hydraulically operated control gate for closing around the_____"drill pipe/tubing.

✓. A Hydril blow-out preventer for closing around the 4" drill pipe/~~tubing~~.

✓. Controls for the equipment located outside the derrick and on the derrick floor.

✓. A 2" mud fill-up line into the 8 5/8" casing above the equipment.

✓. A high-pressure stopcock above ~~and below~~ the Kelly.

✓. A 2" kill line with a 2" high-pressure stopcock into the 8 5/8" casing below the equipment.

✓. A 2" choke line with high-pressure valves and fittings into the 8 5/8" casing below the equipment.

✓. A Foorboy inside blowout preventer with proper adapters available on the derrick floor.

✓. A mud pit level indicator at the driller's station.

✓. A gas analyzer/continuous-mud density sensor were installed.

___. Remarks (note deficiencies)_____

THE BLOW-OUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P B 470-1415

Mr. Ed Green
CAMY DRILLING COMPANY Inc.
7001 Fruitvale Extension
Bakersfield, Calif. 93308

Bakersfield, Calif.
November 9, 1970

DEAR SIR:

Your proposal to drill (029-44449) Well No. "Jewett" 1-1, Section 23, T. 31S, R. 29E, M.D. B. & M., Mountain View Field, Kern County, dated 11-2-70, received 11-4-70, has been examined in conjunction with records filed in this office.

With reference to your proposal our decision is as follows:

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Fluid consistent with good drilling practice shall be used, and the column of fluid maintained to the surface at all times, particularly while pulling the drill pipe.
2. Sufficient cement shall be pumped back of the 8-5/8" casing to fill to the surface.
3. Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times.
4. Sufficient cement shall be used to fill back of the 5½" casing to at least 100' above the base of the fresh water, or the casing shall be cemented through ports at the base of the fresh water, estimated to be at 2500' at this location.
5. In the event this well is not completed to production, any oil, gas or fresh water encountered shall be protected with cement in accordance with the requirements of this Division.
6. THIS DIVISION SHALL BE NOTIFIED:
   a. TO WITNESS the testing of blowout prevention equipment prior to drilling below the shoe of the 8-5/8" casing.
   b. TO WITNESS a test of the 5½" water shut-off.

BAW/lr
Bond #1717057
Dated 11-2-70

F. E. KASLINE, State Oil and Gas Supervisor

By G. W. Hunting, Jr., Deputy

① △ OSP

FORM 105

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

29-44449

RECEIVED
NOV 4 1970
DIVISION OF OIL & GAS
BAKERSFIELD

Bakersfield, Calif. November 2, 1970

DIVISION OF OIL AND GAS

029-44449

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. Jewett #1-1, Sec. 23; T. 31S, R. 29E, MD B. & M., Mountain View Field, Kern County.

Legal description of mineral-right lease, consisting of 40 acres, is as follows: North Half of the North Half of the Southwest Quarter of Section 23. (Attach map or plat to scale)

Do mineral and surface leases coincide? Yes X No ____ If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 330 feet South (Direction) along section line and 1170 feet East (Direction) at right angles to said line from the West Quarter corner of section 23 31S-29E.

Elevation of ground above sea level 451 446 feet datum.

All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table or Kelly Bushing) which is 11 feet above ground. 448 459

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
8-5/8"	24#	J-55	Surface	700'	500' - Surface
5½"	17#	J-55	Surface	7000'	7000-4500' & 2800-2300'

Intended zone(s) of completion: Lower Miocene - Chanac 6400-TD -5200-5900' (Name) (Depth, top and bottom) Estimated total depth 7000'

Reference to file of date

Map & Book	U S G S	Bond	Card	Forms 114	Forms 121
433 RLK 11-5-70		#1717057 11-2-70	✓	70-44	

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address 7001 Fruitvale Ext.
Bakersfield, Calif. 93308
Telephone Number 805-323-8107

Gary Drilling Company Inc. (Name of Operator)
By Ed Gee
Type of Organization Corporation (Corporation, Partnership, Individual, etc.)

55224 12-61 20M △ SPO

Department of Conservation

Well Information

API #
02944679
Lease
Jewett
Well #
1-2
County
Kern [029]
District
4
Operator
Petro Capital Resources, LLC [P2520]
Field
Mountain View [490]
Area
Arvin, West, [06]
Section
23
Township
31S
Range
29E
Base Meridian
MD
Well Status
Active
Pool WellTypes
OG
SPUD Date
GIS Source
gps
Datum
83
Latitude
35.215293
Longitude
-118.838123
Map

Click to get Sum by County: **Kern [029]** or Field: **Mountain View [490]** or Operator: **Petro Capital Resources, LLC [P2520]**

Get sum by Field-Operator-Lease: **Jewett**

Well Records

Show 25 entries

‹ Previous 1 Next ›

Showing 1 to 3 of 3 entries

File Name	Type	Size	Modified on

~~029-44679~~

029-44679

RECORDS RECEIVED		STATUS	DATE
Date Received	7-6-71	Producing - Oil	4-26-71
Well Summary (Form 100)	✓	Idle - Oil	
History (Form 103)	✓	Abandoned - Oil	
Core Record (Form 101)		Drilling - Idle	
Elec. Log - Lge.	✓ Small	Abandoned - Dry Hole	
Direct. Survey		Producing - Gas	
Sidewall Samples	✓	Idle - Gas	
Other		Abandoned - Gas	
		Gas - Open to Oil Zone	
Notice of Records Due		Water Flood Source	
Form 170		Water Disposal	
		Water Flood	
Date Final Records Received		Steam Flood	
		Fire Flood	
		Air Injection	
		Gas Injection	
		CO_2 Injection	
		LPG Injection	
		Observation	
		~~RECOMPLETED~~	

prior

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.)	✓
2. Electric Log	✓
3. Operator's Name	✓
4. Signature	✓
5. Well Designation	✓
6. Location	✓
7. Elevation	✓
8. Notices	✓
9. "T" Reports	✓
10. Casing Record	✓
11. Plugs	✓
12. Surface Inspection	
13. Production	✓ OK

CLERICAL CHECK LIST

1. Location change ___ (F-165)	
2. Elevation change ___ (F-165)	
3. Form 121	
~~4. Form 159 (Final Letter)~~	
5. Form 150b (Release of Bond)	MM 9-2-71

RECORDS NOT APPROVED
Reason:

RECORDS APPROVED 8-27-71 GEC

RELEASE BOND ~~[illegible]~~ #1768282, 4-2-71
Date Eligible 8-27-71
(Use date last needed records were received.) (433)

MAP & MAP BOOK 9-2-71 GEC

FORM

029-44679

FORM 100

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

SUBMIT IN DUPLICATE

RECEIVED
JUL 6 1971
DIVISION OF OIL & GAS

Operator Gary Drilling Company Well No. "Jewett" #1-2

Sec. 23, T. 31S, R. 29 E, M.D. B. & M. Mountain View Field Kern County.

Location 1228' East & 355' South of the West quarter corner of Section 23
(Give location from property or section corner, or street center lines)

Elevation of ground above sea level 448' feet.

All depth measurements taken from top of Kelly bushing which is 11' feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

In compliance with Sec. 3215, of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date June 30, 1971. Signed [signature]

Jack M. Decker (Engineer or Geologist) (Superintendent) Title Operator (President, Secretary or Agent)

Commenced drilling 4-7-71
Completed drilling 4-21-71
Total depth 6339' Plugged depth ---
Junk None

GEOLOGICAL MARKERS / DEPTH

Geologic age at total depth: Plio-Miocene

Commenced producing 4-26-71 (Date) Flowing, gas lift, pumping (Cross out unnecessary words)

Name of producing zone Chanac

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	150	33	20%	8	120	500
Production after 30 days	110	32	20%	70	90	1200

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drilled	Number of Sacks of Cement	Depth of Cementing if through perforations
10-3/4"	619'	Surface	32#	New	Seamless	K-55	15"	441	---
5-1/2"	6338'	Surface	17#	New	Seamless	K-55 & N-80	9" & 8-3/4"	315 + 100	5812' 2609'

PERFORATED CASING
(Size, top, bottom, perforated intervals, size and spacing of perforation and method.)

5-1/2"	5820'- 6338'	80M, 2" S, 6" C, 12R	Slotted
5-1/2"	5786'- 5787'	W.S.O.	gun Perf.

Was the well directionally drilled? Δ OSP Electrical Log Depths 619'- 6339' (Attach Copy of Log)

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

029-04679

RECEIVED OSP
JUL 1971
DIVISION OF OIL & GAS

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View-Arvin Area

Well No. Jewett #1-2, Sec. 23, T. 31 S, R. 29 E, M. D. B. & M.

Date June 30, 19 71 Signed X

7001 Fruitvale Ext., Bakersfield 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
4-7-71	Spud in @ 4:30 P.M. Drilled 15" hole to 230 ft.
4-8-71	Drilled 15" hole 622'. Ran 15 jts. of 10-3/4", 32#,K-55, new csg. with Gary shoe at 619' with one Larkin centralizer @ 600' & 628' of pipe on the hook. Dowell cemented with 341 sax of class "G" cement mixed with 8% gel & 3% CaCl & followed by 100 sax of class "g" mixed with 3% CaCL displaced with 350 cu. ft. of mud. Cement in place @ 10:15P.M. Estimated 60 cu. ft. of cement returns to surface. Landed csg. & installed well head equipment. Installed B.O.P.E.
4-9-71	B.O.P.E. tested. Witnessed & approved by Division of Oil & Gas.
4-10-71 to 4-19-71	Drilled 9" hole to 1393'. Drilled 9" hole to 3508'.
to 4-20-71	Drilled 8 3/4" hole to 6339'. Conditioned hole.
4-21-71	Ran Welex induction electric log & sidewall samples,,circulated & conditioned hole to run casing.
4-22-71	Ran combination liner & csg. including 14 jts. (517.67') of 5-1/2", 17#, N80,LT&C, 8rd. of liner all slotted w/80 mesh, 6"C,2"S, 12R & 150 jts. (5822.44') of 5-1/2", 17#,K-55, STLC,8rd. of csg. w/B&W cement shoe at 6338' & top of liner @ 5820'. Dowell centralizers @ 6318',6279',6240', 6203', 6164,6125, 6087, 6048',6012',5973',5934',5895',5857', B& W centralizer @5830' & B&W solid metal baffle collar at 5819'. Two B&W metal petal baskets @ 5819'-5809' w/ four cement ports @ 5812',B&W centralizer @ 5799', Dowell float collar @ 5779' & Dowell centralizers @5739' & 5666'. Dowell D.V. cement port collar @ 2609' with centralizers @ 2620',2600', & 2530'. Dowell cemented W/100 cu. ft. of water treated w/CW-7 ahead of 115 sks of class "G" cement mixed 1:1 W/litepoz & 1100# salt,100# D-65, 26# D-46 followed by 200 sax of class "G" cement mixed w/1200# salt, 48# D-65 & 40# D-46. Displaced with 740 cu ft. of mud. Cement in place @ 10:40A.M. Float collar held O.K. Opened D.V. port holes & circulated. Cemented second stage w/100 cu. ft. of water ahead of 100 sax of class G cement mixed w/2% CaCl. Displaced w/340 cu. ft. of mud. Cement in place @ 11:35A.M. Removed BO.P.E. equipment & landed 5-1/2" csg. Installed tubing head & B.O.P.E. Tested B.O.P.E. to 1500#.
4-23-71	Ran in with 2-7/8" tubing & found top of cement @ 2592' & drilled out D.V. collar w/4-3/4" bit. Drilled out plug & baffle @ 5779' & cleaned out cement to 5800'. Circulated clean for W.S.O. test. Ran in w/Halliburton test equipment (5-1/2"-17#) on dry 2-7/8" tubing. Shot four 1/2" holes @ 5786'-5787'. Set packer @ 5737' W/tail to 5756'. Tool opened @ 5:28 P.M. & tested for one hour. Medium flow for 15 min diminishing for balance of test.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

RECEIVED
JUL 6 1971
DIVISION OF OIL & GAS

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View-Arvin Area

Well No. Jewett #1-2, Sec. 23, T. 31S, R. 29 E, M.D. B. & M.

Page 2

Date June 30, 1971 Signed

7001 Fruitvale Ext., 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
4-23-71	Recovered 110' of normal drilling fluid. Witnessed & approved by Division of Oil & Gas.
4-24-71	Ran in with 4-3/4" bit & cleaned out cement & metal baffle. Circulated clean & then ran in to 6325'. Pulled out to 5810' & changed mud to salt water completion fluid. Ran in & cleaned out fill from 6322'-6334'. Pulled out. Ran in with circulating washer & washed slots from 5820'-6334' with 1200#-1400# pressure. All slots washed freely. Pulled out.
4-25-71	Ran tubing & installed well head equipment, changed over to lease crude oil.
4-26-71	Ran rods.
4-27-71	Installed pumping unit.

Welex Sidewall Samples

6322	1/2"	Oil sand, lite brown mottled gray, very fine to medium grains, ill sorted, predominately quartz grains, sub-angular, with spots of kaolin, petroleum odor, spotty yellow fluorescence (50%) & good cut.
6245	1/2"	Clayey sand, gray to very lite brown, very fine to coarse, ill sorted, quartz grains with abundant biolite & mafic minerals, very abundant kaolin, odor, 50% fluorescence.
6224	1/2"	Oil sand, dark gray, very fine to fine, good sorting, scattered biotite grains, mostly sub-angular quartz, good odor, stain & 100% fluorescence.
6212	1/2"	Siltstone & sand, very fine, tight, mottled, abundant kaolin, gray to greenish cast, 5% fluorescence.
6197	1/4"	Oil sand, lite brown, fine to course, predominately quartz, 100% fluorescence.
6118	1/4"	Sand as last above.
6103	1/2"	Sand, gray to light brown, fine to coarse, ill sorted, sub-angular quartz grains with scattered biotite, very minor kaolin, slight odor, 90% fluorescence.
5957	1-1/2"	0.7 Sand, dark brown, fine to medium, good sorting, predominately quartz grains, good odor, stain & 100% fluorescence.
5900	1/2"	Sand, mottled white to dark gray, fine to coarse, ill sorted, quartz, biotite & kaolin very abundant, no odor, stain, cut or fluorescence.
5867	1"	Oil sand, dark brown, fine, well sorted, angular quartz grains, very good odor, stain & 100% fluorescence.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

029-04679
Δ OSP

RECEIVED
JUL 9 1971
DIVISION OF OIL & GAS
[illegible]

History of Oil or Gas Well

OPERATOR Gary Drilling Company FIELD Mountain View-Arvin Area

Well No. Jewett #1-2, Sec. 23, T. 31S, R. 29 E, M. D. B. & M.

Date June 30, 19 71 Signed [signature]

7001 Fruitvale Ext., 323-8107 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

Page 3

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

SIDEWALL's (Continued)

5829'	1/2"	Sand, dark gray, ill sorted, 60% fluorescence.
5746'	1/2"	Sand, gray, fine to very fine, good sorting, quartz grains with minor biotite, no odor, stain or fluorescence.
5670'	3/4"	Sand, dark gray, fine to very fine, good sorting, no odor stain or fluorescence.
5600'	3/4"	Sand, as last above but with some what of a salt & pepper appearance.
5555'	1/2"	Sand, dark gray with white spots of kaolin, no odor, stain or fluorescence.

FORM 109-A

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

(FORMATION TESTER)

No. T B 471-286

Mr. Ed Green
GARY DRILLING COMPANY INC.
7001 Fruitvale Ext.
Bakersfield, Calif. 93308

Bakersfield Calif.
April 29, 1971

DEAR SIR: (029-44679)

Your well No. "Jewett" 1-2, Sec. 23, T. 31S, R. 29E, M.D. B & M.
Mountain View Field, in Kern County, was tested for water shut-off
on April 23, 1971. Mr. R. E. Raschen, designated by the supervisor was present
from 2030 to 2130 as prescribed by law; there were also present C. Armstrong, Driller

Shut-off data: 5½ in. 17 lb. casing was cemented through ports at 5812 ft.
on April 22, 1971 in 8-3/4 in. hole with 530 ~~////~~ sacks of cement

calculated to fill behind casing to 3810 ft. below surface.
Casing record of well: 10-3/4" cem. 619'; 5½" ld. 6338', c.p. 5812', perf. 5820'-6339', four holes 5786' WSO.

Present depth 6339 ft. cmt. bridge --- ft. to --- ft. Cleaned out cmt. --- ft. to --- ft. for test.
A Halliburton tester was run into the hole on 2-7/8 in. ~~////~~ pipe-tubing,
with --- ft. of water-mud cushion, and packer set at 5737 ft. with tailpiece to 5756 ft.
Tester valve, with ½ in. bean, was open for 1 hr. and --- min. During this interval there was a
medium blow for 4 minutes, then dead thereafter.

Mr. Armstrong reported:

1. An 8-3/4" hole was drilled from 3508'-6339'.
2. The 5½" casing was gun perforated with four, ½" holes at 5786' for a test of water shut-off.

The Engineer noted the following:
1. When the tubing was removed 110' of normal drilling fluid was found above the tester.
2. The pressure recorder charts indicated that the tester functioned properly.

THE 5½" SHUT-OFF AT 5786' IS APPROVED.

RER/lr

WESLEY G. BRUER
~~R. E. RASCHEN~~
State Oil and Gas Supervisor

By G. M. Hunter Deputy
GMH

27,764-705 12-68 10M ② OSP

FORM 109-D

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T B 471-245

Mr. Ed Green
GARY DRILLING CO. INC.
7001 Fruitvale Ext.
Bakersfield, Calif. 93308

Bakersfield Calif.
April 12, 1971

DEAR SIR: (029-44679)

Operations at well No. "Jewett" 1-2, Sec. 23, T. 31S, R. 29E, M.D. B & M.
Mountain View Field, in Kern County, were witnessed
on April 9, 1971, Mr. Glen Campbell, representative of the supervisor was present
from 0445 to 0645. There were also present Carl Armstrong, Foreman.

Present condition of well: 10-3/4" cem. 619'. T.D. 619' (standing cemented).

The operations were performed for the purpose of inspecting the blowout prevention equipment and installation.

Mr. *** reported:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

GEC/lr

F. E. KASLINE
State Oil and Gas Supervisor

By G. M. Hunter Deputy

48443-705 11-70 15M ② OSP

B. O. P. E. MEMO No. T_____

Company Gary Drilling Co. Inc. Date Apr. 9, 1971
Operations at well No. "Jewett" 1-2 Sec. 23, T 31S, R 29E, MD B&M
Mountain View Field Kern County, were witnessed
on 4-9-71. Mr. Glen Campbell, representative of the supervisor, was
present from 0445 to 0645. There were also present Carl Armstrong, foreman
Operations were performed for purpose of inspecting BOP equipment and installation.

Mr. Armstrong reported:
✓. On Apr. 8 1971, 10 3/4", 32 lb. casing was cemented in a 15 "hole at
619 ' with 441 sacks/~~cu.ft.~~ of cement, mixed with gel.
✓. Cement returned/~~did not return~~ to the surface.
___. An additional _____sacks/cu.ft. of cement was placed around the _____" casing
from the surface.
___. A _____" hole was being drilled ahead at _____'.
✓. Standing cemented.
and the Engineer noted:
✓. The C50, the Pipe Rams,
and the Hydril were each tested with a closed-in
pressure of 1500 psi for 10 minutes, 1400 psi for 10 minutes, and
1600 psi for 10 minutes, respectively.
✓. All lines and fittings were tested with a closed-in pressure of 1700 psi for
10 minutes.

THE ENGINEER NOTED THAT the well was equipped with the following BOP equipment;
✓. A Shaffer manually and hydraulically operated double control gate
for closing in the well with the drill pipe/~~tubing~~ out of the hole, and for
closing around the 4 "drill pipe/~~tubing~~.
___. A _____manually and hydraulically operated control gate for
closing in the well with the drill pipe/tubing out of the hole.
___. A _____manually and hydraulically operated control gate for
closing around the _____"drill pipe/tubing.
✓. A Hydril blow-out preventer for closing around the 4 "
drill pipe/~~tubing~~.
✓. Controls for the equipment located outside the derrick and on the derrick floor.
✓. A 2 " mud fill-up line into the 10 3/4 " casing above the equipment.
✓. A high-pressure stopcock above ~~and below~~ the Kelly.
✓. A 2 " kill line with a 2 " high-pressure stopcock into the 10 3/4 "
casing below the equipment.
✓. A 2 " choke line with high-pressure valves and fittings into the 10 3/4 "
casing below the equipment.
✓. A Foorboy inside blowout preventer with proper adapters available
on the derrick floor.
___. A mud pit level indicator at the driller's station.
___. A gas analyzer/continuous-mud density sensor were installed.
___. Remarks (note deficiencies)_____

THE BLOW-OUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P B 471-400

3606 Well

Mr. Ed Green
GARY DRILLING CO. INC.
7001 Fruitvale Ext.
Bakersfield, Calif. 93308

Bakersfield Calif.
April 8, 1971

DEAR SIR:

Your proposal to drill (029-44679) Well No. "Jewett" 1-2, Section 23, T. 31S, R 29E, M.D. B. & M., Mountain View Field, Kern County, dated 5-2-71, received 5-5-71, has been examined in conjunction with records filed in this office.

With reference to your proposal our decision is as follows:

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. **Fluid consistent with good drilling practice shall be used, and the column of fluid maintained to the surface at all times, particularly while pulling the drill pipe.**
2. **Sufficient cement shall be pumped back of the 10-3/4" casing to fill to the surface.**
3. **Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times.**
4. **The provisions of Sec. 3606 relating to derricks and subsurface spacing shall be followed.**
5. **A directional survey shall be made and filed with this Division.**
6. **THIS DIVISION SHALL BE NOTIFIED:**
   a. **TO WITNESS a pressure test of the blowout prevention equipment prior to drilling out of the shoe of the 10-3/4" casing.**
   b. **TO WITNESS a test of the 5½" water shut-off through gun perforations immediately above the objective sand, prior to perforating the casing for production.**

NOTE: This approval is granted under Sec. 3606 of the Public Resources Code. Substantially all of the surface of the parcel is unavailable for the location of oil or gas wells.

WSM/lr
Bond #1768282
Dated 4-2-71

F. E. KASLINE, State Oil and Gas Supervisor

By G. W. Hunter, Deputy

① △ OSP

FORM 105

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

029-44679

RECEIVED
APR 5 1971
DIVISION OF OIL & GAS
BAKERSFIELD

DIVISION OF OIL AND GAS

Bakersfield Calif. April 2 19 71

Section 3606 Well

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. "Jewett" #1-2, Sec. 23, T. 31S, R. 29E, MD B. & M., Mountain View Field, Kern County.

Legal description of mineral-right lease, consisting of 40 acres, is as follows: North half of the (Attach map or plat to scale)
North half of the southwest quarter of Section 23.

Do mineral and surface leases coincide? Yes X No ____ If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 365' feet South (Direction) along section line and 1228 feet East (Direction) at right angles to said line from the West Quarter of Section 23, T31S-29E.

Map & Book	U S G S	Bond	Card	Forms 114	Forms 121
493		#1768282			
4-7-71 GEC		4-2-71	✓	71-14	

Elevation of ground above sea level 448 feet datum.

All depth measurements taken from top of Kelly bushing (Derrick Floor, Rotary Table or Kelly Bushing) which is 11 feet above ground.

459 K.B.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
10-3/4	32#	J-55	Surface	600'	To surface
5-1/2"	15&17#	J-55	Surface	(To be determined)	

Intended zone(s) of completion: Chanac (Name) 5500-6200' (Depth, top and bottom) Estimated total depth 6200'

Filing under Section 3606 to minimize crop damage.
Producing interval to be over 150 feet from producing zone of Jewett#1-1.

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address 7001 Fruitvale Extension
Bakersfield, Calif. 93308

Telephone Number 323-8107
Preston Hale

Gary Drilling Company (Name of Operator)

By Ed Gary

Type of Organization Corporation (Corporation, Partnership, Individual, etc.)

55224 12-61 20M △ SPO

Department of Conservation

Well Information

API #
02947703
Lease
Jewett
Well #
1-3
County
Kern [029]
District
4
Operator
Petro Capital Resources, LLC [P2520]
Field
Mountain View [490]
Area
Arvin, West, [06]
Section
23
Township
31S
Range
29E
Base Meridian
MD
Well Status
Active
Pool WellTypes
OG
SPUD Date
GIS Source
gps
Datum
83
Latitude
35.215377
Longitude
-118.838347
Map

Click to get Sum by County: **Kern [029]** or Field: **Mountain View [490]** or Operator: **Petro Capital Resources, LLC [P2520]**

Get sum by Field-Operator-Lease: **Jewett**

Well Records

Show 25 entries

< Previous 1 Next >

Showing 1 to 3 of 3 entries

File Name	Type	Size	Modified on

029-47703

RECORDS RECEIVED

Date Received 6-11-73
Well Summary (Form 100) ✓
History (Form 103) ✓
Core Record (Form 101)
Elec. Log - Lge. ✓ Small
Direct. Survey ✓ (1)
Sidewall Samples ✓
Other

Notice of Records Due
Form 170

Date Final Records Received

STATUS — DATE

Producing - Oil 4-18-73
Idle - Oil
Abandoned - Oil
Drilling - Idle
Abandoned - Dry Hole
Producing - Gas
Idle - Gas
Abandoned - Gas
Gas - Open to Oil Zone
Water Flood Source
Water Disposal
Water Flood
Steam Flood
Fire Flood
Air Injection
Gas Injection
CO_2 Injection
LPG Injection
Observation

drill
~~RECOMPLETED~~

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log ✓
3. Operator's Name ✓
4. Signature ✓
5. Well Designation ✓
6. Location ✓
7. Elevation ✓
8. Notices ✓
9. "T" Reports ✓
10. Casing Record ✓
11. Plugs —
12. Surface Inspection —
13. Production ✓

CLERICAL CHECK LIST

1. Location change ___ (F-165)
2. Elevation change ___ (F-165)
3. Form 121 ✓
4. Form 159 (Final Letter)
5. Form 150b (Release of Bond) 6-19-73 fc

RECORDS NOT APPROVED
Reason:

RECORDS APPROVED 6-14-73 RK

RELEASE BOND # 908A2105 dated 3-19-73
Date Eligible
(Use date last needed records were received.)

MAP & MAP BOOK 433 RK 6-14-73

Ruth JJ

FORM 19

FORM 100

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

SUBMIT IN DUPLICATE

RECEIVED
JUN 11 1973
DIVISION OF OIL & GAS
BAKERSFIELD

Operator Ed. Gruein, Operator Well No. Jewett #1-3 029-97703

Sec. 23, T. 31S, R. 29E, M.D. B. & M. Mountain View Field Kern County.

Location 320' South & 935' East of the West quarter corner of Section 23
(Give location from property or section corner, or street center lines)

Elevation of ground above sea level 450 feet SL.

All depth measurements taken from top of Kelly bushing which is 11 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

In compliance with Sec. 3215, of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date May 29, 1973 Signed Ed Gruein

Jack Decker (Engineer or Geologist) _____ (Superintendent) Title Operator (President, Secretary or Agent)

Commenced drilling March 21, 1973.

Completed drilling April 15, 1973.

Total depth 7030' Plugged depth -----

Junk None

GEOLOGICAL MARKERS — DEPTH

Geologic age at total depth: Upper Miocene

Commenced producing 4-18-73 (Date) Flowing/gas lift/pumping (Cross out unnecessary words)

Name of producing zone Chanac-Santa Margarita

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	42	33°	0.1	40	80	140
Production after 30 days	39	33°	0.1	40	55	630

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drilled	Number of Sacks of Cement	Depth of Cementing if through perforations
9"	710'	Surface	45#	S.H.	Seamless	N-80	12-1/4	320	-----
5-1/2"	7025'	Surface	17#	S.H. & New	Seamless	N-80&K-55	7-7/8"	300	6320'
								100	2980'

PERFORATED CASING
(Size, top, bottom, perforated intervals, size and spacing of perforation and method.)

5-1/2" 6329'- 7025 80M 12R 2" S 6" C Slotted

5-1/2" 6114'- 6115' 4- 1/2" holes -WSO Gun perf.

Was the well directionally drilled? yes Electrical Log Depths 710'- 7020' (Attach Copy of Log)

△ OSP

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

Δ OSP

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Ed Green- Operator FIELD Mountain View-Arvin Area

Well No. Jewet #1-3, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date May 29, 1973 Signed Ed Green

7001 Fruitvale Ext., Bakersfield, Ca (805) 589-0111 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1973	
3-21	Spud in A 11:00P.M. Drilled 12-1/4" hole to 97'.
3-22	Drilled 12-1/4" hole to 710'. Ran 26 jts. 19 jts. 9", 45# 8V, ST&C, used csg with shoe at 710' & 6 jts. 8-5/8", (186'), 24#, 8 rd. ST&C, used casing. Centralizer at 690' and 714' of pipe on hook. Dowell cemented with 30 cu. ft. of water ahead of 220 sacks of class "G" cement mixed with 8% gel & followed by 100 sacks of class "G" cement mixed with 3% CaCL. Displaced with one top plug to 682' with 242 cu. ft. of mud. Trace of cement returns. Cement in place at 4:00 P.M. Landed casing & installed well head equipment. Installed B.O.P.E.
3-23	B.O.P.E. tested & approved by Division of Oil & Gas. Drilled 7-7/8" hole to 1759'.
3-24	Drilled 7-7/8" hole to 2799'.
3-25	Drilled 7-7/8" hole to 3194'. Using 7-7/8" bit ran dyna-drill 3194' to 3258'. Drilled 7-7/8" hole to 3272'.
3-26	Drilled 7-7/8" hole to 3720'.
3-27	Ran dyna-drill from 3720' to 3834'. Drilled 7-7/8" hole to 3846'.
3-28 & 3-29	Drilled 7-7/8" hole to 4685'.
3-30	Drilled 7-7/8" hole to 4894'. Ran Dyna drill from 4894' to 4917'.
3-31	Dyna-Drilled to 4959'. Drilled 7-7/8" hole to 5014'.
4-1 thru 4-8	Drilled 7-7/8" hole to 6986'.
4-9	Drilled 7-7/8" hole to 7030'. Ran Welex induction electric log & sidewall samples. Circulated & conditioned hole to run casing.
4-10	Ran combination liner & casing including 18 jts. 5-1/2", 17#, N-80, Saalok & 8 rd, LT&C, (701'), perforated 80M, 12R, 2"s, 6"C from 7025'-6329' with 5' blank & B&W metal petal basket at 6327'. B&W cement & bull plug shoe @ 7025' & Dowell centralizers on each liner coupling. B & W solid baffle at 6324'. B&W metal petal basket at 6320' with four cement port holes & Dowell float collar at 6284'. 161 jts. 5-1/2", 17#, K-55, 8rd, ST&C, (6341') with centralizers at 6125' & 6164', Dowell stage collar at 2980' with centralizers 10' above & below. Dowell cemented with 100 cu. ft. of CW 7 wash ahead of 100 sks of class "G" cement mixed 1:1 litepoz, 18% salt, .5% D-65, 20# D-46, followed by 200 sacks of class "G" with 18% salt, 5% D-65, 40# D-46 & displaced to 6284' with one top plug & 822 cu. ft. of mud. Float collar held O.K. Cement in place at 2:30 P.M. Dropped bomb to open 2nd stage ports at 2980'. Pumped 100 cu. ft. of water ahead of 100sacks of class "G" cement Mixed with 2% CaCl and displaced with 393 cu. ft. of mud. Cement in place at 3:25 P.M. Removed B.O.P.E. equipment & landed 5-1/2" casing. Installed tubing head.
4-11	Installedd & tested B.O.P.E. Drilled out stage collar at 2980'. Ran in to 6284' & circulated for W.S.O. test. Ran Howco combination, shoot & test. Shot 4- 1/2" holes at 6115', tail at 6089', set packer at 6068' & opened tool at 7:43P.M. for

FORM 103

SUBMIT IN DUPLICATE

△ OSP

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

PAGE 3

History of Oil or Gas Well

OPERATOR Ed Green- Operator FIELD Mountain View-Arvin area

Well No. Jewett #1-3, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date May 29, 1973 Signed Ed Green

7001 Fruitvale Ext., Bakersfield, Ca 93308 (805)589-0111 Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
continued	1 hour test. Had light blow for 43 minutes then faint blow. Recovered 300' of mud. W.S.O. at 6115' witnessed & approved by the Division of Oil & Gas.
4-12-73	Dowell squeezed the W.S.O. holes. Using Howco RTTS packer at 5909'. Pumped 40 sax of class "G" cement & 94 cu. ft. of mud before closing tool, then pumped and additional 72 cu. ft. of mud. Final pressure 4000#. Cement in place at 7:30P.M.
4-13-73	Waiting on cement. Drilled out hard cement from 5923' to 6125'.
4-14-73	Ran in & found junk from W.S.O. packer on solid cement at the float collar. Ran junk basket. Drilled out cement & ran in to 7024'. Changed over to wash fluid.
4-15-73	Ran in with washer and washed perforations.
4-16-73	Ran tubing and installed tubing head.
4-17-73	Changed over to lease crude oil.
	Released rig.

Directional report enclosed

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

PAGE 1

History of Oil or Gas Well

OPERATOR Ed Green- Operator FIELD Mountain View-Arvin area

Well No. Jewett #1-3, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date May 29, 1973 Signed Ed Green

7001 Fruitvale Ext., Bakersfield, Ca 93308 (805) 589-0111 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

WELEX SIDEWALL SAMPLES

7017	1-1/2"	Oil sand, brown, very fine, good sorting, predominately quartz grains, strong odor, stain & 90% dull gold fluorescence.
7010	1/2"	Oil saturated clayey conglomerate, metamorphic pebbles in silty & clayey matrix material, slickensides evident, good odor, 90% dull gold fluorescence.
7000	1/2"	Oil silt, brown, very, very fine, well sorted, good odor, 95% gold-yellow fluorescence.
6973	1"	Oil silt, lite brown, very, very fine, good sorting, 1/16" streak of black magic minerals bisects sample, good odor, 85% gold-yellow fluorescence.
6952	1/2"	Oil sand, lite brown, fine grained, good sorting, scattered biotite grains, predominately quartz, strong odor, 95% bright gold yellow fluorescence.
6941	3/4"	Oil sand, as last above.
6923	1/2"	Oil sand, as above.
6890	3/4"	Oil sand, lite brown w/spots of white, fine, fair sorting, abundant kaolin spots, good odor, 90% bright gold yellow fluorescence.
6874	1/2"	Oil sand, lite brown, fine, poor sorting grading to silty, kaolin & very tite, fair odor, 95% pale gold-yellow fluorescence.
6865	1/2"	Oil sand, as last above.
6785	1/2"	Clayey silt, oil stained, lite brown, very tite, spots of kaolin & metamorphic fragments, fair odor, 75% fluorescence.
6772	1/2"	Clayey silt, dark gray w/abundant white kaolin, tite, fair odor, 50% fluorescence.
6760	1/2"	Clayey silt & sand, dark gray, kaolin, 50% fluorescence, faint odor.
6706	1"	Silty clay, dark brown, very poor porosity & permeability, no odor, 30% fluorescence.
6678	1-1/2"	Silty clay, dark gray with greenish cast, very tite, no odor, no fluorescence.
6656	1/2"	Silty clay, dark gray with greenish cast, fair odor 40% bright gold-yellow fluorescence.
6490	1-1/4"	Clayey silt, gray w/abundant white kaolin, tite, good odor, 80% bright gold-yellow fluorescence.
6470	1-1/4"	Clayey silt, dark gray, very fine, tite, no odor, 10% fluorescence.
6457	2"	Silt & kaolin, gray mottled white, very tite, gun powder odor only, 80% fluorescence.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

△ OSP

PAGE 2

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR Ed Green- Operator FIELD Mountain View-Arvin Area

Well No. Jewett #1-3, Sec 23, T. 31S, R 29E, M.D. B. & M.

Date May 29, 1973 Signed Ed Green

7001 Fruitvale Ext., Bakersfield, Ca 93308 (805)589-0111 Title Operator
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date		
6432	1"	Silty sand, dark gray, with white spots, more permeable than above, fair odor, 90% bright yellow fluorescence.
6397	1"	Oil silt, lite brown to dark gray, fine, good sorting, fair odor, 80% pale yellow fluorescence.
6343	1-1/2"	Silty sand as at 6432'.
6330	1"	Oil silt as at 6397' with 30% fluorescence.
6324	3/4"	Clayey silt, dark gray with specks of white, very tite, no odor, no fluorescence.
6300	1/2"	Kaolinitic silt, lite gray with abundant white, very tite, faint odor, 60% dull gold-yellow fluorescence.
6286	1-1/2"	Silt, very dark gray, tite, no odor, 5% fluorescence.
6276	1"	Silt, as last above.
6264	1-1/2"	Sand, very lite brown to gray, very fine, kaolin, better porosity & permeability, faint odor, 85% bright gold-yellow fluorescence.
6244	1/2"	Sand as last above, scattered mafic minerals, faint odor, 80% yellow fluorescence.
6211	1"	Silt, as at 6286'.
6181	1/4"	Kaolinitic silty sand, no odor, no fluorescence.
6153	1-1/2"	Silt as above, no odor, no fluorescence.
6026	1-1/2"	Sand, salt and pepper, fine, well sorted, no odor, no fluorescence.

029-07703

REPORT
and
PLAN
of
SUB-SURFACE
SURVEY

ED GREEN, OPERATOR

~~GARY DRILLING CO.~~

"JEWETT" 1-3

ARVIN

029-07703

JOB NO. B 684

DATE 4-16-73

DIRECTIONAL DRILLING, INC.

BAKERSFIELD

Phone: 324-3574

DIRECTIONAL DRILLING, INC.

SURVEY DATA SHEET

SHEET NO. 2

JOB NO. B 684

COMPANY GARY DRILLING COMPANY ADDRESS

WELL JEWETT 1-3 FIELD ARVIN COUNTY KERN STATE CALIFORNIA

MEASURED DEPTH	COURSE LENGTH	DEVIATION ANGLE	VERTICAL DEPTH COURSE	VERTICAL DEPTH TOTAL	COURSE DEVIATION	DIRECTION OF DEVIATION	COURSE LATITUDE NORTH	COURSE LATITUDE SOUTH	COURSE DEPARTURE EAST	COURSE DEPARTURE WEST	TOTAL LATITUDE NORTH	TOTAL LATITUDE SOUTH	TOTAL DEPARTURE EAST	TOTAL DEPARTURE WEST
3738	28	5 45	27 86	3734 72	2 81	S 82 W		0 39		2 78		47 39		43 99
3769	31	6 15	30 82	3765 54	3 38	N 81 W	0 53			3 34		46 86		47 33
3801	32	7 30	31 72	3797 26	4 18	N 70 W	1 43			3 93		45 43		51 26
3856	55	6 45	54 62	3851 88	6 46	N 54 W	3 80			5 23		41 63		56 [illegible]
4075	219	6 15	217 71	4069 59	23 85	N 49 W	15 65			18 00		25 98		74 49
4174	99	6 30	98 37	4167 96	11 21	N 47 W	7 65			8 20		18 33		82 69
4392	218	6 30	216 60	4384 56	24 68	N 44 W	17 75			17 15		0 58		99 84
4580	188	6 30	186 80	4571 36	21 28	N 38 W	16 77			13 10	16 19			112 94
4799	219	6 15	217 71	4789 07	23 85	N 38 W	18 79			14 68	34 98			127 62
4894	95	6 00	94 48	4883 55	9 93	N 32 W	8 42			5 26	43 40			132 88
4929	35	7 30	34 70	4918 25	4 57	N 39 W	3 55			2 88	46 95			135 76
4995	66	9 15	65 14	4983 39	10 61	N 52 W	6 53			8 36	53 48			144 [illegible]
5152	157	9 30	154 85	5138 24	25 91	N 48 W	17 34			19 25	70 82			163 37
5278	126	9 15	124 36	5262 60	20 25	N 48 W	13 55			15 05	84 37			178 42
5436	158	9 15	155 95	5418 55	25 39	N 44 W	18 26			17 64	102 63			196 06
5558	122	9 15	120 41	5538 96	19 61	N 42 W	14 57			13 12	117 20			209 18
5653	95	9 30	93 70	5632 66	15 68	N 44 W	11 28			10 89	128 48			220 07
5714	61	9 15	60 21	5692 87	9 80	N 44 W	7 05			6 81	135 53			226 88
5836	122	8 30	120 66	5813 53	18 03	N 42 W	13 40			12 06	148 93			238 94

TYPE OF SURVEY: CALCULATED BY B.L. CHECKED BY L.S.

DIRECTIONAL DRILLING, INC.

SURVEY DATA SHEET

SHEET NO. 3

JOB NO. B 684

COMPANY GARY DRILLING COMPANY ADDRESS

WELL JEWETT 1-3 FIELD ARVIN COUNTY KERN STATE CALIFORNIA

MEASURED DEPTH	COURSE LENGTH	DEVIATION ANGLE		VERTICAL DEPTH COURSE		VERTICAL DEPTH TOTAL		COURSE DEVIATION		DIRECTION OF DEVIATION			COURSE LATITUDE NORTH		COURSE LATITUDE SOUTH		COURSE DEPARTURE EAST		COURSE DEPARTURE WEST		TOTAL LATITUDE NORTH		TOTAL LATITUDE SOUTH		TOTAL DEPARTURE EAST		TOTAL DEPARTURE WEST	
5962	126	7	30	124	92	5938	45	16	44	N	38	W	12	95					10	12	161	88					249	06
6088	126	6	00	125	31	6063	76	13	17	N	35	W	10	79					7	55	172	67					256	61
6214	126	6	15	125	26	6189	02	13	72	N	29	W	12	00					6	35	184	67					263	26
6340	126	5	00	125	52	6314	54	10	99	N	29	W	9	61					5	33	194	28					268	59
6458	118	5	00	117	55	6432	09	10	29	N	27	W	9	17					4	67	203	45					273	26
6581	123	4	15	122	67	6554	76	9	11	N	22	W	8	45					3	41	211	90					276	67
6806	225	3	30	224	57	6779	33	13	73	N	22	W	12	73					5	14	224	63					281	81
6970	164	3	15	163	74	6943	07	9	30	N	14	W	9	02					2	25	233	65					284	06
7030	60	3	15	59	90	7002	97	3	40	N	14	W	3	30					0	82	236	95					284	88
CLOSURE:								370.53'		N	50°		15'	W														

TYPE OF SURVEY:

CALCULATED BY B.L. CHECKED BY L.S.

DIRECTIONAL DRILLING, INC.

SURVEY DATA SHEET

SHEET NO. 1

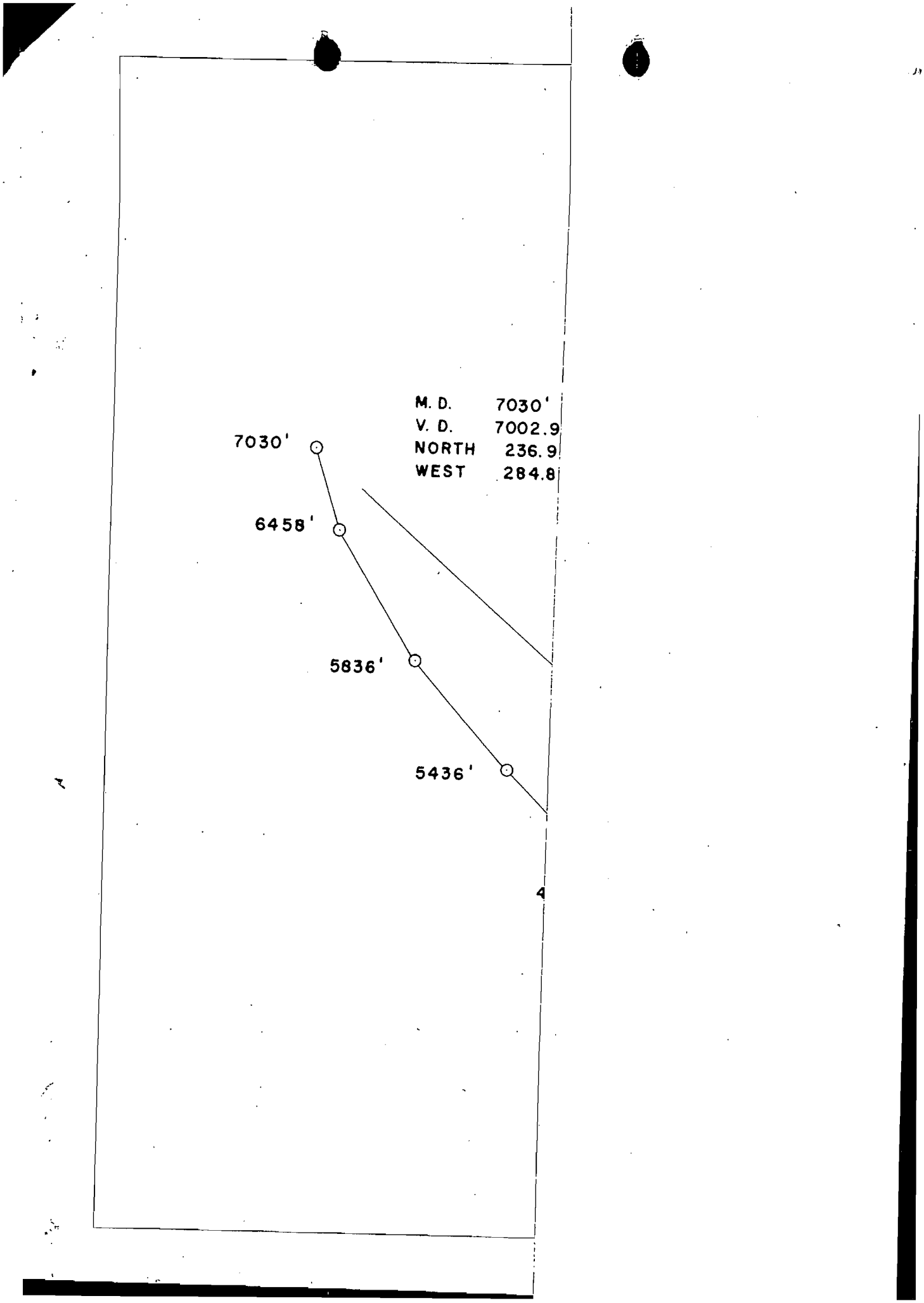
JOB NO. B 684

COMPANY [redacted] COMPANY Ed Green, Operator ADDRESS

WELL JEWETT 1-3 FIELD ARVIN COUNTY KERN STATE CALIFORNIA

MEASURED DEPTH	COURSE LENGTH	DEVIATION ANGLE	VERTICAL DEPTH COURSE	VERTICAL DEPTH TOTAL	COURSE DEVIATION	DIRECTION OF DEVIATION	COURSE LATITUDE NORTH	COURSE LATITUDE SOUTH	COURSE DEPARTURE EAST	COURSE DEPARTURE WEST	TOTAL LATITUDE NORTH	TOTAL LATITUDE SOUTH	TOTAL DEPARTURE EAST	TOTAL DEPARTURE WEST
710				710 00		ASSUMED VERTICAL TO 710								
956	246	0 45	245 98	955 98	3 22	N 11 E	3 16		0 61		3 16		0 61	
1289	333	1 00	332 93	1288 91	5 83	S 87 E	0	0 30	5 82		2 86		6 43	
1592	303	1 00	302 94	1591 85	5 30	S 76 E		1 28	5 14		1 58		11 57	
1880	288	1 00	287 94	1879 79	5 04	S 44 E		3 63	3 50			2 05	15 07	
2132	252	0 45	251 97	2131 76	3 30	S 34 E		2 74	1 85			4 79	16 92	
2445	313	1 00	312 94	2444 70	5 48	S 46 W		3 81		3 94		8 60	12 98	
2655	210	1 00	209 96	2654 66	3 68	S 22 W		3 41		1 38		12 01	11 60	
2749	94	1 15	93 98	2748 64	2 05	S 34 W		1 70		1 15		13 71	10 45	
2810	61	1 00	60 99	2809 63	1 07	S 36 W		0 87		0 63		14 58	9 82	
2904	94	1 15	93 98	2903 61	2 05	S 11 W		2 01		0 39		16 59	9 43	
2996	92	1 45	91 95	2995 56	2 81	S 34 W		2 33		1 57		18 92	7 86	
3123	127	2 00	126 92	3122 48	4 43	S 11 W		4 35		0 85		23 27	7 01	
3208	85	3 00	84 88	3207 36	4 45	S 27 W		3 96		2 02		27 23	4 99	
3289	81	5 45	80 60	3287 96	8 12	S 66 W		3 30		7 42		30 53		2 43
3413	124	5 45	123 38	3411 34	12 42	S 64 W		5 44		11 16		35 97		13 59
3514	101	5 45	100 50	3511 84	10 12	S 71 W		3 30		9 57		39 27		23 16
3670	156	5 45	155 22	3667 06	15 63	S 66 W		6 36		14 28		45 53		37 44
3710	40	5 45	39 80	3706 86	4 01	S 70 W		1 37		3 77		47 00		41 21

TYPE OF SURVEY: CALCULATED BY B.L. CHECKED BY L.S.


M. D. 7030'
V. D. 7002.9
NORTH 236.9
WEST 284.8
7030'
6458'
5836'
5436'

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 473-371

Mr. Ed Green
GARY DRILLING COMPANY
7001 Fruitvale Extension
Bakersfield, Calif. 93308

Bakersfield Calif.
April 13, 1973

DEAR SIR:

Operations at well No. "Jewett" 1-3, API No. 029-47703, Sec. 23, T. 31S, R. 29E, M.D., B & M. Mountain View Field, in Kern County, were witnessed on April 11, 1973. Mr. R. L. Kohlbush, representative of the supervisor was present from 2255 to 0045. There were also present C. Armstrong, Drlg. Foreman.

Present condition of well: 8-5/8" cem. 710'; 5½" ld. 7025', c.p. 2980' and 6320', perf. 6115' WSO, perf. 6329'-7025'. T.D. 7030'. Plugged with cement 6289'-6320'.

The operations were performed for the purpose of testing the 5½" water shut-off by formation tester.

DECISION: THE 5½" SHUT-OFF AT 6115' IS APPROVED.

RLK:lr

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By R. L. Kohlbush Deputy

FORM 109 (REV. 1-73)

10842-705 1-73 22M ⓔ OSP

Formation Water Shut-Off Test

37

Operator Gary Drlg. Co.

Well No. "Jewett" 1-3 Sec. 23, T. 31S, R. 29E, M.D. B&M

Field Mtn. View, County K was tested for water shut-off on April 14, 1973, Mr. RLK, representative of the supervisor was present from 2255 to 0645. There were also present C. Armstrong, Drilling Foreman.

Casing record of well: 8 5/8" cem. 710'; 5½" Ld. 7025', T.P. 2980' & 6320', perf. 6115' W.S.O., perf. 6329'-7025', T.D. 7030'. Plugged with cement 6289'-6320'.

The operations were performed for the purpose of (D-6) – 5½ – (2).

☒ The 5½" shut-off at 6115' is approved.

☐ The operations as witnessed and reported are approved and indicate that no fluid has access to the well from the annulus between _____" and _____" casings.

☐ The operations as witnessed and reported are approved as indicating that all of the injection fluid is confined to the formations below _____' at this time.

Hole size: 12¼" fr. Sfc. ' to 710', 7⅞" to 7030' & _____" to _____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			
8⅝	45&24	Sfc.	710	3-27	710	320sx	Sfc.				
5½	17	Sfc.	7025	4-10	6320	400sx	—				
				4-10	2980	100sx	—				

Depth or interval tested 6115

The hole fluid was bailed to _____' at _____ on _____ 19___.

The hole was open to 6289' for test.

Packer(s) 6068' & _____' Tail 6089' Bean size ½" Cushion —

IHP 4598 IFP 112 FFP 160 FHP 4601

Blow light blow for 43 minutes with intermittent puffs for the remainder of the test.

Open for test 1 Hr. — min. Fluid entry 300' of gas cut drilling fluid.

Date _____ 19___ Time _____ Guage/meter reading _____ Pump depth _____' Engr. _____

Date _____ 19___ Time _____ Guage/meter reading _____ Engr. _____

Fluid level _____' surveyed on _____ 19___, reviewed (witnessed) by _____

Total fluid produced, Bbls. _____ Net oil _____ Water _____

Rate: _____ B/D oil, _____ B/D water, _____ % water cut

RA/Spinner (Temperature) survey run at _____ B/D & _____ psi on _____ 19___, fluid confined below _____' (Packer depth _____')

Co. is going to squeeze.

Form 35 Rev. 5/72 RK

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 473-312

Mr. Ed Green
GARY DRILLING COMPANY
7001 Fruitvale Extension
Bakersfield, Calif. 93308

Bakersfield Calif.
March 28, 1973

DEAR SIR:

Operations at well No. "Jewett" 1-3, API No. 029-47703, Sec. 23, T. 31S R. 29E, M.D., B & M. Mountain View Field, in Kern County, were witnessed on March 23, 1973. Mr. R. Kohlbush, representative of the supervisor was present from 0700 to 0800. There were also present C. Armstrong, Foreman,

Present condition of well: 8-5/8" and 9" cem. 710'. T.D. 710' (standing cemented).

The operations were performed for the purpose of testing the blowout prevention equipment and installation.

DECISION: THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

JACK DECKER — PWOC 4/10/73

WILL RUN DV. COLLAR AT 2975' AND LIFT CEMENT TO 2275'
SHOULD BE READY WITH WH SO IN A COUPLE OF DAYS.

RLK/lr

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By A. G. Hluza Deputy

10342-705 1-73 22M ⓢ OSP

BOPE Memo

Operator Gary Drilling Co., Inc.
Well No. "Jewett" 1-3J Sec. 23, T. 31S, R. 29E, M.D. B&M
Field Mtn. View, County Kern. On March 23, 1973
Mr. RK, representative of the supervisor was present from 0700 to 0800. There was also present C. Armstrong, Foreman.
Casing record of well: 8 5/8" & 9" cem. 710'. T.D. 710' (Standing cemented).

The operations were performed for the purpose of testing (inspecting) the blowout-prevention equipment and installation.

☒ The blowout-prevention equipment and installation are (not) approved.

Hole size: 12" fr. Sfc. ' to 710 ', ____" to ____ ' & ____" to ____ '

X	Installed Casing (BOPE Anchor)				Cemented			Top of Fill	Tested	Date	Psi	Time (Min.)
	Size	Wt.	Top	Bottom	Date	MD-Depth	Volume	Annulus	Casing			
X	8 5/8	24	Sfc.	182	3-22-73	710	320 sx	Sfc.	682			
X	9	45	182	710	3-22-73							

Blowout Preventers

	Types Enumerated Top to Bottom	Mfg.-Model	Overhaul Date	Flange Bolt	Clamp Size	Psi Rating			
X	Annular	Hydril				Witnessed	1000	10 Min.	
X	Pipe rams	Shaffer				Witnessed	1450	15 Min.	
X	Blind rams	Shaffer				Reported	1800	10 Min.	

Accessories

	Type	Psi Rating	Size or Capacity
X	Accumulator		
X	Nitrogen bottle		
	Mud pump		
	Standpipe gauge		N.A.
	Check valve		
X	Inside BOP		
X	Witnessed Test Kelly cock		N.A.
	Spool		

X	Type	Psi Rating	Size or Capacity
X	Choke line		2" H.P.
X	Fill-up line		
X	Kill line		2" H.P.
X	Control lines		H.P.
	Rotating head	N.A.	N.A.
	Banjo box & blow line	N.A.	N.A.
	Muffler on blowline	N.A.	N.A.
	Pressure relief valve		

Drilling Fluid Program

Type	Weight	Water Loss	Cake	Viscosity	Storage

BOPE Control Stations
Remote: Yes (Electric on D.F.)
Remote: Yes End of Trailer
Manual:

Monitoring Devices	Alarm Yes	Alarm No
Calibrated mud pit		
Mud pit level indicator		
Gas detector		
Continuous (mud densimeter or) (temperature recorder)		

Form 36 Rev. 5/72

RK

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 473-490

Mr. Ed Green
GARY DRILLING COMPANY
7001 Fruitvale Extension
Bakersfield, Calif. 93308

Bakersfield Calif.
March 26, 1973

DEAR SIR:

Your proposal to drill (029-47703) Well No. "Jewett" 1-3, Section 23, T. 31S, R. 29E, M.D. B. & M., Mountain View Field, Kern County, dated 3-16-73, received 3-19-73, has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Fluid consistent with good drilling practice shall be used and the column of fluid maintained to the surface at all times, particularly while pulling the drill pipe.
2. Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times. (DOG class IV, API class 3M. See attached sheet.)
3. In the event this well is not completed to production, any oil, gas or fresh water encountered shall be protected with cement in accordance with the requirements of this Division.
4. THIS DIVISION SHALL BE NOTIFIED:
   a. TO INSPECT the blowout prevention equipment prior to drilling below a depth of 2000'.
   b. TO WITNESS a test of the 5½" water shut-off.

PAW/lr
Bond #908A2105
Dated 3-19-73

JOHN F. MATTHEWS, JR., State Oil and Gas Supervisor

By G. E. Illegible, Deputy

69207-705 12-72 36M ⓓ OSP

FORM 105

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

RECEIVED
MAR 19 1973
DIVISION OF OIL & GAS
BAKERSFIELD

D
3/21/73
pw

Bakersfield, Calif. March 16, 1973

DIVISION OF OIL AND GAS

029-47703

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. "Jewett" 1-3, Sec. 23, T. 31S, R. 29E, MD B. & M., Mountain View Field, Kern County.

Legal description of mineral-right lease, consisting of 40 acres, is as follows: North Half of the North Half of the Southwest Quarter of Section 23.
(Attach map or plat to scale)

Do mineral and surface leases coincide? Yes X No ____ If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 320 feet South (Direction) property along section line and 935 feet East (Direction) at right angles to said line from the West Quarter corner of section 23, ~~reference is file or data~~ 31S/29E

Map & Book	W S	Bond	Card	Forms 1A	1B
433 R&K	No	Gas & Oil Ltr. 3-19-73		1A-1X	

Elevation of ground above sea level 450 feet 3-23-73 sea level datum.

All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table or Kelly Bushing) which is 11 feet above ground.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
9"	45#	N-80	Surface	680'	To Surface
5-1/2"	17#	J-55	Surface	6800'	Thru perf- 6000' & 2750'

Intended zone(s) of completion: Chanac - Santa Margarita (Name) 6000' - 6800' (Depth, top and bottom) Estimated total depth 6800'

~~Filing under Section 3606 to minimize crop damage. Producing zone interval to be over 150' from producing zone intervals of Jewett #1-1 and #1-2.~~

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address 7001 Fruitvale Extension

Bakersfield, Ca. 93308

Telephone Number 323-8107

Gary Drilling Company, ~~Inc.~~
(Name of Operator)

By [signature]

Type of Organization Corporation
(Corporation, Partnership, Individual, etc.)

27537-703 7-64 20M △ OSP

Department of Conservation

Well Information

API #
02946808
Lease
Jewett
Well #
1-23
County
Kern [029]
District
4
Operator
Sun Mountain Oil & Gas [S7155]
Field
Mountain View [490]
Area
Arvin [03]
Section
23
Township
31S
Range
29E
Base Meridian
MD
Well Status
Active
Pool WellTypes
OG
SPUD Date
GIS Source
gps
Datum
83
Latitude
35.213376
Longitude
-118.83681
Map

Click to get Sum by County: **Kern [029]** or Field: **Mountain View [490]** or Operator: **Sun Mountain Oil & Gas [S7155]**

Get sum by Field-Operator-Lease: **Jewett**

Well Records

Show 25 entries

‹ Previous 1 Next ›

Showing 1 to 6 of 6 entries

File Name	Type	Size	Modified on

029-06808

RECORDS RECEIVED

Date Received 9-22-72
Well Summary (Form 100) ✓
History (Form 103)
Core Record (Form 101)
Elec. Log - Lge. Small
Direct. Survey
Sidewall Samples
Other

Notice of Records Due
Form 170

Date Final Records Received

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log ✓
3. Operator's Name ✓
4. Signature ✓
5. Well Designation ✓
6. Location —
7. Elevation —
8. Notices ✓
9. "T" Reports ✓
10. Casing Record ✓
11. Plugs ✓
12. Surface Inspection —
13. Production not ✓

RECORDS NOT APPROVED
Reason: Need for production

RECORDS APPROVED 9/28/72 TCS

RELEASE BOND
Date Eligible
(Use date last needed records were received.)

MAP & MAP BOOK 433 TCS 10/3/72

STATUS — DATE

Producing - Oil 9/25/72
Idle - Oil
Abandoned - Oil
Drilling - Idle
Abandoned - Dry Hole
Producing - Gas
Idle - Gas
Abandoned - Gas
Gas - Open to Oil Zone
Water Flood Source
Water Disposal
Water Flood
Steam Flood
Fire Flood
Air Injection
Gas Injection
CO_2 Injection
LPG Injection
Observation

Change to Oil

RECOMPLETED

CLERICAL CHECK LIST

1. Location change (F-165)
2. Elevation change (F-165)
3. Form 121 ✓
4. ~~Form 159~~ (Final Letter)
5. Form 150b (Release of Bond)

TRANSFER DATA

Former Owner Frank Feldman
New Owner Butler Resources Co.
Transfer Date 11-1-74
Form 156 Dated 10-30-75

Need Letter of Intent
Operator. Need Sketch
(was not TCS)

rdl

FORM 19

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

RECEIVED
SEP 22 1972
DIVISION OF OIL & GAS
BAKERSFIELD

△ OSP

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OR 9-96808

OPERATOR Frank Goldman (029-46808) FIELD Mountain View - ~~Arvin Area~~

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date September 21, 1972 Signed Frank Goldman

P.O. Box 644
Bakersfield, Ca. 93302 805/322-6962 Title Frank Goldman, Agent
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

Depth datum original KB

8-16-72 Pyramid Oil Well Service moved in production pulling hoist No. 9 and pump. Laid line from wash tank to well, then loaded well with clean formation water by circulating down tubing x casing annulus and up rod x tubing annulus.

Pulled pump loose and pulled out rods and pump.
Installed Shaffer mechanical double control gate.

Measured 2-3/8" OD EUE tubing out of hole. Kept fluid level to within ±50' of surface by gravitating formation water into casing at ±100 B/D rate while pulling tubing.

8-17-72 Bridged 5½" slotted casing with wire line bridge plug, limestone, cement, and sand from 5890'- 5813', casing tally measurement. Squeezed one sack of cement at 5878':

Hercules Well Servicing Corporation ran bridge plug, ½ cubic foot of limestone, and one sack of cement on wire line and set bridge plug at 5890'. Pulled out wire line tools. Ran one sack of cement in wire line squeeze packer and obtained pick-up on cement cap at 5878', then squeezed one sack of cement at 5878'. Obtained pick-up on firm cement at 5866'.

Pyramid ran open end 2-3/8" OD EUE tubing with collar on bottom and tagged top of cement, then pulled up to 5743' and lubricated in 7 sacks of #20 sand down tubing with formation water. Stood 30 minutes, then pulled five stands, landed tubing on doughnut, and shut well in overnight.

8-18-72 Lowered open end tubing to 5813' and obtained pick-up on top of sand bridge. Pulled tubing up and hung at 5785'.

8-18-72 Squeezed 5½" casing WSO holes at 5654' and slotted interval 5696'-5813' (117'), casing tally measurement, with cement:

Byron Jackson pumped 100 cubic feet of freshwater down tubing with

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Δ OSP

History of Oil or Gas Well

OPERATOR Frank Goldman (029-46808) FIELD Mountain View - Arvin Area

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date September 21, 19 72 Signed Frank Goldman

P.O. Box 644
Bakersfield, Ca, 93302 805/322-6962 Title Frank Goldman, Agent
(Address) (Telephone Number) (President, Secretary or Agent)

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Date	
8-18-72 (cont'd)	returns from tubing x casing annulus. Mixed 50 sacks API class "G" neat cement to a 118 PCF slurry with 33 cubic feet of fresh water. Equalized slurry on bottom by displacing with 117 cubic feet of fresh water down tubing. Had full returns. Cement in place at 10:00 A.M. Mixing and displacing time 10 minutes. Pulled 10 stands and hung tubing at 5155'. Calculated top of slurry at 5330'. Pumped 8 cubic feet of fresh water into tubing and then obtained returns in the tubing x casing annulus (calculated metal displacement 6 cubic feet). Closed in tubing x casing annulus and then squeezed with an additional 20 cubic feet of water to bring pressure on tubing to 1200 psi at surface at 10:25 A.M. Closed in tubing and pressure remained at 1200 psi. Bled pressure off tubing and casing to atmosphere at 12:00 Noon - obtained 18 cubic feet of water returns from tubing and some gas from the casing. Net displacement and squeeze fluid 10 cubic feet. Pulled tubing out of hole keeping hole full of water. Shut well in.
8-19 & 20 -72	Stood cemented.
8-21-72	Ran 4-3/4" bit below one 3½" x 29' DC on 2-3/8" OD EUE tubing to 5499' where bit took weight on firm cement. Calculated 15 sacks squeezed to WSO holes at 5654' and slotted interval 5696'- 5813'. Installed rotating head and cleaned out firm cement from 5499'- 5605' circulating with formation water. Pulled up 5 stands and shut well in.
8-22-72	Finished cleaning out firm cement from 5605'- 5780', casing tally measurement. Circulated on bottom 1 hour, then pulled bit to ±5600'. Swab tested squeeze job OK: Swabbed fluid level to 3850' at 5:15 P.M. Recovered fluid was all cement cut water (hole fluid) - no oil or gas. Shut well in.
8-23-72	Measured in swab at 8:00 A.M. and found fluid level static at 3850'. Lowered swab to 4000' and swabbed out cement cut hole fluid with scum of oil.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Δ OSP

History of Oil or Gas Well

OPERATOR Frank Goldman (029-46808) FIELD Mountain View - Arvin Area

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B. & M.

Date September 21, 1972 Signed Frank Goldman

P.O. Box 644
Bakersfield, Ca. 93302 805/322-6962 Title Frank Goldman, Agent
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
8-23-72 (cont'd)	Reran bit and DC on 2-3/8" OD EUE tubing to top of cement at 5780'. Cleaned out cement 5780'- 5785', stringers of cement 5785'- 5813', sand bridge from 5813'- 5866', and cement and limestone from 5866'- 5890', then lost returns. Pushed wire line bridge plug to 5953' where it hung up. Shut well in.
8-24-72	Installed kelly and pushed wire line bridge plug loose with 2000 pounds weight. Pushed bridge plug from 5953'-6401' with no weight on bit. Attempted to circulate formation water down tubing with maximum 2000 psi and found bit plugged. Attempted to reverse circulate but fluid went away at 0 psi with no returns. Pulled out bit. Bit in bad condition. Reran tubing and landed on doughnut as follows (replaced offset head with original conventional head): KB - tubing head 0 - 10.00' 183 joints, 5683.21', 2-3/8" OD EUE tubing 10.00'- 5693.21' Pump shoe, 2-3/8" OD perf nipple, and 2-3/8" OD gas anchor with perf BP on btm (33.50') 5693.21'- 5726.71' Maintained a stream of formation water gravitating into casing while running tubing but hole would not stay full - oil headed out of tubing on a few occasions. Removed Shaffer gates. Pumped some crude oil into hole. Reran 1¼" top lock pump on 189 3/4" rods and landed above shoe. Shut well in.
8-25-72	Seated pump, spaced rods, and returned well to production with 11-64"SPM at 10:30 A.M.
9-11 & 12 -72	Conducted WSO production test. CP 180 psi, TP 38 psi, tubing bean 19/64", SOFL 4220', 13½-64" SPM. Twenty four hour gauge into shipping tank 30/20, O/W, B/D, cut 40% water. Flow line sample cut 27% water. R. L. Kohlbush, Division of Oil and Gas representative witnessed.
9-15 72	Division of Oil and Gas approved WSO at 5696', No. T472-948.

FORM 109-D

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T 472-948

Mr. Frank Goldman, Agent
FRANK GOLDMAN
P. O. Box 644
Bakersfield, California

Bakersfield, Calif.
September 15, 1972

DEAR SIR:

Operations at well No. (029-46808) "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B & M. Mountain View Field, in Kern County, were witnessed on Sept. 12, 1972. Mr. R. L. Kohlbush, representative of the supervisor was present from 0800 to 0830. There were also present D. Holmquist, Engineer.

Present condition of well: 9-5/8" cem. 646'; 5½" ld. 6418', c.p. 954', 2636', 5654' & 5684', perf. 5696'-6418', W.S.O. at 5696'. T.D. 6418'.

The operations were performed for the purpose of testing the 5½" water shut-off by production test.

Mr. ---- reported:

THE 5½" SHUT-OFF AT 5696' IS APPROVED.

RLK/ajc

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By A. B. Hunza Deputy

57626-705 10-71 15M ② OSP

Production Water Shut-Off Test Memo

RLK 948

Operator Frank Goldman

Well No. "Goldman-Jewett" 1-23 Sec. 23, T. 31S, R. 29E, M.D. B&M

Field Mountain View, County K was tested for water shut-off on Sept. 12 1972, Mr. RLK, representative of the supervisor was present from 0800' to 0830. There were also present D. Holmquist, Engineer.

Casing record of well: 9⅝" cem. 646'; 5½" LD. 6418', C.D. 954', 2636', 5654' & 5684', Perf. 5696'-6418', WSO at 5696'. T.D. 6418".

The operations were performed for the purpose of (D-6) - 5½" - (1).

☒ The 5½" shut-off at 5696' is approved.

☐ The operations as witnessed and reported are approved and indicate that no fluid has access to the well from the annulus between _____" and _____" casings.

☐ The operations as witnessed and reported are approved as indicating that all of the injection fluid is confined to the formations below _____' at this time.

Hole size: _____" fr. _____' to _____', _____" to _____' & _____" to _____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			
9⅝	32	Sfc.	646								
5½	15.5 & 17	Sfc.	5684								

Depth or interval tested 5696' - 6418'

The hole fluid was bailed to _____' at _____ on _____ 19___.

The hole was open to _____' for test.

Packer(s) _____' & _____' Tail _____' Bean size _____" Cushion _____

IHP _____ IFP _____ FFP _____ FHP _____

Blow _____

Open for test _____ Hr. _____ min. Fluid entry _____

Date _____ 19___ Time _____ Guage/meter reading _____ Pump depth _____' Engr. _____

Date _____ 19___ Time _____ Guage/meter reading _____ Engr. _____

Fluid level 4220' surveyed on Sept. 12 19 72, reviewed (witnessed) by _____

Total fluid produced, Bbls. 50 Net oil 30 Water 20

Rate: 30 B/D oil, 20 B/D water, 40 % water cut

RA/Spinner (Temperature) survey run at _____ B/D & _____ psi on _____ 19___, fluid confined below _____' (Packer depth _____')

Form 35 Rev. 5/72

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 472-1415

Mr. Frank Goldman, Agent
FRANK GOLDMAN
P. O. Box 644
Bakersfield, California

Bakersfield Calif.
September 11, 1972

DEAR SIR:

Your supplementary proposal to drill (029-46808) Well No. "Goldman-Jewett" 1-23, Section 23, T. 31S, R. 29E, M.D. B. & M., Mountain View Field, Kern County, dated 8/16/72, received 8/17/72, has been examined in conjunction with records filed in this office.

NOTE: 5½" ld. 6418', c.p. 5684', 2636' and 954', perf. 5696'-6418'.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT THIS DIVISION SHALL BE NOTIFIED TO WITNESS a production test demonstrating water shut-off within 30 days of completion.

JCS/ajc
No Bond Required

JOHN F. MATTHEWS, JR., State Oil and Gas Supervisor

By A. G. Hluza, Deputy

87628-705 11-71 35M ⓢ OSP

FORM 107

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

RECEIVED
AUG 17 1972
DIVISION OF OIL & GAS
BAKERSFIELD

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Bakersfield, Calif. August 16, 1972

DIVISION OF OIL AND GAS

029-46852

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of ~~deepening, redrilling, plugging~~ or altering casing at Well No. "Goldman-Jewett" 1 - 23, Sec. 23, T. 31 S, R. 29 E, M. D. B. & M.

(Cross out unnecessary words)

~~Arvin Area~~ - Mountain View Field, Kern County.

The present condition of the well is as follows:

1. Total depth. 6418'

2. Complete casing record, including plugs:

9-5/8" cmtd around shoe at 646'

5½" landed at 6418'
Displaced and squeezed through leak at 954'
CP (stage collar ports) at 2637'
CP 5685'
JP 4 ½" holes 5654'- 5655'
12R, 2" x 80M slots, 6" C 5696'- 6418'

3. Last produced. August 15, 1972 (Date) 20 (Oil, B/D) 80 (Water, B/D) - (Gas Mcf/D)

The proposed work is as follows:

1. Bridge 5½" slotted casing with wire line bridge plug, gravel, cement, and sand from 5890'- 5820'. Squeeze one sack of cement at 5875' off wire line.

2. Squeeze off water entry 5770'- 5780' with cement and Braden head squeeze.

3. Clean out cement to 5790' and swab test squeeze job.

4. After swab test is OK clean out to 6408' and return well to production.

Sup to drill

REFERENCE TO FILE OF DATA

Map & Book	U S G S	Bond	Card	Forms 114	Forms 121
		Gen Bond Required	—	72-36	Sp

Frank Goldman
(Name of Operator)

By Frank Goldman

P.O. Box 644
Bakersfield, Calif. 93302
(Address)

805/322-6962
(Telephone No.)

33429-705 6-69 15M OSP

029-20808

RECORDS RECEIVED		STATUS	DATE
Date Received	9-7-72	Producing - Oil	
Well Summary (Form 100)	✓	Idle - Oil	
History (Form 103)	✓	Abandoned - Oil	
Core Record (Form 101)		Drilling - Idle	
Elec. Log - Lge. ✓ Small		Abandoned - Dry Hole	
Direct. Survey		Producing - Gas	
Sidewall Samples	✓	Idle - Gas	
Other Dual Logging		Abandoned - Gas	
		Gas - Open to Oil Zone	
Notice of Records Due Form 170		Water Flood Source	9-8
		Water Disposal	
Date Final Records Received		Water Flood	
		Steam Flood	
		Fire Flood	
		Air Injection	
		Gas Injection	
		CO_2 Injection	
		LPG Injection	
		Observation	

RECOMPLETED

ENGINEER'S CHECK LIST

1. Summary, History, & Core record (dupl.) ✓
2. Electric Log ✓
3. Operator's Name ✓
4. Signature ✓
5. Well Designation ✓
6. Location ✓
7. Elevation ✓
8. Notices ✓
9. "T" Reports ✓
10. Casing Record ✓
11. Plugs ✓
12. Surface Inspection ✓
13. Production ✓

CLERICAL CHECK LIST

1. Location change ____ (F-165)
2. Elevation change ____ (F-165)
3. Form 121 N/A
4. Form 159 (Final Letter)
5. Form 150b (Release of Bond) 9-8-72

9-8-72
Records O.K.
Release Bond
A.D.Z.L

RECORDS NOT APPROVED
Reason:

RECORDS APPROVED 9-7-72 GEC

RELEASE BOND #139999 dated 5-8-72
Date Eligible
(Use date last needed records were received.)

MAP & MAP BOOK #933 TCS
10-3-72

Rachel

FORM 19

FORM 100

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

SUBMIT IN DUPLICATE

RECEIVED
SEP 7 1972
DIVISION OF OIL & GAS
BAKERSFIELD

029-95808

Operator MONTARA PETROLEUM COMPANY Well No. "Goldman-Jewett" 1-23

Sec. 23, T. 31 S., R. 29 E., M.D. B. & M. Mt. View Field Kern County.

Location 990' South, 1593' East from the West Quarter Corner of Section 23
(Give location from property or section corner, or street center lines)

Elevation of ground above sea level 447 feet.

All depth measurements taken from top of Kelly Bushing which is 11 feet above ground.
(Derrick Floor, Rotary Table or Kelly Bushing)

In compliance with Sec. 3215, of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date June 15, 1972 Signed James K. O'Neil

Argonaut Oil & Gas Consultants & Ernie Rennie Title Geologist - Retained
(Engineer or Geologist) (Superintendent) (President, Secretary or Agent)

Commenced drilling May 10, 1972

Completed drilling May 21, 1972

Total depth Plugged depth None

Junk None

GEOLOGICAL MARKERS	DEPTH
Top Chanac	5690'

Geologic age at total depth: Miocene

Commenced producing 6/9/72 (Date) Flowing/gas lift/pumping (Cross out unnecessary words)

Name of producing zone Chanac

	Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
Initial production	10	26°	90%	N.M.	50#	0
Production after 30 days	11	26°	85%	N.M.	75#	900

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Drilled	Number of Sacks of Cement	Depth of Cementing if through perforation
9-5/8"	646'	0	32#	New	Seamless	H-40	12¼"	308	Shoe
5-1/2"	6418'	0	17 & 15½#	New	Seamless	K-55	8-3/4"	350	5684'
						Stage Collar		150	2636'

PERFORATED CASING
(Size, top, bottom, perforated intervals, size and spacing of perforation and method.)

5½", 17#, K-55 Blank liner 5686-5696'; machine cut slots 5696-6418', 80 Mesh, 12 Rows, 6" Slots, 2" Centers

Was the well directionally drilled? No Electrical Log Depths 649 - 6418' (Attach Copy of Log)

△ OSP

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR MONTARA PETROLEUM COMPANY FIELD Mt. View

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31 S., R. 29 E., M.D. B. & M.

Date 6-15, 19 72 Signed James L. O'Neill

P. O. Box 2012
Bakersfield, Calif. 325-5746 Title Geologist - Retained
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling; altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1972	Contractor: Miller & York, Inc.
5-10	Moved in, rigged up and spudded at 4:30 P.M. Drilled 12¼" hole to 588'.
5-11	Drilled 12¼" hole to 646'. Surface Casing: Ran 17 joints, 9-5/8", 32#, K-55 casing to 646'. Casing equiped with B & W guide shoe, 2 centralizers and baffle plate in top of first joint above shoe. Cemented casing using B-J equipment and 308 sacks Class "G" cement; the first 208 sacks pre-mixed with 4% gel, the last 100 sacks treated with 3% $CaCl_2$. Good cement returns. Cement in place at 4:50 A.M. Landed casing installed casing head and BOPE. Test BOPE to 1000# for 15 minutes, approved by Division of Oil and Gas. Drilled out cement and shoe at 6:30 P.M. Drilled 8-3/4" hole from 646' to 1165'.
5-12 to 5-21	Drilled 8-3/4" hole from 1165' to 6418'. At 4500' changed clay based mud system to low solids polymer mud system. Installed Jacobs Formation Logging Company at 5389'. At 6418' ran Welex Induction electric log, sidewall sample gun and drift log. Finished running drift log. Ran drill pipe and conditioned mud for casing. Laid down drill pipe. Ran 5½" casing. Casing Detail: With 6436.10' of new 5½", K-55, 15¼# & 17# casing on the hook landed same at 6418' and cemented with 350 sacks through C.P. collar at 5684.37' as follows: first 150 sacks 1:1 mix of Class "G" cement and poz treated with 18% salt and .5% D-31 followed by 200 sacks Class "G" cement treated with 18% salt and .5% D-31. All cement preceded by 100 cubic feet of water and 500 gallons of mud flush. Displaced cement with 775 cubic feet of mud. Bumped plugs with 1100# on fill up collar @ 5643.99', check valve held. Through Baker stage collar at 2636.69' displaced 50 cubic feet of water and 150 sacks Class "G" cement treated with 2% $CaCl_2$. Displaced cement with 355 cubic feet of mud. Closed sleeve with 2500# casing equiped with Baker solid baffle whirler cement collar, fill up collar, stage collar, 2 metal petal baskets, 5 centralizers and 8 rotating scratchers.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

Δ OSP

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR MONTARA PETROLEUM COMPANY FIELD Mt. View

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31 S., R. 29 E., M.D. B. & M.

Date 6-15, 1972 Signed

P. O. Box 2012
Bakersfield, California 325-5746 Title
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

1972

5-12 to 5-21 (cont.)

Casing make up as follows:

38.65'	1 Joint 17# ST&C
2614.46'	67 Joints 15½#
1.68'	Baker stage collar
2623.79'	69 Joints 15½# ST&C
383.51'	10 Joints 17# ST&C
1.53'	Baker fill up collar
38.85'	1 Joint 17# ST&C
1.53'	Baker whirler solid baffle collar
9.75'	1 Blank nipple 17# ST&C
722.35'	19 Joints 17# STC liner
6436.10'	Total casing on hook
18.10	Casing cut off above kelly bushing
6418.00	Casing landed from kelly bushing

Landing casing.

5-23

Finished landing casing, installed BOPE, picked up 2-3/8" drill pipe. Drilled out stage collar at 2636' and tested with 1500# for 15 minutes. Drilled out fill up collar and cleaned out to 5670'. Conditioned mud for WSO test.

WSO Test #1: Ran Cook shoot and test shooting 4 - 1/2" holes at 5656', packers set at 5614' with tail to 5639'. Tester open 1 hour. Had weak blow - dead in 2 minutes. Recovered 10' normal drilling fluid, IHP 3300#, IFP 50#, FFP 50#, FHP 3300#. Test approved by a representative of the Division of Oil and Gas, Bakersfield office.

5-24

Ran in hole and drilled cement and solid baffle collar, cleaned out to 6418'. Conditioned cement cut mud. Changed mud system to P-306 chemical wash. Laid down drill pipe and collars, recovered BOPE and installed well head equipment. Rig released at 9:00 P.M.

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

Δ OSP

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR MONTARA PETROLEUM COMPANY FIELD Mt. View

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31 S., R. 29 E., M.D. B. & M.

Date 6-15, 1972 Signed

P. O. Box
2012, Bakersfield, Ca. 325-5746 Title
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1972	
5-26	Moved in Advanced Production Service. Installed BOPE. Picked up 2-3/8" tubing and circulating washer. Hydro-tested tubing to 5000# while running in hole.
5-27	Washed perforations from 6418'-5696', maximum pressure use 800#, all perforations open. Washed through perforations 4 times. Ran to bottom and circulated clean. Pulled tubing.
5-28	Installed bailing gate. Ran bailer, no fill. Ran tubing to bottom, changed to lease crude. Used approximately 250 barrels for change over, did not get oil returns. Landed 2/8" tubing as follows:

12.00'	Kelly bushing
4.50'	2-3/8" landing nipple
5589.05'	181 Joints 2-3/8", EUE, 8 thrd.
0.45'	Pump shoe
1.95'	Perforated nipple
30.95'	1 Joint 2-3/8" - gas anchor
5638.90'	Tubing landed from kelly bushing
-32.90'	Gas Anchor with perforation
5606.00'	
- 0.45'	Pump shoe
5605.55'	Top pump shoe from kelly bushing.

Installed well head equipment.

5-29	Ran Axelson 2" x 1¼" x 12' x 15' RHA top lock pump on 186 used 3/4" rods, four pups and 1¼" x 22' polish rod. Closed well in.
5-31	Installed pumping unit on Coastal Engineering base, hooked up well head and lead lines. Well on pump 12:00 noon.
5-31 to 6- 4	Well produced water with a scum of oil salinity of water 60-70 grains per gallon.

FORM 103

SUBMIT IN DUPLICATE

Δ OSP

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR MONTARA PETROLEUM COMPANY FIELD Mt. View

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31 S., R. 29 E., M.D. B. & M.

Date 6-15, 19 72 Signed James L. O'Neill

P. O. Box 2012
Bakersfield, California 325-5746 Title Geologist - Retained
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date	
1972	
6- 5	Moved in Advanced Production Service. Pulled rods and pump. Pulled 19 joints tubing, well started flowing through casing. Mixed salt water and killed well. Shut in for night.
6- 6	Ran tubing to bottom at 6418', no fill. Circulate hole clean with salt water. Pulled tubing and ran Mandril on tubing with 2 inverted Guiberson packer rubbers to check for holes in casing. Found suspected holes at 954'. Pulled out, shut in for night.
6- 7	Ran Baker retrievable bridge plug and set same at 1054'. Check for holes in casing, found them to be from 953' - 954'. Set Baker squeeze tool at 852' and squeezed holes with 140 sacks Class "G" cement, all treated with 3% $CaCl_2$. Staged cement with final pressure 600#. Cement in place at 11:25 A.M. Pulled tubing and tools. Closed well in.
6- 8	Ran in with bit, collars and tubing, found top of cement at 886'. Cleaned out cement to 961'. Closed rams and pressured casing to 1000# for 30 minutes. Pulled tubing, rigged bailer and bailed fluid to 950'. Closed well in.
6- 9	Ran bailer to 950', no fluid entry over night. Laid down bailer. Recovered Baker retrievable bridge plug. Rigged up Go-Western and shot 4 - 1/2" holes from 5654' - 5655' for WSO test. Well started flowing. Ran five stands tubing with well flowing, circulated salt water, ran 4 more stands before well started flowing again. Mixed more salt water and circulated out gas and oil cut water, ran 20 stands before well became lively again. Mixed salt water and circulated out gas and oil cut water. Ran 42 more stands and again conditioned hole fluid. Ran tubing to bottom, no fill, pulled 27 joints tubing as follows:

FORM 103

SUBMIT IN DUPLICATE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

△ OGP

DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR MONTARA PETROLEUM COMPANY FIELD Mt. View

Well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31 S., R. 29 E., M.D. B. & M.

Date 6-15, 1972 Signed

James L. O'Neill

P. O. Box 2012
Bakersfield, California 325-5746 Title Geologist - Retained
(Address) (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

1972

6 - 9 (cont.)

4.50'	2-3/8" landing nipple
5499.05'	178 Joints
0.45'	Pump shoe
1.95'	Perforated nipple
30.95'	Hoist 2-3/8" Gas Anchor
5536.90'	Tubing landed from ground
12.00'	Kelly Bushing
5548.90'	Tubing landed from kelly bushing
-30.95'	Gas Anchor
5517.95'	
- 1.95'	Perforated nipple
5516.00'	
- 0.45'	Pump shoe
5515.55'	Top pump shoe from kelly bushing

Ran same original Axelson pump on 182 used 3/4" rods, four pups and $1\frac{1}{4}$" x 22' polish rod. Spaced pump, started well pumping 5:30 P.M.

MONTARA PETROLEUM COMPANY
"Goldman-Jewett" 1-23
Section 23, T31S/R29E

SIDEWALL SAMPLE DESCRIPTIONS

Depth	Recovery	Description
6074'	1"	Oil stained sand, tan to light gray, very fine to coarse grained, feldspar and quartz, clayey, micaceous, easily friable, fair odor, bright yellow fluorescence, very pale straw cut, pale yellow cut fluorescence.
6008'	1-1/2"	Oil sand, light tan, predominently fine grained, clayey, silty, easily friable, fair odor, spotty bright yellow fluorescence, very pale straw cut, very light yellow cut fluorescence.
5963'	1/4"	Sandy clay, dark gray, silty, micaceous, NOSCF.
5803'	1"	Oil sand, tanish gray, very fine grained, silty, easily friable, good gasoline odor, even bright yellow fluorescence, pale cut fluorescence, bright yellow cut fluorescence.
5775'	3/4"	Oil stained sand, light gray, very fine to medium grained, silty, clayey, easily friable, poor odor, spotty yellow fluorescence, no apparent cut, extremely pale yellow cut fluorescence.
5766'	1/2"	Oil sand, tanish gray, very fine to medium grained, silty, clayey, easily friable, slight odor, even bright yellow fluorescence, very pale cut, very pale yellow cut fluorescence.
5706'	1/2"	Oil sand, tanish gray, very fine to fine grained, clayey, silty, easily friable, fair gasoline odor, even bright yellow fluorescence, very pale cut, pale yellow cut fluorescence.
5620'	1"	Sand, gray with greenish tinge, very fine to medium grained, clayey, silty, easily friable, NOCSF.
5534'	1"	Sand, as at 5620'

Described by Ernest W. Rennie, Jr.
5-22-72

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 472-447

Mr. Otto Hackel
MONTARA PETROLEUM COMPANY
P. O. Box 867
Bakersfield, Calif. 93302

Bakersfield Calif.
May 25, 1972

DEAR SIR: (029-46808)

Operations at well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D.B & M. Mountain View Field, in Kern County, were witnessed on May 24, 1972. Mr. R. L. Kohlbush, representative of the supervisor was present from 0100 to 0130. There were also present J. O'Neill, Engineer.

Present condition of well: 9-5/8" cem. 646'; 5½" ld. 6418', c.p. 2636' and 5684', perf. 5656' WSO.

The operations were performed for the purpose of testing the 5½" water shut-off by formation tester.

Mr. **** reported:

THE 5½" SHUT-OFF AT 5656' IS APPROVED.

O'NEILL/HLUZA 6-7-72
While running in ? to make W.S.O. Gun fired @ 95%'. Tool stuck at 5616'. Will squeeze holes @ 9526' W/15% Acid & Press. test W/ 1000 PSI. Make WSO above zone. DOG To WITNESS. No NOTICE REQUIRED.

O'Neill/Hluza, 7-27-72
Well is making 100 B/D with 10% water with water entry from WSO shot around 5656'. Will make another WSO to demonstrate WSO by testing is from middle or lower portion of zone abandoned.

* TELECON DON HOLMQUIST - WMES 8/1/72
APPROX 80% CUT. PUMPED DOWN TO 4500'±
PLAN TO RUN WATER ENTRY SURVEY IN A WEEK OR SO. WE WILL ACCEPT SURVEY IN LIEU OF W.S.O. IF IT STRONGLY INDICATES WATER ENTRY IS FROM O.C. ZONE.

RLK/lr
cc: Co. - Palo Alto
James O'Neill

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By A. G. Hluza Deputy

59471-708 1-72 20M ③ OBP

Cook Formation — Water Shut-Off Test Memo

441

Company Montara Petroleum Co.

Well No. "Goldman Jewett" 1-23 Sec. 23, T. 31S., R. 29E., M.D. B&M

Field Mtn. View, County Kern was tested for water shut-off on 5-24-72, Mr. RLK, designated by the supervisor was present from 0100 to 0130 as prescribed by law; there were also present J. O'neal, Engineer.

Casing record of well: 6418', c.p. 2636 & 5684, perf. 5656' W/50 sx. 9 5/8" cem. 646' / 5½" Ld.

The operations were performed for the purpose of (D-6) — 5½" — (2).

☑ The 5½" shut-off at 5656' is approved.

☐ The operations as witnessed and reported are approved and indicate that no fluid has access to the well from the annulus between _____" and _____" casings.

Hole size: _____" fr. _____' to _____', _____" to _____' & _____" to _____'

Casing Size	Wt.	Top	Bottom	Cemented Date	MO-Depth	Volume	Top of Fill Annulus	Top of Fill Casing	Squeezed Away	Final Press.	Perfs.
9 5/8	32	Surf.	646								
5½	15.5#	17 Jts.	6418	5-22-72	perfs	350 sx	@ 5684	calc.	to 4040'		
						150 sx	@ 2636	calc.	to 2030'		

Depth or interval tested _____

The hole fluid was bailed to _____' at _____ on _____ 19___.

The hole was open to _____' for test.

Packer(s) 5614' & —' Tail 5639' Bean size 1/2" Cushion —

IHP _____ IFP _____ FFP _____ FHP _____

Blow puff blow and no blow thereafter.

Open for test _____ Hr. _____ min. Fluid entry 10' NDF.

Date _____ 19___ Time _____ Engr. _____, Pump depth _____

Fluid level _____' Gauge/meter reading _____

Date _____ 19___ Time _____ Engr. _____, Pump depth _____

Fluid level _____' Gauge/meter reading _____

Total fluid produced, Bbls. _____ Net oil _____ Water _____

Rate: _____ B/D oil, _____ B/D water, _____ % water cut

RA/Spinner (Temperature) survey run at _____ B/D & _____ psi on _____ 19___,

fluid confined below _____' (Packer depth _____')

Form 35 Rev. 12/71

FORM 109

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Report on Operations

No. T 472-437

Mr. Otto Hackel
MONTARA PETROLEUM COMPANY
P. O. Box 867
Bakersfield, Calif. 93302

Bakersfield Calif.
May 22, 1972

DEAR SIR: (029-46808)

Operations at well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B & M. Mountain View Field, in Kern County, were witnessed on May 11, 1972. Mr. R. L. Kohlbush, representative of the supervisor was present from 1635 to 1715. There were also present G. Phillips, Drilling Foreman.

Present condition of well: 9-5/8" cem. 646' - standing cemented.

The operations were performed for the purpose of inspecting the blowout prevention equipment and installation.

Mr. --- reported:

THE BLOWOUT PREVENTION EQUIPMENT AND INSTALLATION ARE APPROVED.

RLK/lr
cc: Co. - Palo Alto
James O'Neill

JOHN F. MATTHEWS, JR.
State Oil and Gas Supervisor

By A. G. Ulloa Deputy

59471-705 1-72 20M ② OSP

Form 109-D (BOPE Memo)
Revised 4-29-69

EXHIBIT A

B.O.P.E. INSPECTION & TEST
Special Report on Operations Witnessed

No. T

Company Montara Petroleum Co. Date 5-11 19 72
Operations at well No. "Goldman Jewett" 1-23 Sec. 23 T. 31S. R. 29E, M.D. B.& M.
Mountain View Field in Kern County, were inspected and witnessed on 5-11-72. Mr. RLK, representative of the supervisor, was present from 1635 to 1715. There were also present G. Phillips, Drilling Foreman. Present condition of the well 9 5/8" csm-646' Standing cemented.
. Operations were performed for purpose of inspecting and witnessing the installation and testing of the B.O.P.E.
Mr. Phillips reported:

✓. On 5-11- 1972, 9 5/8", 32 lb. casing was cemented in a 12 1/4" hole at 646 with 308 sacks/~~cu.ft.~~ of cement.
✓. Cement returned/~~did not return~~ to the surface.
___. An additional ___ sacks/cu.ft. of cement was placed around the ___ casing from the surface.
___. A ___" hole was being drilled ahead at ___",

and the Engineer noted that the well was equipped with the following required equipment in maximum (Class V) pressure areas:

✓. The Blind Rams, the Pipe Rams, and the Hydril were each tested with a closed-in pressure of 1000 psi for 10 minutes, 1000 psi for 10 minutes, and 1000 psi for 10 minutes, respectively.
✓. All lines and fittings were tested with a closed-in pressure of 1000 psi for 10 minutes. All lines, fittings were made of steel.

THE ENGINEER NOTED that the well was equipped with the following BOP equipment:

✓. A Shaffer hydraulically operated double control gate for closing in the well, with the drill pipe/~~tubing~~ out of the hole and for closing around the 4 1/2" drill pipe/~~tubing~~. (Overhaul date ___, serial number ___.)
___. A ___ hydraulically operated control gate for closing in the well with the drill pipe/tubing out of the hole. (Overhaul Date ___, Serial number ___.)
___. A ___ manually and hydraulically operated control gate for closing around the ___" drill pipe/tubing. (Overhaul date ___, serial number ___.)
✓. A Hydril blowout preventer for closing around the 4 1/2" drill pipe/~~tubing~~. (Overhaul date ___, serial number ___.)
✓. A Koor kov inside blowout preventer with proper adapters available on the derrick floor, or a ___ check valve incorporated within the drill pipe.
___. A ___ accumulator(s) with a capacity of ___ gallons with an auxiliary means of producing sufficient hydraulic pressure.
✓. Controls for the equipment located at least 50 feet from the wellhead and on the derrick floor.
✓. A 2" mud fill-up into the casing above the equipment.
✓. A 2" choke line with high pressure valves and fittings into the drilling spool or the 9 5/8" casing below the equipment.
✓. A 2" kill line with a 2" high pressure stopcock into the drilling spool or the 9 5/8" casing below the equipment.
✓. A high pressure stopcock above ~~and below~~ the Kelly.
___. A high pressure stopcock on the stand pipe.
___. A gas analyzer and mud-pit level indicator with proper alarms.
___. Remarks: ___

BLOWOUT PREVENTION EQUIPMENT, INSTALLATION AND TESTS ARE (NOT) APPROVED

FORM 111

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

REPORT ON PROPOSED OPERATIONS No. P 472-800

Mr. Otto Hackel
MONTARA PETROLEUM COMPANY
P. O. Box 867
Bakersfield, Calif. 93302

Bakersfield, Calif.
May 16, 1972

DEAR SIR:

Your proposal to drill (029-46808) Well No. "Goldman-Jewett" 1-23, Section 23, T. 31S, R. 29E, M.D. B. & M., Mountain View Field, Kern County, dated 5-2-72, received 5-8-72, has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. **Fluid consistent with good drilling practice shall be used, and the column of fluid maintained to the surface at all times, particularly while pulling the drill pipe.**
2. **Sufficient cement shall be pumped back of the 9-5/8" casing to fill to the surface.**
3. **Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times. (DOG Class III, API Class 2M. See attached sheet.)**
4. **Fresh water and oil or gas zones back of the 5½" casing shall be protected, either by lifting cement or by multiple-stage cementing.**
5. **THIS DIVISION SHALL BE NOTIFIED:**
   a. **TO INSPECT the blowout prevention equipment installation and operation prior to drilling out the shoe of the 9-5/8" casing.**
   b. **TO WITNESS a test of the 5½" water shut-off.**

EAW/lr
Bond #139979
Dated 5-4-72
cc: Co. - Palo Alto
James O'Neill

JOHN F. MATTHEWS, JR., State Oil and Gas Supervisor

By A. L. Uhiza, Deputy

87625-705 11-71 35M ⓑ OSP

FORM 105

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice and surety bond must be filed before drilling begins

029-46808E

RECEIVED
MAY 8 1972
DIVISION OF OIL & GAS
BAKERSFIELD

Bakersfield Calif. May 2 19 72

DIVISION OF OIL AND GAS

029-46808

In compliance with Section 3203, Division III, Article 4, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. "Goldman-Jewett" 1-23, Sec. 23, T. 31S, R. 29E, M.D. B. & M., Mt. View Field, Kern County.

Legal description of mineral-right lease, consisting of 40 acres, is as follows: $S\frac{1}{2}$ $N\frac{1}{2}$ $SW\frac{1}{4}$
(Attach map or plat to scale)

Section 23, Township 31 South, Range 29 East

Do mineral and surface leases coincide? Yes X No ____ If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: 990 feet South (Direction) ~~FROM~~ along section line and 1593 feet East (Direction)

at right angles to said line from the W $\frac{1}{4}$ ~~corner~~ corner of section 23,

Township 31 South, Range 29 East

Elevation of ground above sea level 447 feet ____ datum.

All depth measurements taken from top of Kelly Bushing (Derrick Floor, Rotary Table or Kelly Bushing) which is 11' feet above ground.

447 / 11 / 458 K.B.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES A.P.I.	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS
9-5/8"	32#	H-40	0'	630'	630' Surface
5-1/2"	15½# & 17#	K-55	0'	6300'	6000' - 4670' (combination string cemented thru collar @ 6000'); thru DV collar @ approximately 2600' to protect fresh water zone.

Intended zone(s) of completion: Chanac 6000-6300' (Name) REFERENCE TO FILE OF DATA (Depth, top and bottom) Estimated total depth 6300'

Map & Book	U S G S	Bond	Card	Forms 114	Forms 121
433 5-15-72 RER	✓	# 139979 5-4-72	✓	72-19	✓

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address P. O. Box 2012

Bakersfield, California 93303

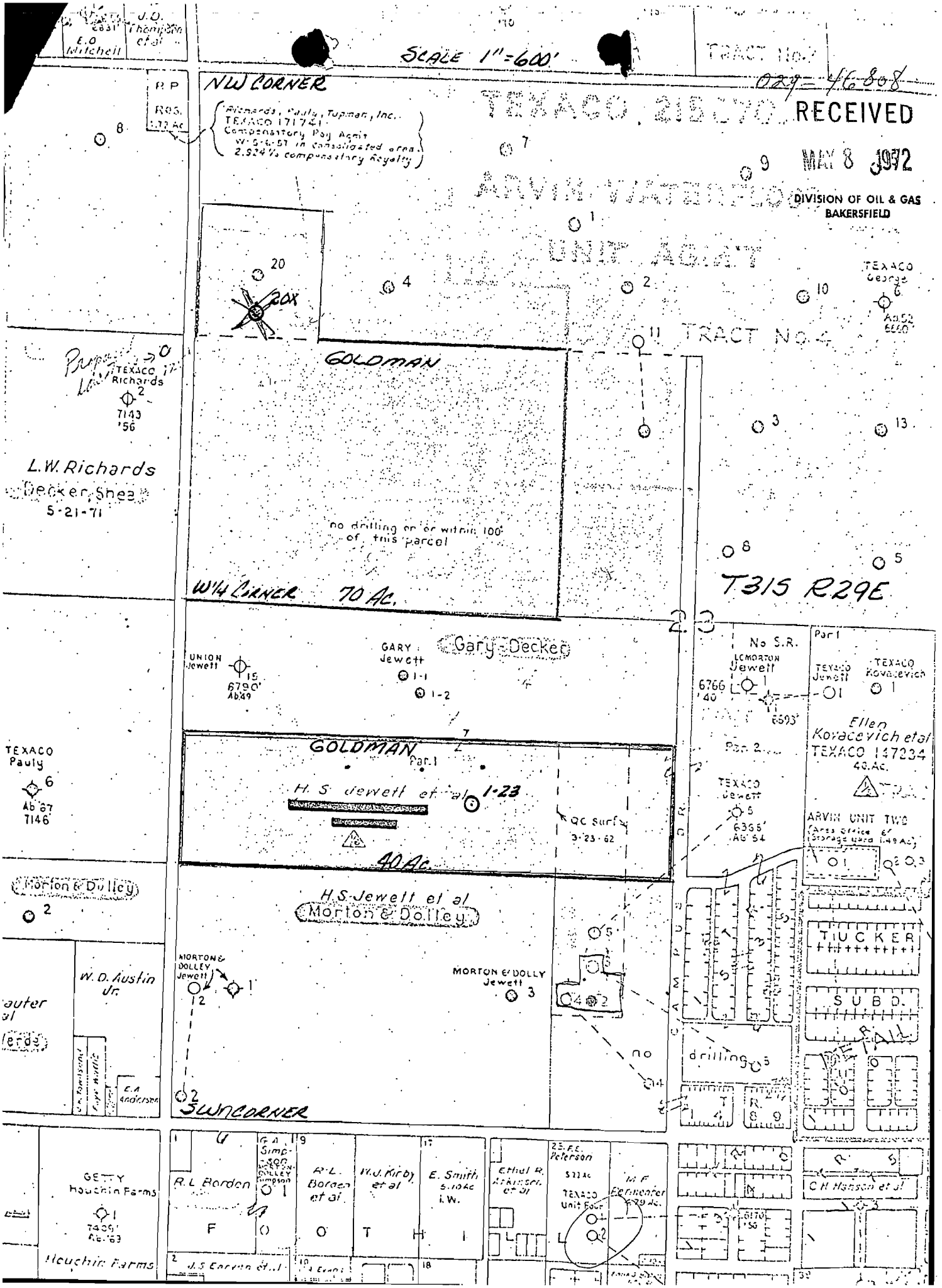
Telephone Number 325-5746

MONTARA PETROLEUM COMPANY
(Name of Operator)

By James L. O'Neill
James L. O'Neill

Type of Organization ____
(Corporation, ~~Partnership, Individual~~)

Δ OSP


SCALE 1"=600'
TRACT No. 029-46808
NW CORNER
TEXACO, 21B CYO
RECEIVED
MAY 8 1972
DIVISION OF OIL & GAS
BAKERSFIELD
ARVIN-WATERFLOOD UNIT AGMT
TRACT No. 4
GOLDMAN
W1/4 CORNER 70 Ac.
T31S R29E
L.W. Richards
Decker, Shea
5-21-71
no drilling on or within 100' of this parcel
Gary-Decker
GOLDMAN Par 1
H. S Jewett et al 1-23
40 Ac.
H.S. Jewett et al
Morton & Dolley
SW CORNER
TEXACO Pauly
Ab 87
7146
Morton & Dolley
W. D. Austin Jr.
GETTY
Houchin Farms
7409'
Ab 63
Houchin Farms
R. L. Borden
R. L. Borden et al
W. J. Kirby et al
E. Smith
5.104c
I.W.
Ellen Kovacevich et al
TEXACO 147234
40 Ac.
ARVIN UNIT TWO
TUCKER
SUBD.
drilling
no
FAIL
C H Hanson et al

Appendix C

Aerial Photographs



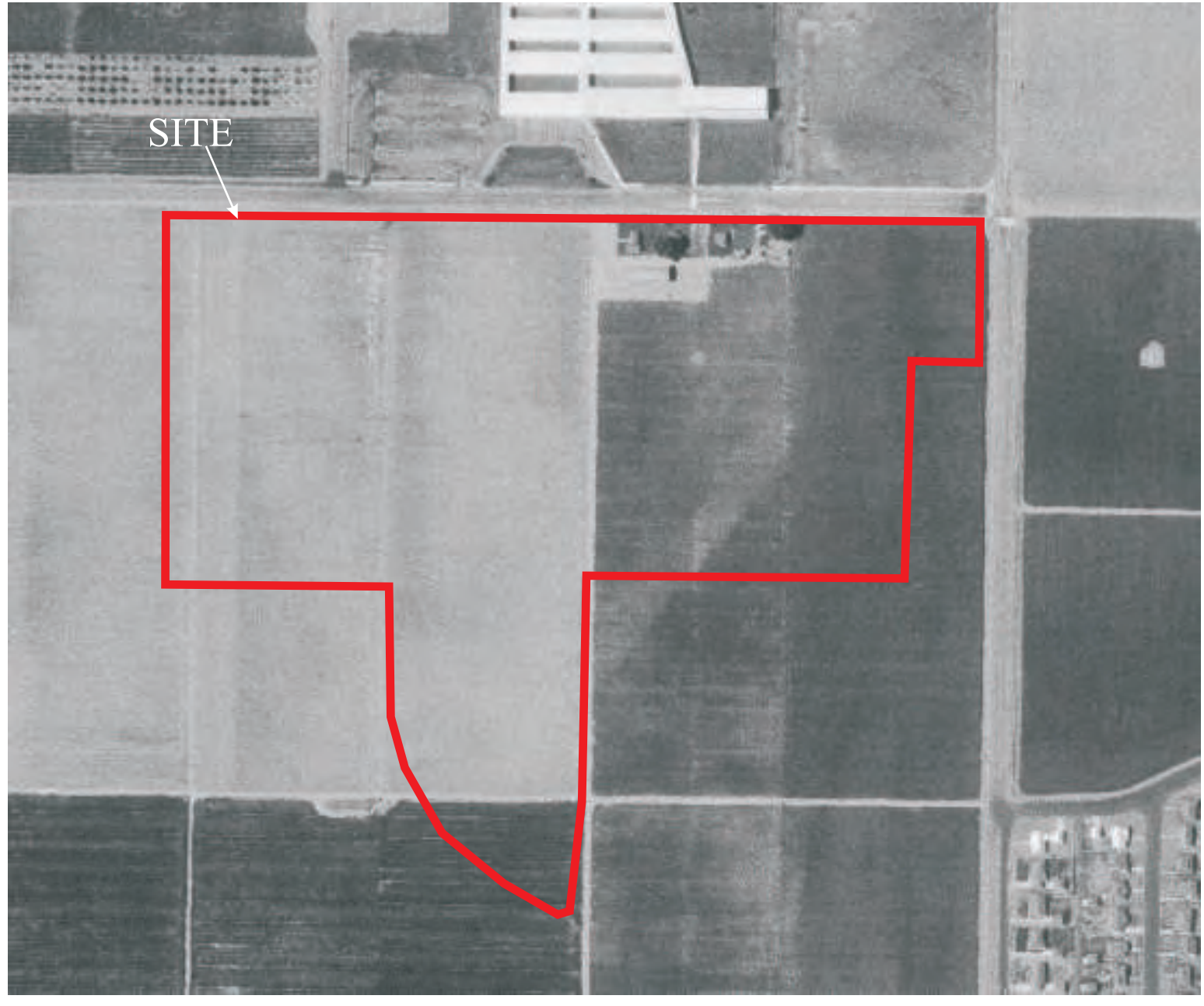
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1937
Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1942
Aerial



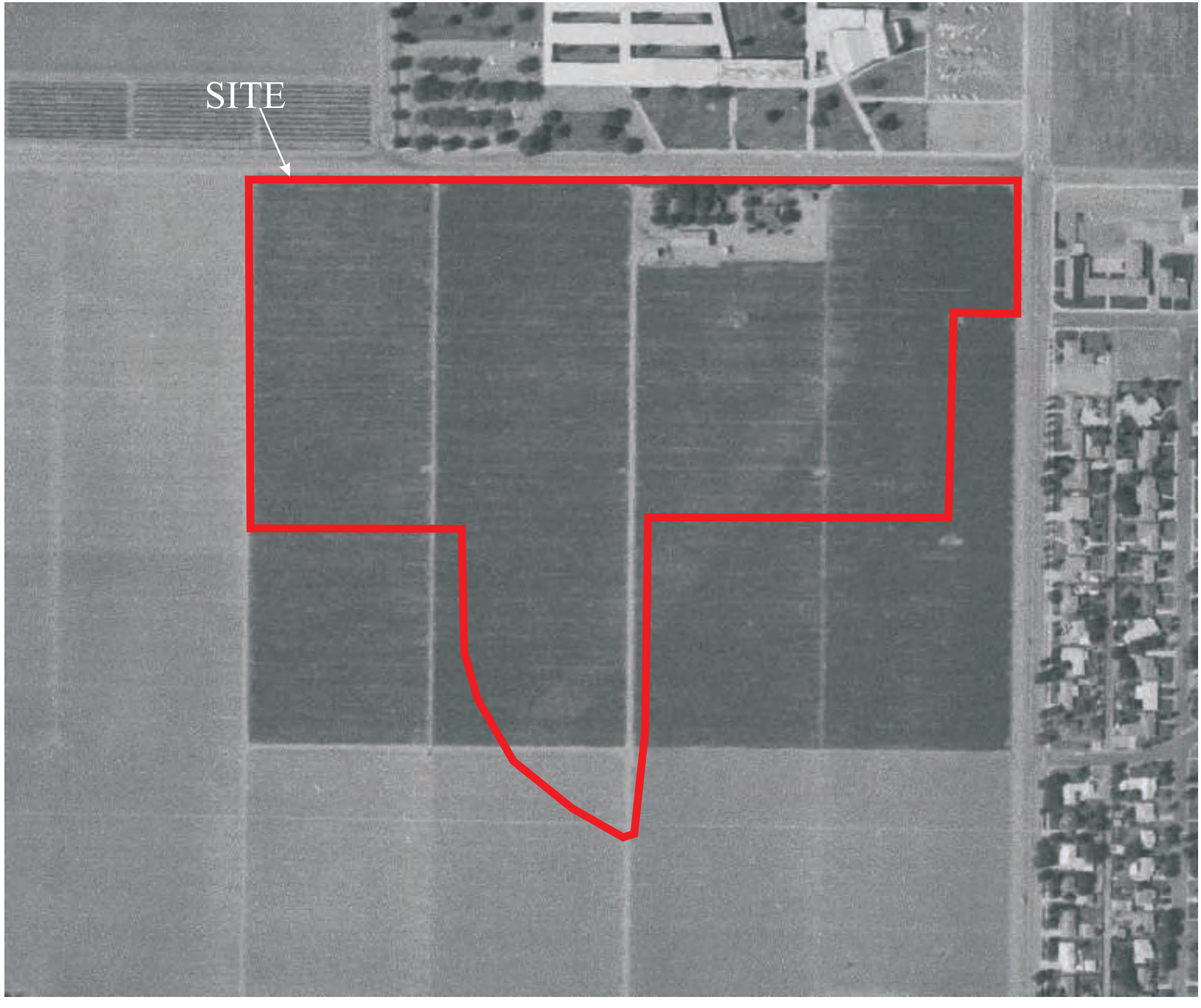
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1952
Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1956
Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1968
Aerial



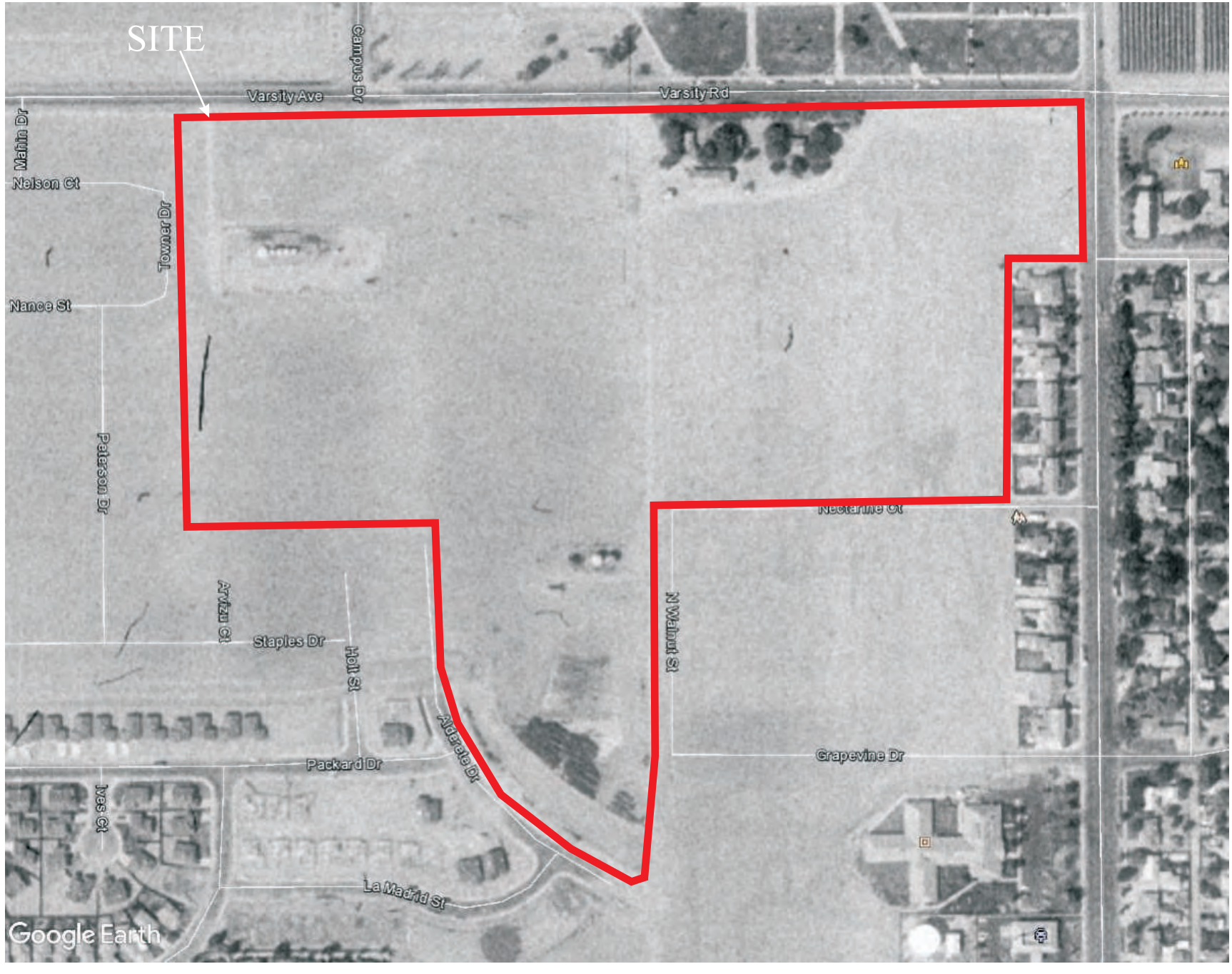
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1973
Aerial



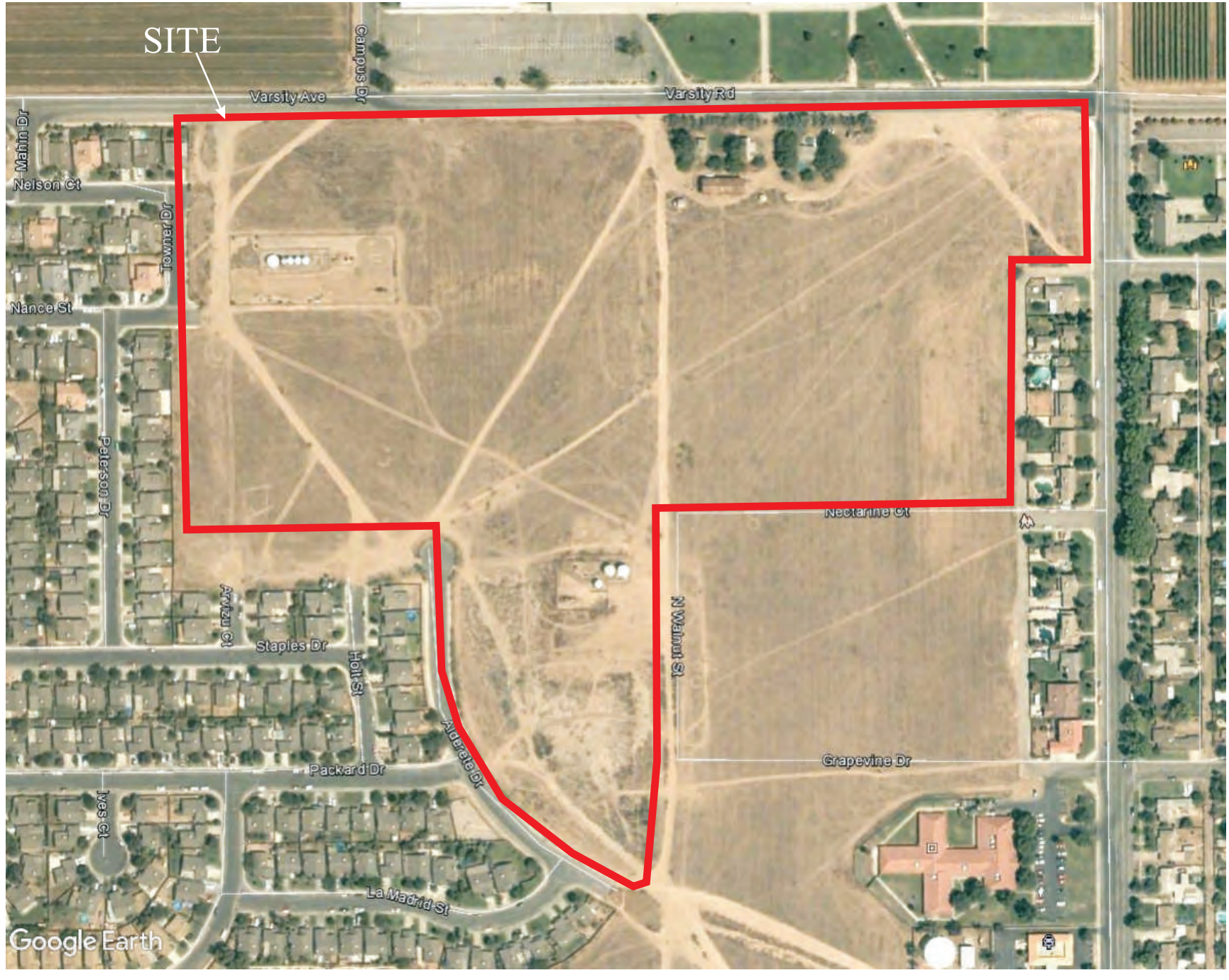
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1984
Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

1992 Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

2002 Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

2006 Aerial



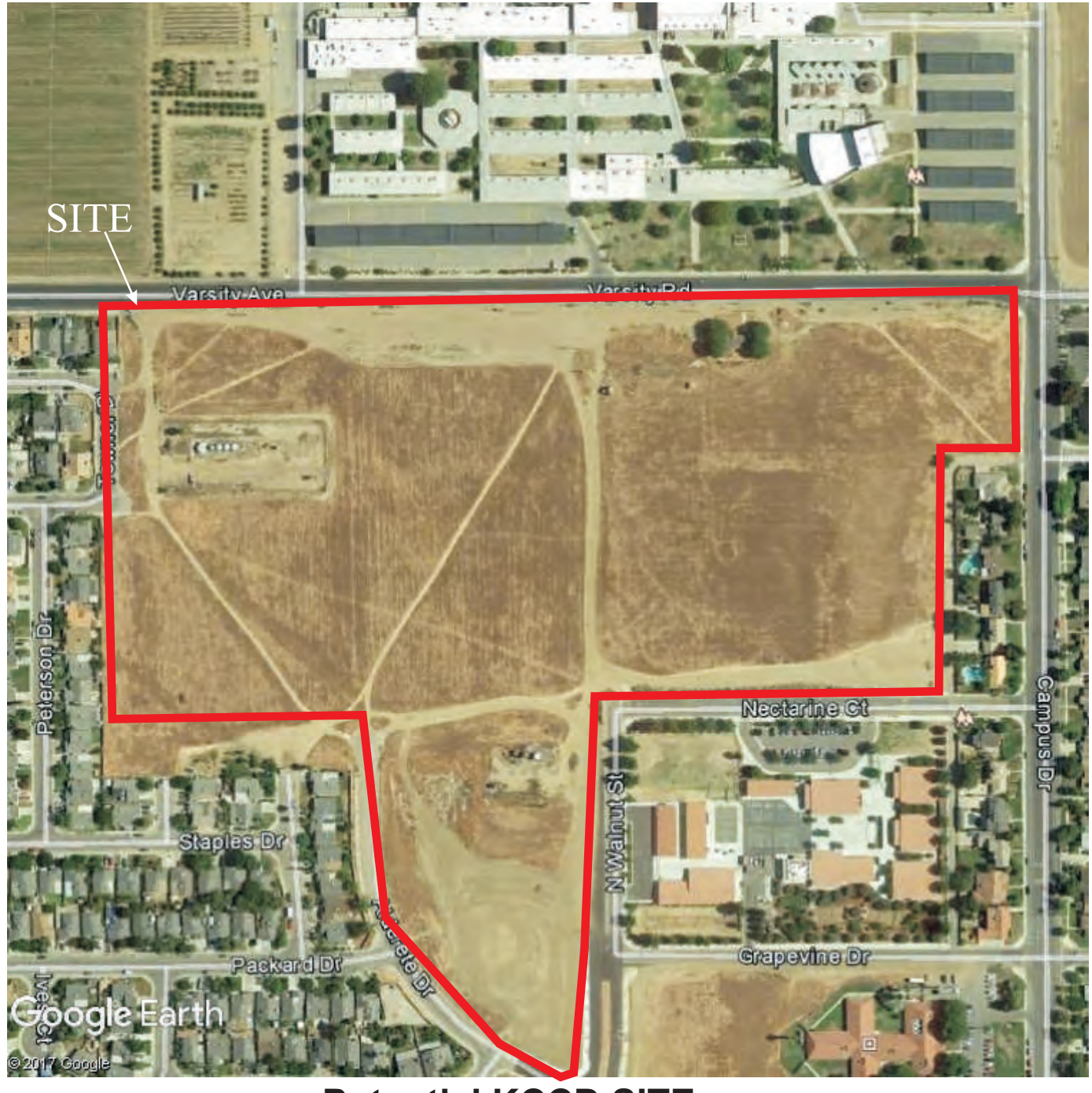
Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

2009 Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

2012 Aerial



Potential KCCD SITE
SW of Varsity Ave. & Campus Drive, Arvin, CA

2017
Aerial

Appendix D

QA/QC Sheets

QA/QC - FORM D-1
Inspection List & Specific Issues

Y/N	Issue	Y/N	Issue
Y	Above Ground Storage Tank(s)	Y	Underground Storage Tanks (suspected)
N	Clarifiers	N	Fill (Earth Berms)
N	Vent Pipes (irrigation lines)	N	Fuel Islands (former)
N	Drums	N	Other Containers
Y	Surface Staining (water well area)	N	Solid Waste Disposal
N	Sump (Drilling)	N	Pits or Lagoons
N	Ponds	Y	Pesticide & Herbicide Use (Historical Agricultural)
Y	Stockpiled Soils	N	Distressed Vegetation
Y	Oil or Gas Wells	N	Monitoring Wells
Y	Water Well (2)	N	Dry Wells- Oil Exploration
N	Electrical Transformers w/ PCB's	N	Chemical Process
N	Waste Treatment	N	Hazardous Waste Discharge
Pos	Septic Systems	N	Waste Water Discharge
N	Dry Cleaners	N	Repair or Servicing Facilities
N	Photo Processing (Walgreens)	N	Manufacturing
N	Distribution Warehouse	Pos	Asbestos Containing Materials
N	High Radon Levels (See Geocheck Version2.1	Y	Suspect Lead Containing Paint
N	Lead in Water	N	Others
N	Is/was heating fuel provided by on-site storage fuel oil?		
N	On-site use, disposal, treatment, storage, or emission, of significant quantities of hazardous materials or wastes.		
Y	Evidence of any on-site release of hazardous materials which could impact the subject site?		
N	Evidence of any off-site release of hazardous materials which could impact the subject site?		

QA/QC - FORM D-2
Historical Research

Source/Year	2017	2016	2012	2009	2006	2002	1992	1984	1981	1973	1968	1956	1952	1942	1937
Title Search	X														
Aerial Photos	X	X	X	X	X	X	X	X		X	X	X	X	X	X
Building Department Permits	X	X	X	X	X	X	X	X	X	X	X	X	X		
Building Department Plans															
Planning Department Records															
Fire Insurance Maps															
Oil and Gas Maps	X														
Fire Department Records															
UST Permits and Registrations	X	X	X	X	X	X	X	X	X						
Street Directories	X	X	X	X	X	X	X	X	X	X	X	X	X		
Observation	X														
Personal knowledge (2017)	X														
Others:															
Personnel Interviews (2017)	X														

QA/QC FORM D-3 AERIAL PHOTOGRAPH REVIEW		
Concern	On-Site	Off-Site
Improvements	Agricultural Land, Irrigation Pond, Water Wells, Houses, Former Structures & Tank Settings, Oil Wells	Vacant Land, Agricultural Land, Schools, Residential, Oil Wells
USE - Note evidence of:		
Above Ground Storage Tanks	Y	N
Fuel Islands	N	N
Drums	N	N
Agricultural Land	Y	Y
Surface Staining	N	N
Solid Waste Disposal/Land Fill	N	N
Pits, Ponds, Lagoons (Canal)	N	N
Stockpiled Soils	Y	N
Distressed Vegetation	N	N
Wells (Oil)	Y	Y
Repair or Servicing Facilities	N	N
Industrial/Manufacturing	N	N
Warehouse, former structures	Y	N
Gas Station	N	N
Others:	N	N
Note: Not found where left blank		

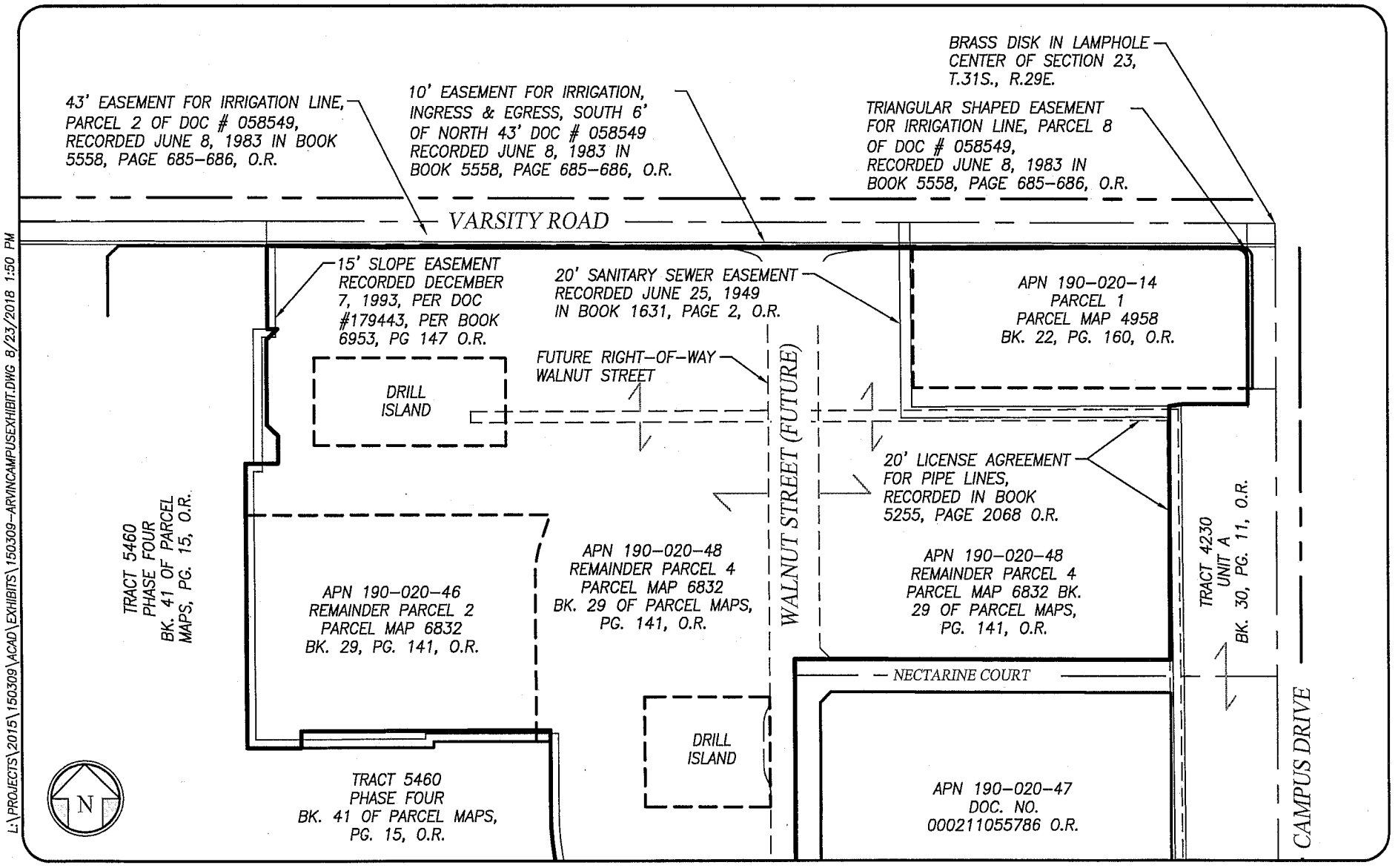
QA/QC - FORM D-4
Exception Items

Areas Not Available and Restrictions on Accessibility to Environmental. Data		Status of Documents and Agency Reviews	
Areas	**Restrictions**	**List of Documents Requested**	**Status of Availability**
None	None	Environmental Questionnaire & Disclosure Statement	Not Returned by Date of Report

PTR#	Exception	Purpose	Granted To:	Recording Date:	Recording	Book,Page
14	Approval	Resolution	**Resolution No.83-10; Approving Cooperation Agreement with Jewett Square Development Company; Assessment District No. 1983-1. Executor: City of Arvin**	November 9,1983	Doc # 051285 O.R.	bk5604,pg1600
20	Certificate of Compliance	LLA 93-0	**Executor: City of Arvin**	January 28,1994	Doc # 015600 O.R.	bk6981,pg36
6	Easement	Sanitary	**Granted To: Arvin County Sanitation District**	June 25,1949	Doc # 22922 O.R.	bk1631, pg2
8	Easement	Public Highway	**Granted To: City of Arvin**	October 20, 1977	Doc # 38869 O.R.	bk5063,pg2419
			Rerecorded	January 5,1978	Doc # 1223 O.R.	bk5080,pg1093
9	Easement	Public Highway	**Granted To: City of Arvin**	Aprll 19, 1979	Doc # 038364 O.R.	bk5191,pg983
16	Easement	Slope	**Granted To: City of Arvin**	February 7,1992	Doc # 016803 O.R.	bk6628,pg1733
18	Easement	Slope	**Granted To: Freedom Homes Real Estate III**	December 7,1993	Doc # 179443 O.R.	bk6953,pg147
21	Easement	Temporay Flowage Easement	**Granted To: City of Arvin**	February 17,1994	Doc # 026533 O.R.	bk6990,pg1777
26	Easement	Pipeline/Utility	**Granted To: Sun Mountain Oil and Gas and Warren Treacher its sucessors and assigns.**	August 15,2011	Doc # 0211103213 O.R.	
	Cert of Acceptance		**Executor: Sun Mountain Oil and Gas and Warren Treacher**	August 15,2011	Doc # 0211103227 O.R.	
7	Lease	Oil and Gas	**Lessor: Hugh S. Jewett and Florence B. Jewett, Harold L. Pomeroy and Kathryn Bousfield Pomeroy**	January 5,1970	Doc # 00412 O.R.	bk4352,pg564
			Lessee: Jack M. Decker and Dennis Shea			
	Surface Use	Memorandum	**Executor: D&Y Company & Arvin Capital Partner LTD.**	October 16, 1991	Doc # 133405 O.R.	bk6581,pg0801
	Surface Use	Memorandum	**Executor: D&Y Company & Arvin Capital Partner LTD.**	November 11,1991	Doc # 149168 O.R.	bk6592,pg1977
	Surface Use	Memorandum	**Executor: Arvin Capital Partner LTD.**	November 5, 1998	Doc # 0198153623 O.R.	
15	Lease	Oil and Gas	**Lessor: Doris A. Burr**	September 23, 1987	Doc # 037275 O.R.	bk6050,pg2008
			Lessee: St. Regis Resources Corporation			
22	Lease	Oil and Gas	**Lessor: Various**	November 11,2008	Doc # 0208176480 O.R.	
			Lessee: Sun Mountain Oil and Gas		Doc # 0208176481 O.R.	
					Doc # 0208176482 O.R.	
					Doc # 0208176483 O.R.	
					Doc # 0208176484 O.R.	
					Doc # 0208176485 O.R.	
					Doc # 0208176486 O.R.	
					Doc # 0208176487 O.R.	
					Doc # 0208176488 O.R.	
23	Lease	Oil and Gas	**Lessor: Laurie A Bollinger Treacher aks Laurie A. Merryman**	November 14, 2008	Doc # 0208178491 O.R.	
			Lessee: Sun Mountain Oil and Gas			
24	Lease	Oil and Gas	**Lessor: Bethmyrl Burr Rose**	November 24,2008	Doc # 0208182413 O.R.	
			Lessee: Sun Mountain Oil and Gas			
11	License Agreement	Pipeline	**Executor: Hugh S. Jewett and Florence B. Jewett, Harold L. Poweroy and Kathryn B. Pomeroy as Owner; and Gary Drilling Company as Licensee**	January 3,1980	Doc # 000892 O.R.	bk5255,pg2068
	License Agreement	Memorandum	**Assignor: Gary Drilling Company**	April 10, 1986	Doc # 038837 O.R.	bk5861,pg1256
			Assignee: Jack M. Decker, Pairie A. Decker and Sherwin D. Yoelin			
3	Lien	Supplemental				
10	Parcel	Parcel Map		May 11,1979	PM-4958	Bk22,pg160 of Parcel Maps
19	Parcel	Parcel Map		December 10,1992	PM-9904	bk44,pg170 of Parcel Maps
12	Reference	Reference	**Recites Approximate Location of Buttes Oil Co. 2" GAS 4' Deep and Approximated Location of Southern California Gas Company Gas Service Line.**	June 16, 1983	PM-6832	bk29,pg141 of Parcel Maps
5	Rights	Public				
13	Rights	Mineral	**Quitclaim Deed**	August 16, 1983	Doc # 018110 O.R.	bk5580,pg102
17	Rights	Mineral	**Quitclaim Deed**	February 27,1992	Doc # 026863 O.R.	bk6637,pg0108
25	Survey	Record of Survey		July 7,2011	RS-3183	bk27,pg64 of Record of Surveys
1	Taxes	Property				
2	Taxes	Levied				
4	Taxes		**Granted To: Arvin-Edison Water District**			

Reduce # of easements
Need an EIR
Need MOU

Land is owned.



L:\PROJECTS\2015\150309\ACAD\EXHIBITS\150309–ARVINCAMPUSEXHIBIT.DWG 8/23/2018 1:50 PM

PROJECT NO.:	150309
DRAWN BY:	TC
QA/QC BY:	BW
SCALE:	1" = 250'
SHEET NO.:	1 OF 1

EASEMENT EXHIBIT

K.C.C.D. PROPERTY
CITY OF ARVIN, CA

5080 CALIFORNIA AVE., STE. 220 TEL: (661) 616–2600
BAKERSFIELD, CA 93309 WWW.QKINC.COM

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Please Fill Out & Return To: SEI at 4400 Yeager Way, Bakersfield, CA 93313 Attn: Bob Becker
Or Fax: 661-831-2111

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT - USER QUESTIONNAIRE

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *"Brownfields Amendments"),* the *user* must provide the following information (if available) to the *environmental professional.* Failure to provide this information could result in a determination that *"all appropriate inquiry"* is not complete.

(1.) Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? No

(2.) Are you aware of any activity and land use limitations (AULs), such as *engineering controls,* land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? No

(3.) As the *user* of this Environmental Site Assessment (*ESA)* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? No

(4.) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property?* If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

No, the City of Arvin is donating this land so a College Educational Center can be constructed in this town.

(5.) Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *user,*
(a.) Do you know the past uses of the *property? No*

(b.) Do you know of specific chemicals that are present or once were present at the *property? Oil*

(c.) Do you know of spills or other chemical releases that have taken place at the *property? No*

(d.) Do you know of any environmental cleanups that have taken place at the *property? No*

(6.) As the *user* of this *ESA,* based on your knowledge and experience related to the *property* are

there any *obvious* indicators that point to the presence or likely presence of contamination at the *property? Yes, active oil wells.*

In addition, certain information should be collected, if available, and provided to the *environmental professional*. This information is intended to assist the *environmental professional* but is not necessarily required to qualify for one of the *LLPs.* The information includes:

(a) the reason why the Phase I is required, Kern CCD wants to know if there are any environmental risks prior to taking ownership.

(b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc., Donation. Land to be used for educational purposes.

(c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful), Unimproved property south of Varsity Ave and west of Campus drive in Arvin, CA. APN's 190-020-46 & 48 and 190-020-14.

(d) the scope of services desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered), Standard Phase 1 assessment scope of services.

(e) identification of all parties who will rely on the Phase I *report,* Kern Community College District and its architects.

(f) identification of the site contact and how the contact can be reached, Eric Mittlestead 661-336-5095

(g) any special terms and conditions which must be agreed upon by the *environmental professional,* and No

(h) any other knowledge or experience with the *property* that may be pertinent to the *environmental professional* (for example, copies of any available prior *environmental site assessment reports,* documents, correspondence, etc., concerning the *property* and its environmental condition. No

Site Name: Arvin Educational Center

Eric Mittlestead

Signature of User

Date 12-18-17

BSK ASSOCIATES
550 West Locust Avenue
Fresno CA 93650
P 559.497.2880
F 559.497.2886
www.bskassociates.com

Sent via email: Jaymie.Brauer@qkinc.com

October 24, 2019

BSK Project E19-041-01F

Ms. Jaymie L. Brauer, Principal Planner/Project Manager
Quad Knopf, Inc., dba QK
5080 California Avenue, Suite 220
Bakersfield, California 93309

SUBJECT: **Final Limited Soil Investigation Workplan**
Proposed Arvin Educational Center Project
Kern Community College District
Kern County Assessor's Parcel Numbers 190-020-14, 190-020-46, and 190-020-48
Arvin, California 93301

Dear Ms. Brauer:

BSK Associates (BSK) has prepared this Final Limited Soil Investigation Workplan for the proposed Kern Community College District (KCCD) site located southwest of Varsity Avenue and Campus Drive in Arvin, California (Site). This Workplan presents a technical approach and scope for a limited soils investigation to characterize impacts to Site soils from historical agricultural and petroleum production activities.

Thank you for the opportunity to submit this Workplan. We look forward to working with you on this project. Please call Ms. Lynne Baumgras at (559) 497-2880 if you have questions or require additional information or services.

Respectfully submitted,
BSK Associates

Kyle T. Wright
Staff Geologist II

Lynne M. Baumgras, Ph.D., PG, CHG, CEG, PMP
Environmental Group Manager
PG 6023, CHG 1054, CEG 2004

KTW/LMB/cc

FINAL LIMITED SOIL INVESTIGATION WORKPLAN
PROPOSED ARVIN EDUCATIONAL CENTER PROJECT
KERN COMMUNITY COLLEGE DISTRICT
KERN COUNTY ASSESSOR'S PARCEL NUMBERS
190-020-14, 190-020-46, AND 190-020-48

BSK PROJECT E19-041-01F

PREPARED FOR:

QUAD KNOPF, INC., DBA QK
5080 CALIFORNIA AVENUE, SUITE 220
BAKERSFIELD, CALIFORNIA 93309

OCTOBER 24, 2019

FINAL LIMITED SOIL INVESTIGATION WORKPLAN
PROPOSED ARVIN EDUCATIONAL CENTER PROJECT
KERN COMMUNITY COLLEGE DISTRICT
KERN COUNTY ASSESSOR'S PARCEL NUMBERS
190-020-14, 190-020-46, AND 190-020-48

Prepared for:

Ms. Jaymie L. Brauer, Principal Planner / Project Manager
Quad Knopf, Inc., dba QK
5080 California Avenue, Suite 220
Bakersfield, California 93309

BSK Project: E19-041-01F

October 24, 2019

Prepared by:

Kyle T. Wright
Staff Geologist II

PROFESSIONAL GEOLOGIST
LYNNE M. BAUMGRAS
No. 6023
STATE OF CALIFORNIA

Lynne M. Baumgras, Ph.D., PG, CHG, CEG, PMP
Environmental Group Manager
PG 6023, CHG 1054, CEG 2004

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FIGURES

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Figure 2 Site Plan
Figure 3 Proposed Shallow Soil Sample Locations - House
Figure 4 Proposed Shallow Soil Sample Locations – Former Structures
Figure 5 Proposed Soil Boring Locations

1. INTRODUCTION

Kern Community College District (KCCD) is currently proposing the construction of a new 27,000 square foot General Educational Center in the City of Arvin. The proposed campus is located southwest of the intersection of Varsity Avenue and Campus Drive in Arvin, Kern County, California (Site). **Figure 1** is a Vicinity Map.

An Enhanced Phase 1 Environmental Site Assessment for the Site was conducted in 2017 by Soils Engineering Inc. (SEI). SEI's report is entitled *Enhanced Phase I Environmental Site Assessment Report, for Potential KCCD Campus Southwest of Varsity Avenue and Campus Drive Arvin, Kern County, California APNs: 190-020-14, -46 & -48* (SEI Report) and is dated December 19, 2017. The SEI Report was performed to assess for the presence of existing or potential Recognized Environmental Conditions (RECs) in connection with the Site, as defined by the American Society for Testing Materials (ASTM) Designation E 1527-13 – Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. In addition to the standard scope of activities included in a Phase I ESA investigation, SEI's 2017 Enhanced Phase 1 ESA included several rounds of soil sample collection and chemical analysis. RECs identified included isolated elevated concentrations of lead and arsenic, legacy pesticide residues, and petroleum hydrocarbons in shallow soils as well as a suspected underground storage tank (UST) located next to a shed.

This Workplan has been developed to address the collection additional data beyond the scope that was included in SEI's Enhanced Phase I ESA. This Workplan provides a proposed technical approach to conduct a limited soil investigation to further assess impacts to surficial and subsurface soils from historical agriculture and petroleum production operations at the Site. Removal of the suspected UST is not addressed in this Workplan.

Section 2 describes the Site. **Section 3** summarizes SEI's findings and conclusions. **Section 4** describes the Workplan technical approach. **Section 5** identifies elements to be included in a Limited Soil Investigation Report. **Section 6** discusses the applicability and limitations of the Workplan. **Section 7** provides references.

2. SITE DESCRIPTION

The proposed college campus is located southwest of the intersection of Varsity Avenue and Campus Drive in Arvin, Kern County, California and includes three contiguous Assessor's Parcel Numbers (APNs): 190-020-14, -46 and -48, north of the alignment of Nectarine Court (**Figure 1**). The Site lies within Section 23, Township 31 South, Range 29 East, Mount Diablo Base and Meridian (MDB&M) with approximate geographic coordinates of the Site are 35° 12' 54.65'' N, 118° 50' 11.15''W. The Site is flat with an approximate elevation of 455 feet (ft) above mean sea level (amsl) and a gentle slope to the south-southwest.

The Site currently consists of idle land occupied by a vacant house, two sheds, and two water wells. An oil production facility consisting of three oil wells, five aboveground storage tanks (ASTs), and a pump jack are located at the western end of the Site. Two (2) former houses and a warehouse reportedly existed at the northeastern portion of the Site between the 1940s and 2014. The Site was used for agriculture between the 1930s and the 1980s. **Figure 2** is a Site Plan.

3. SUMMARY OF ENHANCED PHASE I ESA FINDINGS

A complete description of the SEI's findings and conclusions can be found in the Enhanced Phase I ESA Report (SEI, 2017). The following is a summary of SEI's Enhanced Phase I ESA findings and conclusions:

- Agricultural use of the Site occurred between at least the 1930s to the 1980s,
- Structures on the Site include both current and former buildings, with structures observed in aerial photographs dating back to the 1940s.
- An oil production area on the west end of the property includes three (3) oil wells and five (5) ASTs. Petroleum-stained soil was observed in the oil production area during the Enhanced Phase I ESA. SEI excavated several shallow trenches in the oil production area to depths of approximately 7 ft below ground surface (bgs). No elevated concentrations of the constituents of concern (COCs) were detected in the trenches.
- Elevated concentrations of COCs, including organochlorine pesticides (OCPs), arsenic, lead, and Total Petroleum Hydrocarbons (TPH), Dichlorodiphenyltrichloroethane (4,4-DDT), chlordane, and dieldrin, were detected in shallow soils around the vacant house and areas of the former structures.

- Soil borings drilled during SEI's investigation reportedly indicated that soils to a depth of approximately 15 ft bgs were observed to consist of interbedded silty sands, sandy silts, and sand. Groundwater reportedly occurs in the Site vicinity at a depth of approximately 340 ft bgs. SEI reported that the Site lies west of a northwest-to-southeast trending groundwater ridge. The localized groundwater flow direction at the Site is to the southwest.
- SEI conducted a Vapor Encroachment Screen (VES) for the Site and surrounding properties, which included a soil gas survey at six on-site locations (see Enhanced Phase I ESA Report (SEI, 2017) for more detail). Soil samples from the soil gas survey borings were analyzed for: TPH; California Assessment Manual List of 17 metals (CAM-17 metals); benzene, toluene, ethylbenzene, and xylenes (BTEX); and pH. No reportable concentrations of petroleum hydrocarbon vapors, methane, or hydrogen sulfide (H_2S) were detected in any of the soil vapor samples.
- A suspected UST, with an estimated capacity of 3,000 gallons, was identified adjacent to the small shed located southwest of a house located on the Site. Laboratory analysis of a soil sample collected at the east end of the suspected UST a depth of 6 ft bgs did not indicate that the soil had been impacted by a release. SEI recommended that the UST be removed in accordance with Kern County Environmental Health Department regulations.
- Areas at the Site that need further environmental assessment include: (1) surficial soils in the area of the house and former structures that are impacted by residual agricultural chemicals, petroleum hydrocarbons, and heavy metals; and (2) locations in the oil production area that were not assessed for potential semivolatile organic compounds in subsurface soils.
- SEI concluded that soil removal activities are required in areas of elevated COCs.

4. PROPOSED SCOPE OF WORK

Based on the Enhanced Phase I ESA findings, additional investigation activities are needed to further characterize impacts to soils at the following locations:

- Areas surrounding current and former structures and at other locations where elevated concentrations of pesticides, metals, and TPH were reported in shallow soil samples; and
- Oil production area, where stained surficial soils were observed.

As stated in Section 1, removal of the suspected UST is not addressed in this Workplan. The suspected UST will be closed as a separate effort.

Proposed investigative activities are described in **Sections 4.1 and 4.2**. **Section 5** describes the proposed technical approach.

4.1. Surficial Soils Near Current and Former Structures

Soil samples will be collected by an experienced Staff Geologist or Engineer under the direction of a California Professional Geologist (PG) or Professional Engineer (PE), licensed in the State of California. Shallow soil samples will be collected using a hand auger at the locations shown on **Figures 3 and 4**. **Section 5.3** describes the proposed sample collection methods.

Soil samples will be chemically analyzed for the following COCs:

- OCPs by EPA Method 8081A
- Organophosphorous pesticides by GC-NPD
- Total lead by EPA Method 6020
- Total arsenic by EPA Method 6020

4.2. Oil Production Area

Five (5) soil borings will be advanced to anticipated depths of 25 ft bgs within the oil production area. Proposed test boring locations are shown in **Figure 5.** Drilling, lithologic logging, and subsurface soil sample collection will be performed by an experienced Staff Geologist or Engineer under the direction of a California-licensed PG or PE. Geographic coordinates of each soil boring location will be recorded using a global positioning system (GPS) instrumentation.

An anticipated two (2) subsurface soil samples from each of the five borings (10 subsurface soil samples) will be analyzed for the following COCs:

- Volatile organic compounds (VOCs), Standard List, by EPA 8260B
- Semivolatile organic compounds (SVOCs) EPA 8270C
- CAM-17 metals
- TPH-Crude Oil by EPA 8015 B

Should visual or olfactory observations, or photoionization detector (PID) readings indicate that there are potential petroleum hydrocarbon impacts to subsurface soils, the soil borings may be extended to depths greater than 25 ft bgs and additional samples may be collected.

Proposed test boring drilling methodology is described in **Section 5.4.** Proposed subsurface soil sampling methodology is described in **Section 5.5**.

5. TECHNICAL APPROACH

Sections 5.1 through 5.7 describe proposed investigation activities.

5.1. Pre-Field Activities

Prior to drilling, the following pre-field activities will be completed:

- Health and Safety Plan: A Site-Specific Site Health and Safety Plan will be prepared prior to Site investigation activities.
- Underground Utility Clearance: BSK will travel to the Site to mark the extent of the work area and proposed boring locations with white paint for submittal of an Underground Services Alert (USA) ticket to USA North at least 48 hours prior to drilling activities. The property owner will be responsible for marking any known private utilities or infrastructure at the Site. A private utility locator service will be retained to survey the proposed drilling locations for the potential presence of buried utilities or other metallic subsurface objects.
- Kern County Monitoring Well Permits: If needed, monitoring well permits will be obtained from the Kern County Public Health Services Department (KCPHSD) prior to drilling to any depths greater than 50 ft bgs.

5.2. Personal Protective Equipment

Level D personal protective equipment (PPE) will be used. If subsurface contamination is encountered during drilling, work will be temporarily stopped in order to discuss the findings and, if necessary, develop a revised approach incorporating a PPE upgrade.

5.3. Shallow Soil Sample Collection

GPS coordinates of each sample location will be recorded for mapping of the sample locations. Soil samples will be collected from each location at depths of 0.0 to 0.5 ft, 2.5 to 3.0 ft, and 4.5 to 5.0 ft bgs. Retrieved samples will be placed into 500 milliliter (mL) glass jars. Sampling equipment will be washed using a solution of Liquinox detergent and potable water, and then rinsed between sample locations.

Samples will be labeled and stored on-Site in a cooler chilled with ice prior to transport to the analytical laboratory. Samples will be transported under Chain-of-Custody (COC) protocol to BSK Analytical Laboratories, which is a State of California Environmental Laboratory Accreditation Program (CELAP) certified laboratory. Samples collected at the 0 to 6 inches depth interval will be submitted for analysis to assess for potential agricultural chemical and petroleum hydrocarbon impacts to surficial soils. Soil samples collected from the lower depth intervals of 2.5 to 3.0 ft and 4.5 to 5.0 ft will be submitted to the

analytical laboratory and held by the laboratory pending any need for evaluation of deeper soils after receipt of the analytical results for samples collected at the 0.0 to 0.5 ft depth interval.

Hand-augered test holes will be backfilled with soil cuttings.

5.4. Subsurface Drilling and Geologic Logging

Soil borings will be advanced to the determined depths by a C-57 licensed drilling subcontractor. Test holes will be drilled using a Direct Push Technology (DPT) drilling rig. DPT generates minimal drill cuttings compared to hollow-stem auger drilling methods.

Subsurface soil samples will be collected continuously inside acetate core sleeves during advancement by the DPT drilling rig. Soil cores will be opened after retrieval for lithologic characterization. Lithologic characteristics of the soil will be logged in accordance with the Unified Soil Classification System (USCS). Lithologic logs will be recorded on a soil boring log. A PID will be used to screen the soil cores for VOCs during field activities. The following information will be generally recorded on the soil boring logs:

- Depth of boring
- PID reading
- USCS classification
- Color
- Moisture content
- Density
- Depth to groundwater, if encountered
- Indications of contamination, if any
- Other observations as needed

The acetate core sleeve will be cut into two (2) 6-inch sections at the desired sampling depth intervals and sealed on the ends with plastic caps for submittal to the laboratory. Soil cuttings from the borings will be containerized in 55-gallon drums for disposal.

After sampling, completed test holes will be sealed with cement grout. Asphalt will be patched with cold patch or cement.

5.5. Subsurface Soil Sample Collection for Analytical Testing

Subsurface samples selected for laboratory analysis will be packaged in the two (2) 6-inch sections of acetate core sleeves sealed with plastic end caps, as described in Section 4.3. Up to three (3) subsurface soil samples from each soil boring will be selected for laboratory analytical testing based on field observations and PID readings. Samples to be submitted for analytical testing will be labeled with the sample identification number, date and time of sample collection, initials of the sampling personnel, and the project job number. Samples will be placed into individual resealable plastic baggies and stored in a chilled cooler while on-Site and during transport to the laboratory. Samples will be transported to a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory following COC procedures.

5.6. Equipment Decontamination

Drilling equipment will be steam-cleaned between boring locations to mitigate the potential for sample cross-contamination. Steam-cleaning will be conducted over plastic sheeting or a metal tub and rinsate waters will be retained and transferred to a new 55-gallon drum. Soil sampling equipment will be cleaned between uses by a bucket wash system in a solution of laboratory-grade detergent, rinsed with clean water, and reassembled with clean sample liners to minimize the potential for spreading contaminants among samples. Liquinox® and a triple-rinse cleaning method will be used on smaller non-disposable sampling equipment. Rinsate (water and detergent) and steam cleaning fluids will be containerized for disposal. Equipment rinsate (water, detergent, cuttings) will be drummed and left on-Site.

5.7. Investigation-Derived Wastes

Investigation-derived wastes (IDW) will temporarily be stored on-Site in labeled, DOT-approved, 55-gallon drums. IDW includes soil cuttings, wastewater derived during decontamination of drilling and sampling equipment, and disposable PPE. After completion of sampling activities for the entire site, representative waste characterization samples will be collected from the 55-gallon drums containing IDW. Field-composited soil and water samples will be collected from staged IDW drums and will be submitted to the laboratory for waste profiling analysis. Drums containing IDW will be staged on-Site, pending the results of waste profile sample laboratory analytical results.

6. LIMITED SOIL INVESTIGATION REPORT

A Limited Soil Investigation Report (Report) will be prepared and will contain the following information:

- A description of the sampling activities
- Site maps showing the sampling/monitoring locations
- A summary table of analytical results
- A description of any deviations from the Work Plan and rationale, if necessary.
- Chain-of-Custody documentation
- Test boring logs
- Laboratory analytical reports
- Findings and comparison of analytical data with regulatory standards
- Conclusions and recommendations
- References

The Report will be signed and stamped by a California-licensed PG and/or PE who directed the investigation and/or prepared the Report. The Report will be submitted electronically in Portable Document Format (PDF).

7. LIMITATIONS AND APPLICABILITY

This Workplan has been prepared for the exclusive use of QK and KCCD for the specific project described herein. The Workplan has been prepared in accordance with generally accepted environmental engineering practices in California at the time the services were provided. No other warranty, either expressed or implied, is made as to the professional advice provided under the terms of our agreement with QK. This Workplan is intended as a guide in achieving subsurface assessment under the direction of BSK. It is not a specification and should not be used as such.

BSK's services will be performed in a manner consistent with the level of care and skill ordinarily exercised by other professionals practicing in the same locale and under similar circumstances at the time the work is performed. No warranty, either express or implied, is included.

8. REFERENCES

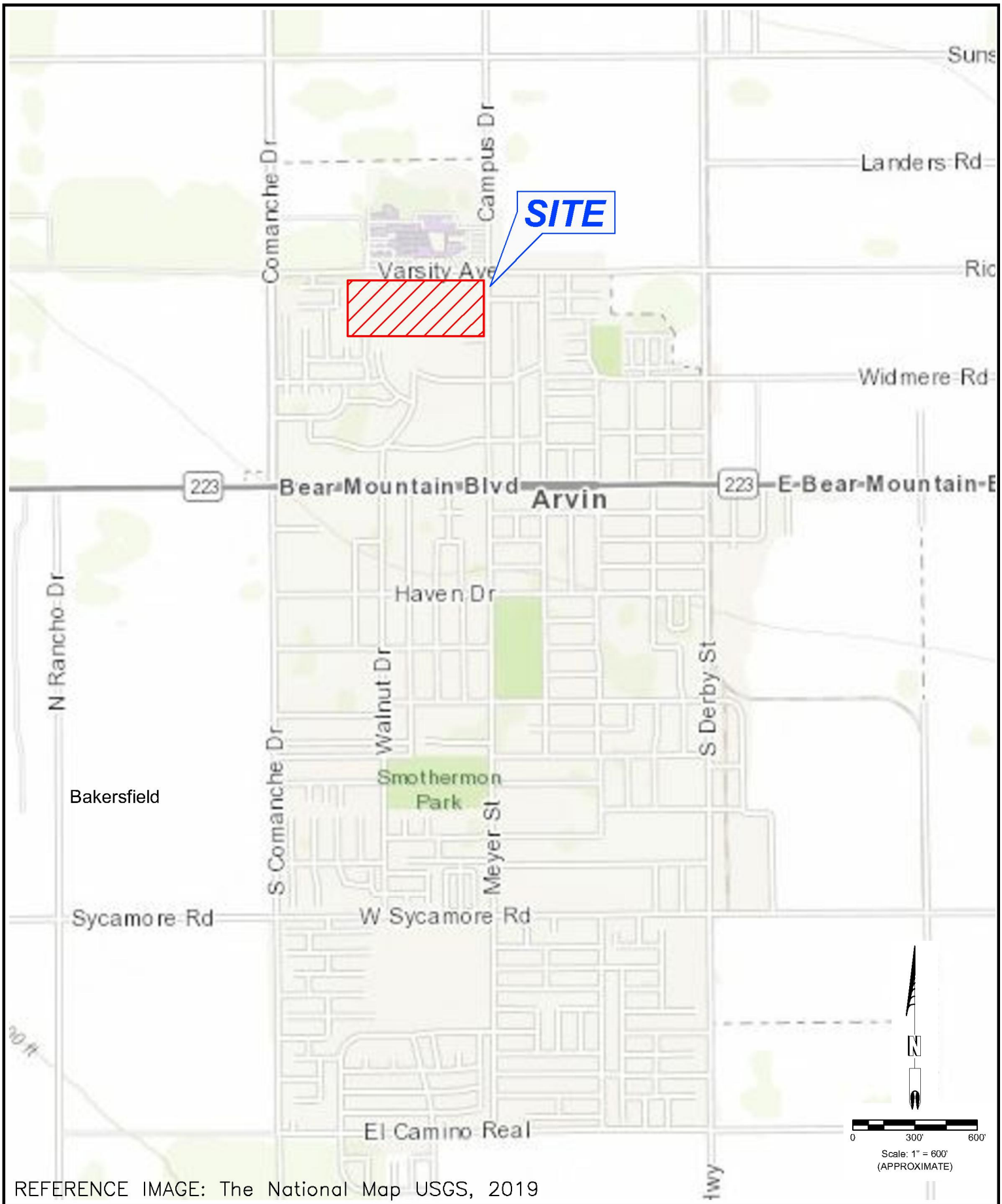
SEI, 2018. Enhanced Phase I Environmental Site Assessment Report, for Potential KCCD Campus Southwest of Varsity Avenue and Campus Drive Arvin, Kern County, California APNs: 190-020-14, -46 & -48.

American Society for Testing Materials (ASTM) Designation E 1527-13 – Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

California Department of Toxic Substance Control (DTSC), 2015. Active Soil Gas Advisory.

Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, 1996. The Kearney Foundation Special Report, Background Concentrations of Trace and Major Elements in California Soils. March 1996.

FIGURES



REFERENCE IMAGE: The National Map USGS, 2019

ESK ASSOCIATES
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Fresno, California 93650
Tel. (559) 497-2880

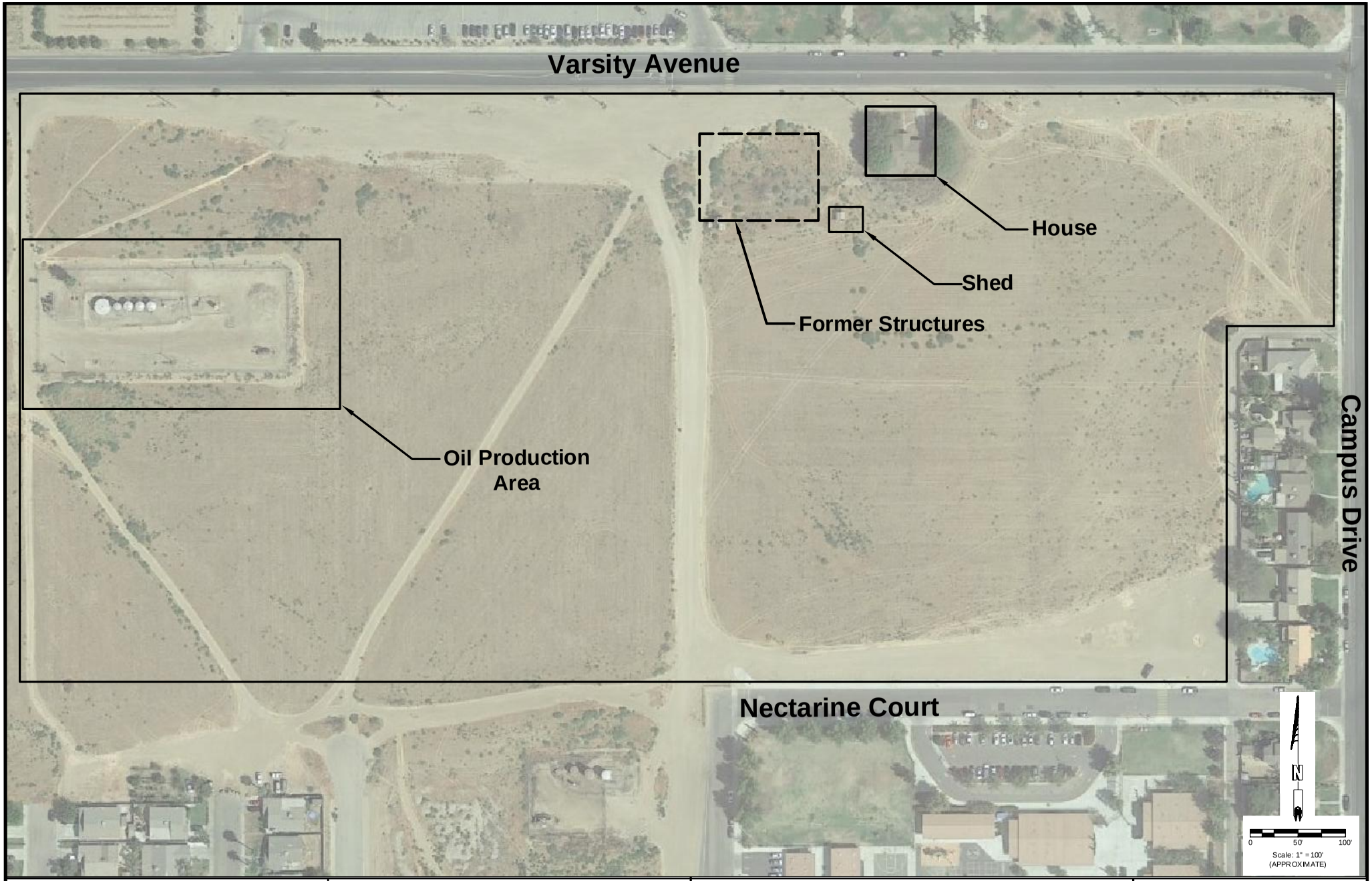
VICINITY MAP

Final Limited Soil Investigation Workplan
Kern Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 1

JOB NO. E19-041-01F
DATE October 21, 2019
DR. BY FG
CH. BY LMB
SCALE AS SHOWN
SHEET NO. 1 OF 1 SHEETS

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LEGEND:

——— Site Boundary

— — Approximate Area of Former Structures

REFERENCE IMAGE: Google Earth Pro, 2019

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Fresno, California 93650
Tel. (559) 497-2880

SITE PLAN

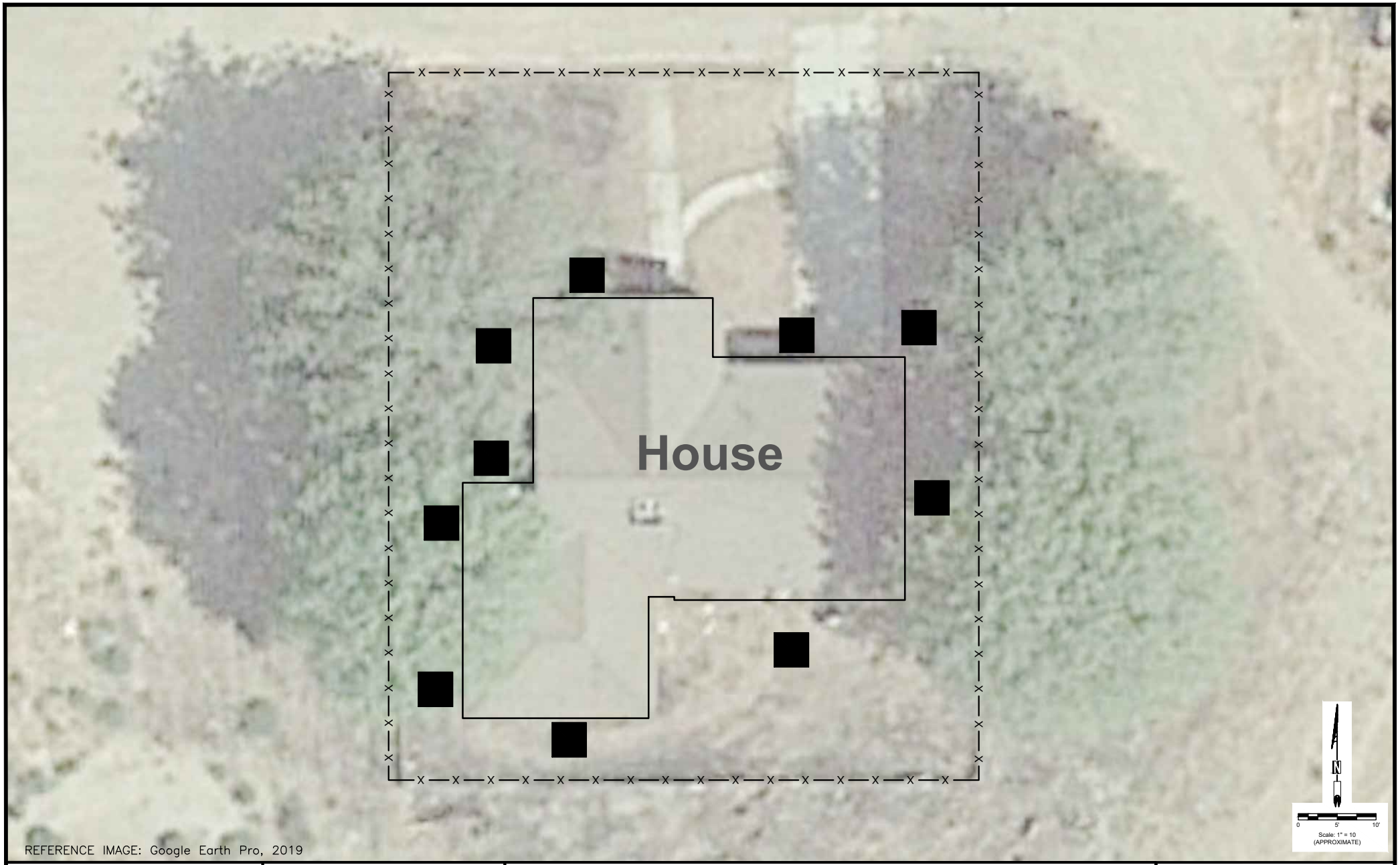
Final Limited Soil Investigation Workplan
Kern Community College District
Kern County APN's 190-020-14, 190-020-46, and 190-020-48
Arvin, California

FIGURE 2

JOB NO. E19-041-01F
DATE October 21, 2019

DR. BY FG
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



REFERENCE IMAGE: Google Earth Pro, 2019

LEGEND:

- Proposed Soil Sample Location
- Chain Link Fence

BSK ASSOCIATES
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Fresno, California 93650
Tel. (559) 497-2880

PROPOSED SHALLOW SOIL SAMPLE LOCATIONS - HOUSE

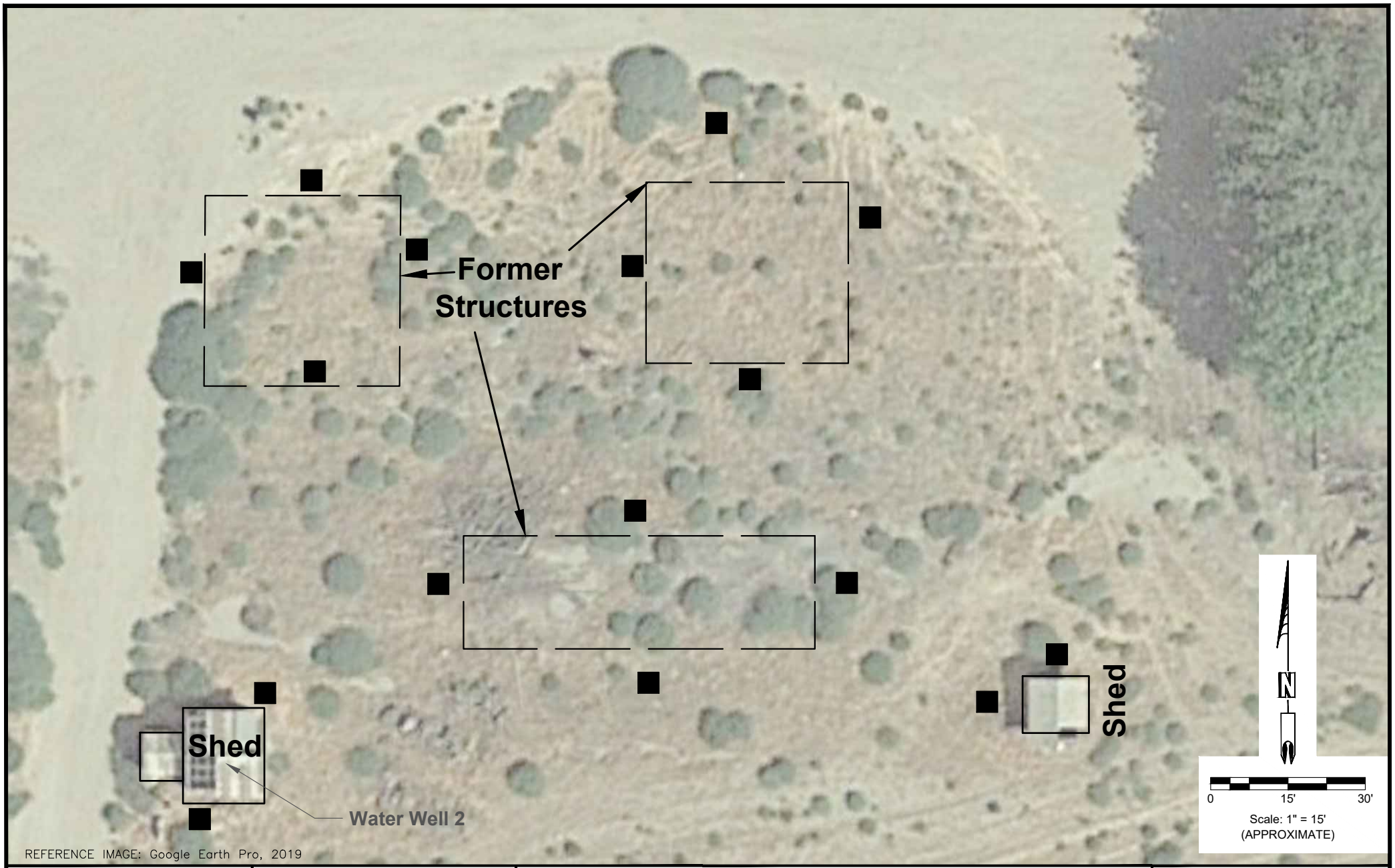
Final Limited Soil Investigation Workplan
Kern Community College District
Kern County APN's 190-020-14, 190-020-46, and 190-020-48
Arvin, California

FIGURE 3

JOB NO. E19-041-01F
DATE October 24, 2019

DR. BY FG
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



LEGEND:

- Proposed Soil Boring Location
- Approximate Location of Former Structures

BSK ASSOCIATES
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Fresno, California 93650
Tel. (559) 497-2880

PROPOSED SHALLOW SOIL SAMPLE LOCATIONS
FORMER STRUCTURES

Final Limited Soil Investigation Workplan
Kern County Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 4

JOB NO. E19-041-01F
DATE October 24, 2019

DR. BY FG
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



REFERENCE IMAGE: Google Earth Pro, 2019

LEGEND:

- Chain Link Fence
- Proposed Soil Boring Location

ESK ASSOCIATES
550 West Locust Avenue
Fresno, California 93650
Tel. (559) 497-2880

PROPOSED SOIL BORING LOCATIONS - OIL PRODUCTION AREA

Final Limited Soil Investigation Workplan
Kern County Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 5

JOB NO. E19-041-01F
DATE October 21, 2019

DR. BY FG
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS

FINAL LIMITED PHASE II SOIL INVESTIGATION REPORT
PROPOSED BAKERSFIELD COLLEGE,
ARVIN EDUCATIONAL CENTER
KERN COUNTY ASSESSOR'S PARCEL NUMBERS
190-020-14, 190-020-46, AND 190-020-48
ARVIN, CALIFORNIA

BSK PROJECT E19-041-01F

PREPARED FOR:

MS. JAYMIE BRAUER
QK, INC.
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DECEMBER 24, 2019

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Sent via email: jaymie.brauer@qkinc.com

December 24, 2019 BSK Project E19-041-01F

Ms. Jaymie L. Brauer, Principal Planner/Project Manager
QK, Inc.
5080 California Avenue, Suite 220
Bakersfield, California 93309

Subject: **Final Limited Phase II Soil Investigation Report**
Proposed Bakersfield College Arvin Educational Center
Kern County Assessor's Parcel Numbers 190-020-14, -46, and -48
Arvin, Kern County, California

Dear Ms. Brauer:

BSK Associates (BSK) has completed this Final Limited Phase II Soil Investigation Report (Report) for the proposed Bakersfield College at Kern County Assessor's Parcel Numbers 190-020-14, -46, and -48. This work was performed in general accordance with the technical approach presented in the Workplan entitled "Final Limited Soil Investigation Workplan, Proposed Bakersfield College Arvin Educational Center Project, BSK Project E19-041-01F," prepared by BSK and dated October 24, 2019 (Workplan). The work addressed in this report included collection of shallow soil samples at twenty-six (26) locations near current and former structures, advancement of three (3) soil borings and collection of subsurface soil samples around a suspected underground storage tank location, and chemical analysis of the shallow and subsurface soil samples. This Report incorporates technical review comments from the Regional Water Quality Control Board (RWQCB) discussed in a telephone conversation between Mr. Chad Neptune (RWQCB) and Ms. Lynne Baumgras (BSK) on December 20, 2019.

We appreciate the opportunity to assist QK, Inc. and Kern Community College District with this project. Please contact Ms. Lynne Baumgras at (559) 497-2880 if you have questions or require additional information or services.

Respectfully submitted,
BSK Associates

Kyle Wright
Staff Geologist II

Lynne M. Baumgras, Ph.D., PG, CHG, CEG, PMP
Environmental Group Manager
PG 6023, CHG 1054, CEG 2004

KTW/LMB/cc

FINAL LIMITED PHASE II SOIL INVESTIGATION REPORT
PROPOSED BAKERSFIELD COLLEGE ARVIN EDUCATIONAL CENTER PROJECT
KERN COUNTY ASSESSOR'S PARCEL NUMBERS
190-020-14, 190-020-46, AND 190-020-48
ARVIN, CALIFORNIA

Prepared for:

Ms. Jaymie L. Brauer, Principal Planner/Project Manager
QK, Inc.
5080 California Avenue, Suite 220
Bakersfield, California 93309

BSK Project: E19-041-01F

December 24, 2019

Prepared by:

Kyle Wright
Staff Geologist II



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1. INTRODUCTION

Kern Community College District (KCCD) is currently proposing the construction of a new 27,000 square foot General Educational Center in the City of Arvin. The proposed campus is located southwest of the intersection of Varsity Avenue and Campus Drive in Arvin, Kern County, California (Site). **Figure 1** is a Vicinity Map. **Section 2** describes the Site.

An Enhanced Phase 1 Environmental Site Assessment (Phase I ESA) for the Site was conducted in 2017 by Soils Engineering Inc. (SEI). SEI's report is entitled *Enhanced Phase I Environmental Site Assessment Report, for Potential KCCCD Campus Southwest of Varsity Avenue and Campus Drive Arvin, Kern County, California APNs: 190-020-14, -46 & -48* (SEI Report) and is dated December 19, 2017. The SEI Enhanced Phase I ESA was performed to assess for the presence of existing or potential Recognized Environmental Conditions (RECs) in connection with the Site, as defined by the American Society for Testing Materials (ASTM) Designation E 1527-13 – Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. In addition to the standard scope of activities included in a Phase I ESA investigation, SEI's 2017 Enhanced Phase 1 ESA included several rounds of soil sample collection and chemical analysis. SEI identified RECs that included isolated elevated concentrations (hotspots) of lead and arsenic, legacy pesticide residues, and petroleum hydrocarbons in shallow soils as well as a suspected underground storage tank (UST) located next to a shed. **Section 3** summarizes SEI's findings. A full description of the SEI's enhanced Phase I ESA findings and conclusions can be found in the Enhanced Phase I ESA Report (SEI, 2017).

BSK Associates (BSK) prepared a Workplan, entitled "Final Limited Soil Investigation Workplan, Proposed Bakersfield College Arvin Educational Center Project, BSK Project E19-041-01F," dated October 24, 2019 (Workplan), to address the collection of additional data beyond the scope that was included in SEI's Enhanced Phase I ESA. The Workplan proposed a technical approach to conduct a limited soil investigation to further assess impacts to surficial and subsurface soils from historical agriculture and petroleum production operations at the Site, but did not address the suspected UST, as KCCD planned to address that area during future removal of the UST.

BSK conducted a Limited Phase II Soil Investigation of the Site following the Phase I ESA. A deviation from the scope of the Workplan was that the oil production area was excluded from the current scope of the project and subsurface investigation of the suspected UST area was performed instead. **Section 4** of the Report describes the technical approach used for collection of shallow and subsurface soil samples and **Section 5** discusses Limited Phase II soil investigation findings. The Limited Phase II Soil Investigation conclusions and recommendations are provided in **Section 6**. **Section 7** discusses the applicability and limitations of the Report. **Section 8** provides a list of references. This Report incorporates technical review comments from the Regional Water Quality Control Board (RWQCB) discussed in a telephone conversation between Mr. Chad Neptune (RWQCB) and Ms. Lynne Baumgras (BSK) on December 20, 2019.

2. SITE DESCRIPTION

The proposed college campus is located southwest of the intersection of Varsity Avenue and Campus Drive in Arvin, Kern County, California and includes three contiguous Assessor's Parcel Numbers (APNs): 190-020-14, -46 and -48, north of the alignment of Nectarine Court (**Figure 1**). The Site lies within Section 23, Township 31 South, Range 29 East, Mount Diablo Base and Meridian (MDB&M) with approximate geographic coordinates of the Site are 35° 12' 54.65'' N, 118° 50' 11.15''W. The Site is flat with an approximate elevation of 455 ft above mean sea level (amsl) and a gentle slope to the south-southwest. Groundwater reportedly occurs at a depth of 340 feet (ft) below ground surface (bgs) in the Site vicinity, based on SEI's Report (2017).

The Site currently consists of idle land occupied by a vacant house, two (2) sheds, and two (2) water wells. An oil production facility consisting of three oil wells, five aboveground storage tanks (ASTs), and a pump jack are located at the western end of the Site. Two (2) former houses and a warehouse reportedly existed at the northeastern portion of the Site between the 1940s and 2014. The Site was used for agriculture between the 1930s and the 1980s. **Figure 2** is a Site Plan.

3. SUMMARY OF SEI'S ENHANCED PHASE I ESA REPORT FINDINGS AND CONCLUSIONS

SEI (2017) reported that agricultural use of the Site occurred between at least the 1930s to the 1980s. Structures on the Site include both current and former buildings, with structures observed in aerial photographs dating back to the 1940s. SEI (2017) reported that elevated concentrations of organochlorine pesticides (OCPs), arsenic, lead, Total Petroleum Hydrocarbons (TPH), dichlorodiphenyltrichloroethane (4,4-DDT), chlordane, and dieldrin, were detected in shallow soils around the vacant house and former structures.

SEI (2017) also reported a suspected UST, with an estimated capacity of 3,000 gallons, adjacent to the small shed located southwest of a house located on the Site. SEI reported that soils to a depth of approximately 15 ft bgs were generally observed to consist of interbedded silty sands, sandy silts, and sand. SEI reported that chemical analysis of a soil sample collected at a depth of 6 ft bgs at the east end of the suspected UST did not indicate the presence of hydrocarbons in soil.

SEI's report (2017) provided the following opinions relevant to BSK's Limited Soil Investigation:

- *Based on the analytical results of soil samples collected and analyzed on-site during this investigation it appears that agricultural activities have not impacted the field areas with elevated levels of OCPs or arsenic.*
- *The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the east side of the NE water well should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~2 cubic yards) should be disposed of per State and Federal regulations.*
- *The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the small shed should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~ 10 cubic yards) should be disposed of per State and Federal regulations and is considered a CA hazardous waste.*
- *The elevated dieldrin and chlordane reported in the soil adjacent to the existing house (~80 cubic yards), and within former structures areas S8 (~333 cubic yards) and S9 (~116 cubic yards) should be removed to an approximate depth of 1' to 2.5' and replaced with clean soil. The removed soil should be disposed of per State and Federal regulations.*
- *The suspected UST adjacent to the small shed should be exposed, cleaned and properly removed per Kem County Environmental Health Services Department regulations. This should include soil sampling to evaluate subsurface soil beneath the UST once removed*
- *The two (2) tank settings on-site do not appear to have impacted the near surface soil adjacent to the tank settings. If these tank settings are ever to be utilized by the client as part of the school campus these areas will need to be thoroughly assessed and remediated, if warranted, prior to development.*

SEI's Report (2017) provides maps that show locations of the samples referred to above.

4. LIMITED SOIL INVESTIGATION

BSK's Limited Soil Investigation was performed to collect additional data to supplement information generated by SEI's Enhanced Phase I ESA. The Limited Soil Investigation Workplan proposed to: (1) further assess impacts to shallow/surficial soils from historical agriculture operations in the area of the current and former structures at the northeast end of the property; and (2) assess potential impacts to subsurface soils from the petroleum production operation located at the west end of the property. The Workplan did not include investigation of the suspected UST as KCCD planned to address that area at a later time during removal of the UST. Prior to implementation of the Limited Soil Investigation, the petroleum production area at the west end of the property was excluded from the scope of the proposed land development. Because the petroleum production area was eliminated from the scope of the proposed development, BSK's Limited Subsurface Investigation scope was modified to include three (3) test borings around the suspected UST with collection of subsurface soil samples for chemical analysis from the test borings.

Section 4.1 describes the collection of shallow soil samples around the current and former structures. The limited subsurface investigation near the suspected UST is described in **Section 4.2**. A Site-Specific Health and Safety Plan (HASP) was developed prior to conducting drilling activities. BSK notified USA North 811 (public utility locator) prior to drilling to provide utility clearance for proposed soil boring locations. Each soil boring was hand augered for the upper 5-foot interval. Because the soil borings were drilled to maximum depths of 20 ft bgs, Kern County monitoring well permits were not required.

Subsurface investigation activities were performed in Level D personal protective equipment (PPE).

4.1 Collection of Shallow Soil Samples around Current and Former Structures

Shallow soil samples were collected by an experienced Staff Geologist under the direction of a California Professional Geologist (PG), licensed in the State of California. Twenty-six (26) hand-augered borings (B-1 through B-26) were drilled around the current and former structures on October 29 and 30, 2019. Geographic coordinates of each soil boring were collected using a Global Positioning Systems (GPS) device. **Figure 3** shows locations of shallow soil samples around the former structures. **Figure 4** shows locations of shallow soil samples around the house. Shallow soil sample locations were selected in order to collect additional data in areas where previous detections of agricultural chemical and petroleum hydrocarbon residues were reported in the Enhanced Phase I ESA.

Shallow soil samples were collected in each hand augered boring at depths of 0.5 to 1.0 ft, 2.5 to 3.0 ft, and 4.5 to 5.0 ft bgs. Soil samples collected at the 0.5 to 1.0 ft bgs interval were collected into 500 milliliter (mL) glass jars directly from the auger. Shallow samples were collected at 2.5 to 3.0 ft bgs and 4.5 to 5.0 ft bgs using a slide hammer equipped with 2-inch stainless steel sleeves. Sampling equipment was cleaned between sample locations using a solution of Liquinox detergent and potable water followed by a rinse with distilled water.

Lithologic characteristics of the soil samples were logged according to the Unified Soils Classification System (USCS) and generally consisted of light brown, moist, silty fine sand (SM) to a depth of 5 ft bgs. Drilling logs for the hand-augered borings are presented in **Appendix A**. A photoionization detector (PID) was used during drilling to screen the work area and soil samples for volatile organic compounds (VOCs) during the advancement of the borings.

Samples were labeled and stored on-Site in a cooler chilled with ice prior to transport to the analytical laboratory. Samples were transported under Chain-of-Custody (COC) protocol to BSK Analytical Laboratories, a National Environmental Laboratory Accreditation Program (NELAP) accredited analytical laboratory. Samples collected at the 0.5 to 1.0 ft depth interval were submitted for analysis to assess for potential agricultural chemical and petroleum hydrocarbon impacts to surficial soils. Soil samples collected from the lower depth intervals of 2.5 to 3.0 ft bgs and 4.5 to 5.0 ft bgs were held by the analytical laboratory pending any need for evaluation of deeper soils after receipt of the analytical results for samples collected at the 0.5 to 1.0 ft bgs depth interval. Hand-augered test holes were backfilled with soil cuttings.

4.2 Subsurface Soil Sample Collection

BSK subcontracted to MR Drilling, Inc. of Buena Park, California (California C-57 License No. 740854) for advancement of the test borings. Soil borings were drilled using a Geoprobe 6600 Direct Push Technology (DPT) drilling rig on November 11, 2019. Three shallow borings (DPT B-1 through B-3) were drilled to depths of 20 ft bgs. Geographic coordinates of each soil boring were collected using a GPS device. Soil boring locations around the suspected UST are shown on **Figure 5**.

A PID was used during drilling to screen the work area and soil samples for VOCs during the advancement of the borings. Subsurface soil samples were collected continuously inside acetate core sleeves during advancement by the DPT drilling rig. Soil cores were opened after retrieval for lithologic characterization. Lithologic characteristics of the soil were logged in accordance with the USCS and were recorded on soil drilling logs. Soil drilling logs for the subsurface borings are presented in **Appendix B**. Sediments encountered to a depth of 20 ft bgs consisted of light brown, silty fine sand (SM). After sampling, completed test holes were sealed with bentonite-cement grout.

Subsurface soil samples from each soil boring were selected for laboratory analytical testing based on field observations and PID readings. The acetate core sleeves were cut into two (2) 6-inch sections at the desired sampling depth intervals and sealed on the ends with Teflon™ tape and plastic caps for submittal to the laboratory.

Samples submitted for analytical testing were labeled with the sample identification number, date and time of sample collection, initials of the sampling personnel, and the project job number. Samples were placed into individual resealable plastic baggies and stored in a chilled cooler while on-Site and during transport to the laboratory. Samples were transported under COC protocol to BSK Analytical Laboratories.

Soil sampling equipment was cleaned between uses by a bucket wash system in a solution of laboratory-grade detergent, rinsed with clean water, and reassembled with clean sample liners to minimize the potential for spreading contaminants among samples. Liquinox® and a triple-rinse cleaning method was used on smaller non-disposable sampling equipment. Rinsate (water and detergent) and steam cleaning fluids were discharged to the ground surface at the Site.

The following field observations were recorded during drilling of DPT borings B-1 through B-3 near the suspected UST:

- DPT Boring B-1: No soil discoloration or odor was observed. Samples for chemical analysis were collected at approximately 11.5 to 12.5 bgs and 19.5 to 20.5 ft bgs. No readings above 0.0 parts per million (ppm) were registered on the PID during drilling of B-1. Boring B-1 was terminated at 20.5 ft bgs.
- DPT Boring B-2: No soil discoloration or odor was observed. Samples for chemical analysis were collected at approximately 11.5 to 12.5 bgs and 19.5 to 20.5 ft bgs. No readings above 0.0 parts per million (ppm) were registered on the PID during drilling of B-2. Boring B-2 was terminated at 20.5 ft bgs.
- DPT Boring B-3: No soil discoloration or odor was observed. PID readings of 6.0 ppm and 11.5 ppm were observed at depth intervals of 4.5 to 5.5 ft bgs and 9.5 to 10.5 ft bgs, respectively. PID readings of 0.0 ppm were recorded at depths of 15 ft bgs and 20 ft bgs. Samples at depth intervals of 4.5 to 5.5 ft bgs and 9.5 to 10.5 ft bgs were collected into jars for chemical analysis. An additional sample for chemical analysis was collected at 14.5 to 15.0 ft bgs using the direct push rig and an acetate tube.

Sample containers were labeled with identification information including the sample location name, date and time of the sample collection, and sampling personnel initials. The labeled sample containers were sealed inside of resealable plastic bags and then placed into a chilled ice chest for transport to BSK Analytical Laboratories for analysis under Chain-of-Custody protocol.

5. FINDINGS AND ANALYTICAL RESULTS

Section 5.1 describes shallow soil sample analytical results. **Section 5.2** subsurface soil analytical results. Analytical results for the shallow soil samples are included in **Appendix C**. Analytical results for shallow soil samples and subsurface soil samples are presented on **Tables 2 and 3,** respectively.

5.1 Shallow Soil Sample Analytical Results

Twenty-six (26) shallow soil samples from the 0.5 to 1.0 ft bgs depth interval were chemically analyzed for the following Constituents of Concern:

- Organophosphorous pesticides by GC-NPD
- OCPs by EPA Method 8081A
- Total lead by EPA Method 6020
- Total arsenic by EPA Method 6020

Table 2 lists analytical results for detected compounds and provides corresponding Environmental Screening Levels (ESLs) for both Residential Shallow Soil Exposure and Commercial/Industrial Shallow Soil Exposure

No organophosphorus pesticide residues were detected in the soil samples.

Low levels of 4,4'-DDE (DDE), 4,4'-DDT (DDT), and dieldrin were detected in approximately half of the samples at concentrations below the respective ESLs for Residential Shallow Soil Exposure – Cancer Risk. Dieldrin was detected at a concentration exceeding the corresponding ESL for Residential Shallow Soil Exposure – Cancer Risk in Sample B-12 (see **Figure 3**) at 66 micrograms per kilogram (µg/kg); this concentration is below the dieldrin Commercial / Industrial ESL – Cancer Risk value of 160 µg/kg.

A low concentration of heptachlor epoxide (20 µg/kg) was detected in one sample, B-2, which is below the respective ESL for Residential Shallow Soil Exposure – Cancer Risk value of 62 µg/kg.

Reportable concentrations of lead were detected in many of the samples and were all below the lead ESL for Residential Shallow Soil Exposure - Cancer Risk value of 82 milligrams per kilogram (mg/kg).

Reportable concentrations of arsenic were detected in all samples and ranged in value from 6.4 to 28 mg/kg which exceed the arsenic ESL for Commercial/Industrial Shallow Soil Exposure – Cancer Risk (0.31 mg/kg).

5.2 Subsurface Investigation Analytical Results

Seven (7) soil samples collected from the DPT borings were chemically analyzed for the following Constituents of Concern:

- VOCs by EPA 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA 8270C
- TPH-diesel by EPA 8015B
- TPH-motor oil by EPA 8015
- California Administrative Manual (CAM-17) list metals by EPA 6020 and 6020A

Results of the limited subsurface soil investigation indicate elevated concentrations of arsenic above the corresponding soil ESL for Commercial/Industrial Shallow Soil Exposure – Cancer Risk in all samples. Reported detections of barium, chromium, copper, lead, mercury, vanadium, and zinc were below the corresponding soil ESLs for Residential Shallow Soil Exposure – Cancer Risk.

Reported concentrations of benzo(g,h,i) perylene, benzo(b) fluoranthene, naphthalene, and pyrene were below corresponding soil ESLs for Residential Shallow Soil Exposure – Cancer Risk. Reported concentrations of TPH-diesel and TPH-motor oil were below corresponding soil ESLs for Residential Shallow Soil Exposure – Cancer Risk.

6. CONCLUSIONS AND RECOMMENDATIONS

BSK generally concurs with the conclusions and recommendations made by SEI in their Enhanced Phase I ESA Report (2017). **Section 6.1** presents BSK's conclusions and recommendations for the evaluation of shallow soils around the current and former structures. **Section 6.2** presents BSK's conclusions and recommendations for the evaluation of subsurface soils around the suspected UST.

6.1 Shallow Soils Around Current and Former Structures

During BSK's investigation, low concentrations of DDE, DDT, dieldrin, and heptachlor epoxide were detected in shallow soils around the current and former structures at concentrations below the respective ESLs for Commercial / Industrial ESL – Cancer Risk. SEI (2017) reported similar results at nearby sample locations but also reported the following sample locations with concentrations that exceeded the respective Commercial/Industrial Shallow Soil Exposure – Cancer Risk ESL:

- SEI Data, Dieldrin (160 µg/kg):
  - S1-3" at 241 µg/kg
  - S3-3" at 181 µg/kg
  - S8-3" at 286 µg/kg
  - S8-N-3" at 335 µg/kg
  - S8-N2-3" at 178 µg/kg
  - S9-3" at 472 µg/kg
  - S9-1.5" at 253 µg/kg
- SEI Data, DDT (8,500 µg/kg):
  - S7-3" at 8,850 µg/kg

Please refer to the SEI report (2017) for a full discussion of SEI's findings. As described in **Section 3**, SEI provided the following conclusions and recommendations related to residual pesticide concentrations in soils in the area of the current and former structures:

- *The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the east side of the NE water well should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~2 cubic yards) should be disposed of per State and Federal regulations.*
- *The elevated concentrations of 4,4'-DDT, TPH and lead present adjacent to the small shed should be removed to an approximate depth of 1' and replaced with clean soil. The removed soil (~ 10 cubic yards) should be disposed of per State and Federal regulations and is considered a CA hazardous waste.*
- *The elevated dieldrin and chlordane reported in the soil adjacent to the existing house (~80 cubic yards), and within former structures areas S8 (~333 cubic yards) and S9 (~116 cubic yards) should be removed to an approximate depth of 1' to 2.5' and replaced with clean soil. The removed soil should be disposed of per State and Federal regulations.*

BSK concurs with SEI's recommendations listed above.

During BSK's investigation, arsenic concentrations above the Commercial/Industrial Shallow Soil Exposure – Cancer Risk ESL (0.31 mg/kg) were detected in all shallow soil samples collected around the current and vacant structures and ranged in value from 6.4 to 28 mg/kg. No publicly available, published background concentration values for naturally occurring arsenic in Arvin soils were available at the time of this investigation. The City of Arvin has been recognized as having high levels of naturally occurring arsenic in groundwater (California Water Boards, 2019) and may also have elevated naturally occurring arsenic concentrations in soils due to natural geologic conditions. However, historical agricultural practices in the region may have included the use of lead arsenate pesticides prior to the 1950s and residual concentrations of arsenic from historical pesticide use may be an additional source of elevated arsenic concentrations in Site soils.

Elevated arsenic concentrations have been documented across the property during both BSK's and SEI's investigations. Based upon comparison of arsenic concentrations in shallow soils with concentrations of soils from samples collected at depths of 10 and 15 ft bgs, it appears that the arsenic concentrations observed in BSK's samples may be representative of background concentrations.

During their 2017 investigation, SEI identified higher concentrations of arsenic in soil in two subsurface samples at other areas of the property that are not planned for development: 42.9 mg/kg of arsenic in SEI sample T-2 at a depth of 7 ft bgs; and 82.9 mg/kg in sample SG-3 collected at 10 ft bgs.

Based on analytical results from shallow soil samples at the tested locations in the area of the current and former structures, no further investigation in those areas is recommended at this time. Although the detected concentrations of arsenic may be naturally occurring, BSK recommends that dust control be implemented during construction activities in order to mitigate inhalation hazards and off-Site migration of dusts potentially containing low concentrations of arsenic.

6.2 Subsurface Soils Near Suspected UST

Results of the limited subsurface soil investigation indicate elevated concentrations of arsenic above the corresponding soil ESL for Commercial/Industrial Shallow Soil Exposure in all samples.

All other reported detections of metals (barium, chromium, copper, lead, mercury, vanadium, and zinc), SVOCs, TPH-diesel, and TPH-motor oil were below the corresponding soil ESLs for Residential Shallow Soil Exposure – Cancer Risk.

BSK recommends that the UST be removed in accordance with applicable Kern County requirements and that dust control be implemented during UST excavation activities in order to mitigate inhalation hazards and off-Site migration of dusts potentially containing low concentrations of arsenic.

7. LIMITATIONS

The analyses and recommendations submitted in this report are based upon a limited field investigation. The report does not reflect variations which may occur beyond the sampled area. The nature and extent of such variations may not become evident until exposed. If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-site observations during the excavation period and noting the characteristics of the variations.

The findings of this report are valid as of the present. However, changes in the conditions of the Site can occur with the passage of time, whether caused by natural processes or the work of man, on this property or adjacent property. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, governmental policy or the broadening of knowledge.

This Report has been prepared for the exclusive use of QK, Inc. and KCCD in accordance with generally accepted environmental engineering practices in Kern County at the time the services were performed. BSK's services were performed for the sole purpose of evaluating environmental conditions at the site.

No other warranties, either expressed or implied, are made to the professional advice provided under the terms of BSK's agreement with QK, Inc. The passage of time, natural processes, or human intervention on the facility or adjacent properties and changes in the regulations can cause changed conditions, which can invalidate the findings and conclusions presented in this Report.

8. REFERENCES

BSK Associates, 2019. "*Final Limited Soil Investigation Workplan, Proposed Bakersfield College Arvin Educational Center Project, Kern County Assessor's Parcel Numbers 190-020-14, 190-020-46, and 190-020-48, Arvin, California*," BSK Project E19-041-01F," October 24, 2019.

California Water Boards, 2019. Media Release: "State Water Board Grant and Loan Funds Arvin Project to Resolve Arsenic Contamination in Drinking Water," May 16, 2019.

San Francisco Bay Regional Water Quality Control Board, 2019. Environmental Screening Levels, 2019 (Rev. 2).

SEI, 2017. Enhanced Phase I Environmental Site Assessment Report, for Potential KCCD Campus Southwest of Varsity Avenue and Campus Drive Arvin, Kern County, California APNs: 190-020-14, -46 & -48.

TABLES

Table 1
Summary of Shallow Soil Analytical Results
KCCD Arvin Campus - Limited Soil Investigation Report

Sample Identification	Analytes					
	Arsenic (mg/kg)	Lead (mg/kg)	4,4'-DDE[1] (µg/kg)	4,4'-DDT[2] (µg/kg)	Heptachlor Epoxide (µg/kg)	Dieldrin (µg/kg)
B-1	**14**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-2	**11**	28	70	130	20	< 5.0
B-3	**11**	< 6.3	11	8.6	< 5.0	< 5.0
B-4	**11**	< 6.3	16	11	< 5.0	< 5.0
B-5	**12**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-6	**9.5**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-7	**12**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-8	**11**	< 6.3	7.0	< 5.0	< 5.0	< 5.0
B-9	**12**	< 6.3	30	26	< 5.0	< 5.0
B-10	**12**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-11	**9.9**	10	94	81	< 5.0	13
B-12	**12**	< 6.3	< 5.0	< 5.0	< 5.0	66
B-13	**15**	14	51	24	< 5.0	< 5.0
B-14	**14**	< 6.3	7.9	< 5.0	< 5.0	< 5.0
B-15	**14**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-16	**12**	20	30	29	< 5.0	23
B-17	**11**	7.8	110	58	< 5.0	< 5.0
B-18	**15**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-19	**14**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-20	**13**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0
B-21	**14**	13	54	64	< 5.0	23
B-22	**14**	7.8	31	9.0	< 5.0	< 5.0
B-23	**9.7**	7.2	47	9.5	< 5.0	< 5.0
B-24	**13**	20	140	33	< 5.0	< 5.0
B-25	**12**	6.4	16	5.1	< 5.0	< 5.0
B-26	**13**	< 6.3	< 5.0	< 5.0	< 5.0	< 5.0

Commercial/Industrial Soil ESLs:	**Arsenic (mg/kg)**	**Lead (mg/kg)**	**4,4'-DDE[1] (µg/kg)**	**4,4'-DDT[2] (µg/kg)**	**Heptachlor Epoxide (µg/kg)**	**Dieldrin (µg/kg)**
Cancer Risk:	0.31	380	8,300	8,500	280	160
Non-Cancer Hazard:	3.6	320	NA	520,000	13,000	48,000
Residential Soil ESLs:	**Arsenic (mg/kg)**	**Lead (mg/kg)**	**4,4'-DDE[1] (µg/kg)**	**4,4'-DDT[2] (µg/kg)**	**Heptachlor Epoxide (µg/kg)**	**Dieldrin (µg/kg)**
Cancer Risk:	0.067	82	1,800	1,900	62	37
Non-Cancer Hazard:	0.26	80	NA	37,000	910	3,500

Notes:
Bold Text = Sample recorded above Environmental Screening Levels (ESL)
< # = Sample detected below Reporting Limits (RL)
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
NA = Information Not Available
[1] Dichlorodiphenyldichloroethylene
[2] Dichlorodiphenyltrichloroethane

Table 2
Summary of Subsurface Soil Analytical Detections In Suspected UST Area
KCCD Arvin Campus - Limited Soil Investigation Report

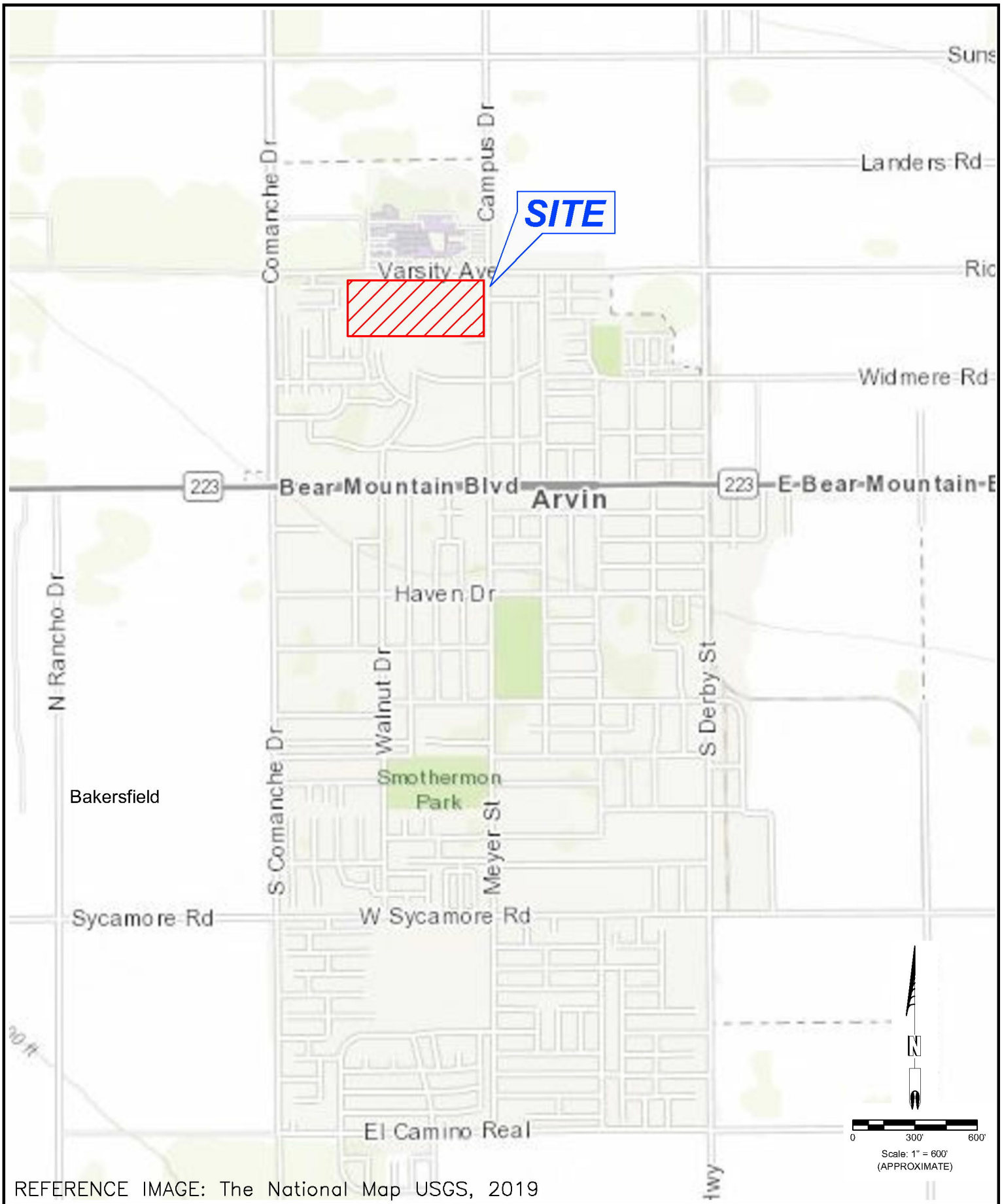
Sample ID	Analytes													
	Arsenic (mg/kg)	Barium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Benzo(g,h,i) perylene	Benzo(b) fluoranthane	Naphthalene	Pyrene	TPH-Diesel (mg/kg)	TPH-Motor Oil (mg/kg)
B-1 @ 10'	**14**	220	18	13	< 6.3	< 0.5	53	67	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 2.0
B-1 @ 15'	**8.6**	210	13	8.6	< 6.3	< 0.5	43	< 63	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 2.0
B-2 @ 10'	**12**	230	17	13	< 6.3	1.5	50	65	< 1.0	< 1.0	< 1.0	< 1.0	3.2	4.3
B-2 @ 15'	**9.8**	180	14	10	< 6.3	< 0.5	44	< 63	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
B-3 @ 5'	**19**	200	17	13	25	< 0.5	51	68	1.2	< 1.0	< 1.0	< 1.0	1.5	4.1
B-3 @ 10'	**16**	240	19	13	9.7	< 0.5	54	69	< 1.0	< 1.0	< 1.0	< 1.0	2.4	2.7
B-3 @ 15'	**9.3**	160	< 13	8.7	< 6.3	< 0.5	40	< 63	1.9	1.9	1.5	1.3	3.8	16

Commercial/Industrial Soil ESLs:	**Arsenic (mg/kg)**	**Barium (mg/kg)**	**Chromium (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Vanadium (mg/kg)**	**Zinc (mg/kg)**	**Benzo(g,h,i) perylene (µg/kg)**	**Benzo(b) fluoranthane (µg/kg)**	**Naphthalene (µg/kg)**	**Pyrene (µg/kg)**	**TPH-Diesel (mg/kg)**	**TPH-Motor Oil (mg/kg)**
Cancer Risk:	0.31	NA	NA	47,000	380	NA	NA	NA	NA	1,100	17,000	NA	NA	NA
Non-Cancer Hazard:	3.6	220,000	1,800,000	NA	320	190	5,800	350,000	NA	NA	580,000	23,000,000	1,200	180,000
Residential Soil ESLs:	**Arsenic (mg/kg)**	**Barium (mg/kg)**	**Chromium (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Vanadium (mg/kg)**	**Zinc (mg/kg)**	**Benzo(g,h,i) perylene (µg/kg)**	**Benzo(b) fluoranthane (µg/kg)**	**Naphthalene (µg/kg)**	**Pyrene (µg/kg)**	**TPH-Diesel (mg/kg)**	**TPH-Motor Oil (mg/kg)**
Cancer Risk:	0.067	NA	NA	NA	82	NA	NA	NA	NA	21,000	3,800	NA	NA	NA
Non-Cancer Hazard:	0.26	15,000	120,000	3,100	80	13	390	23,000	NA	NA	130,000	1,800,000	260	12,000

Notes:
Bold Text = Sample recorded above ESL
< # = Sample recorded under detectable limits
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
ESLs = Environmental Screening Levels
TPH = Total Petroleum Hydrocarbon
NA = Information Not Available

FIGURES





REFERENCE IMAGE: The National Map USGS, 2019

ESK ASSOCIATES
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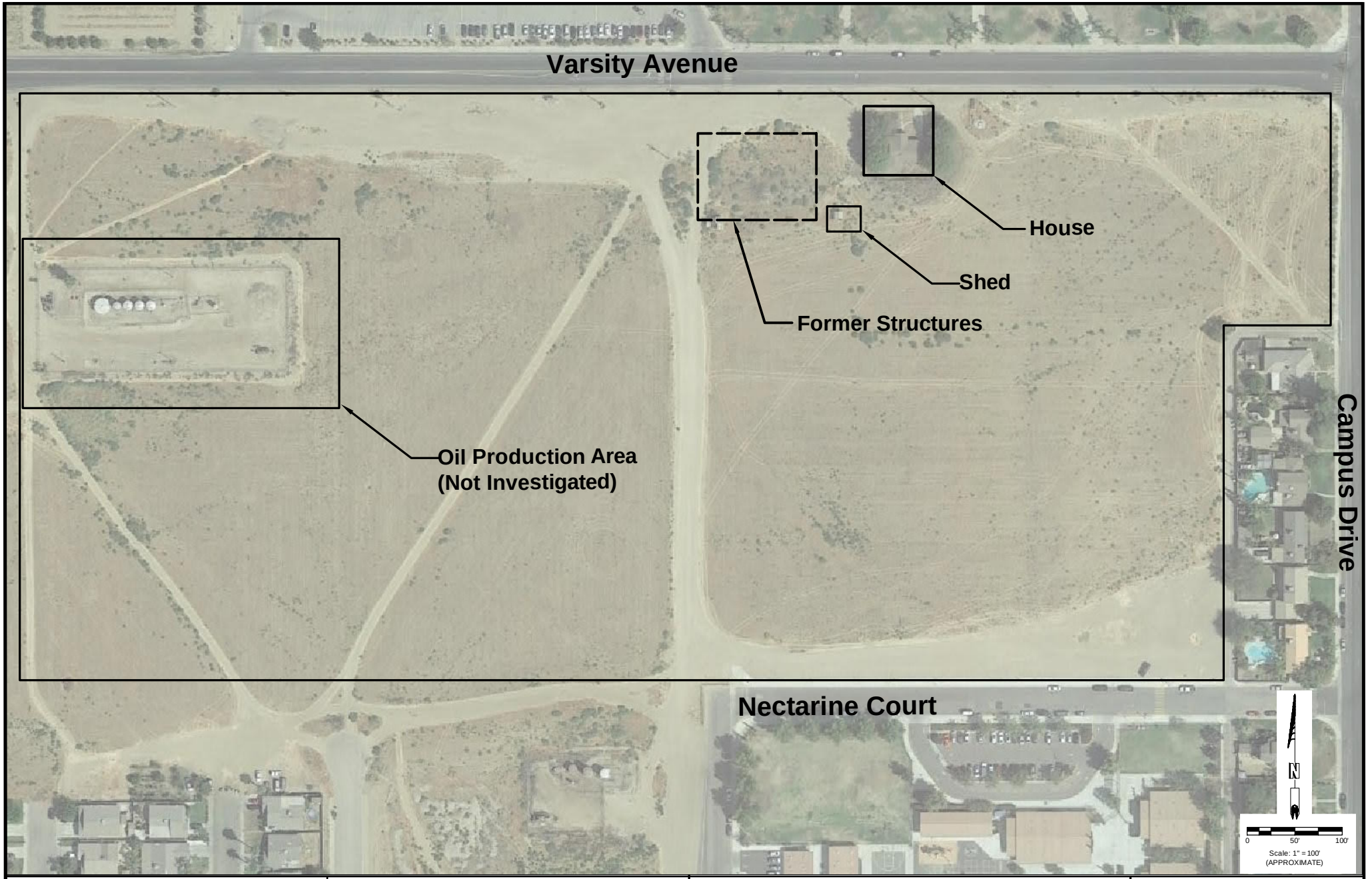
VICINITY MAP

Final Limited Soil Investigation Report
Kern Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 1

JOB NO. E19-041-01F
DATE November 25, 2019
DR. BY KTW
CH. BY LMB
SCALE AS SHOWN
SHEET NO. 1
OF 1 SHEETS

P:\FRS\Active\ENV\E1904101F - Limited Subsurface Inv KCCCD Prop Arv\Graphics\CAD\Figures.dwg User:kwright Plotted:Nov 25, 2019 - 5:11pm Last Save:Nov 25, 2019 - 5:09pm



LEGEND:

——— Site Boundary

— — Approximate Area of Former Structures

REFERENCE IMAGE: Google Earth Pro, 2019

BSK ASSOCIATES
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Fresno, California 93650
Tel. (559) 497-2880

SITE PLAN

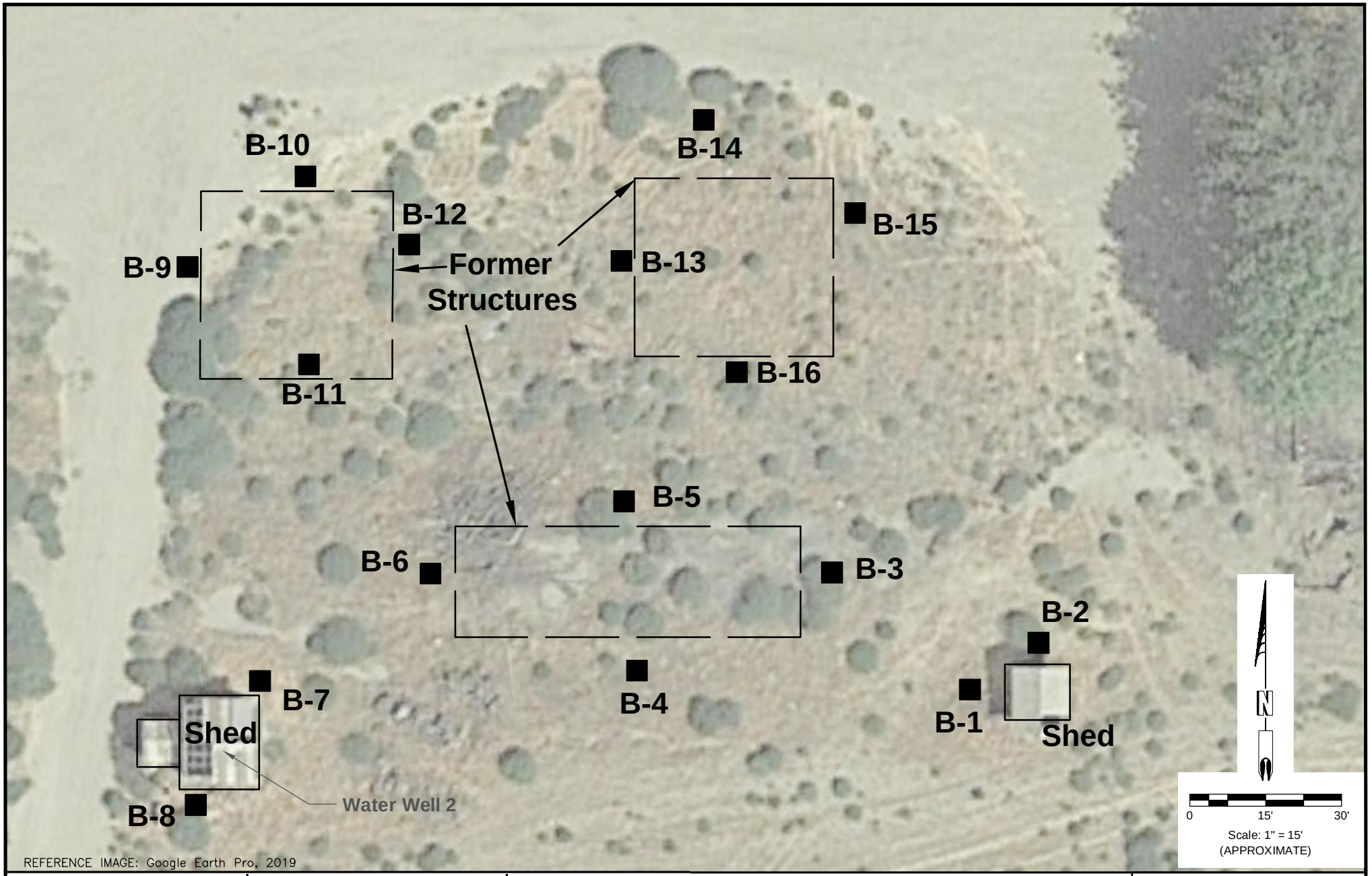
Final Limited Soil Investigation Report
Kern Community College District
Kern County APN's 190-020-14, 190-020-46, and 190-020-48
Arvin, California

FIGURE 2

JOB NO. E19-041-01F
DATE November 25, 2019

DR. BY KTW
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



REFERENCE IMAGE: Google Earth Pro, 2019

LEGEND:

■ Soil Boring Location

— — — Approximate Location of Former Structures

ASSOCIATES
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SHALLOW SOIL SAMPLE LOCATIONS - FORMER STRUCTURES

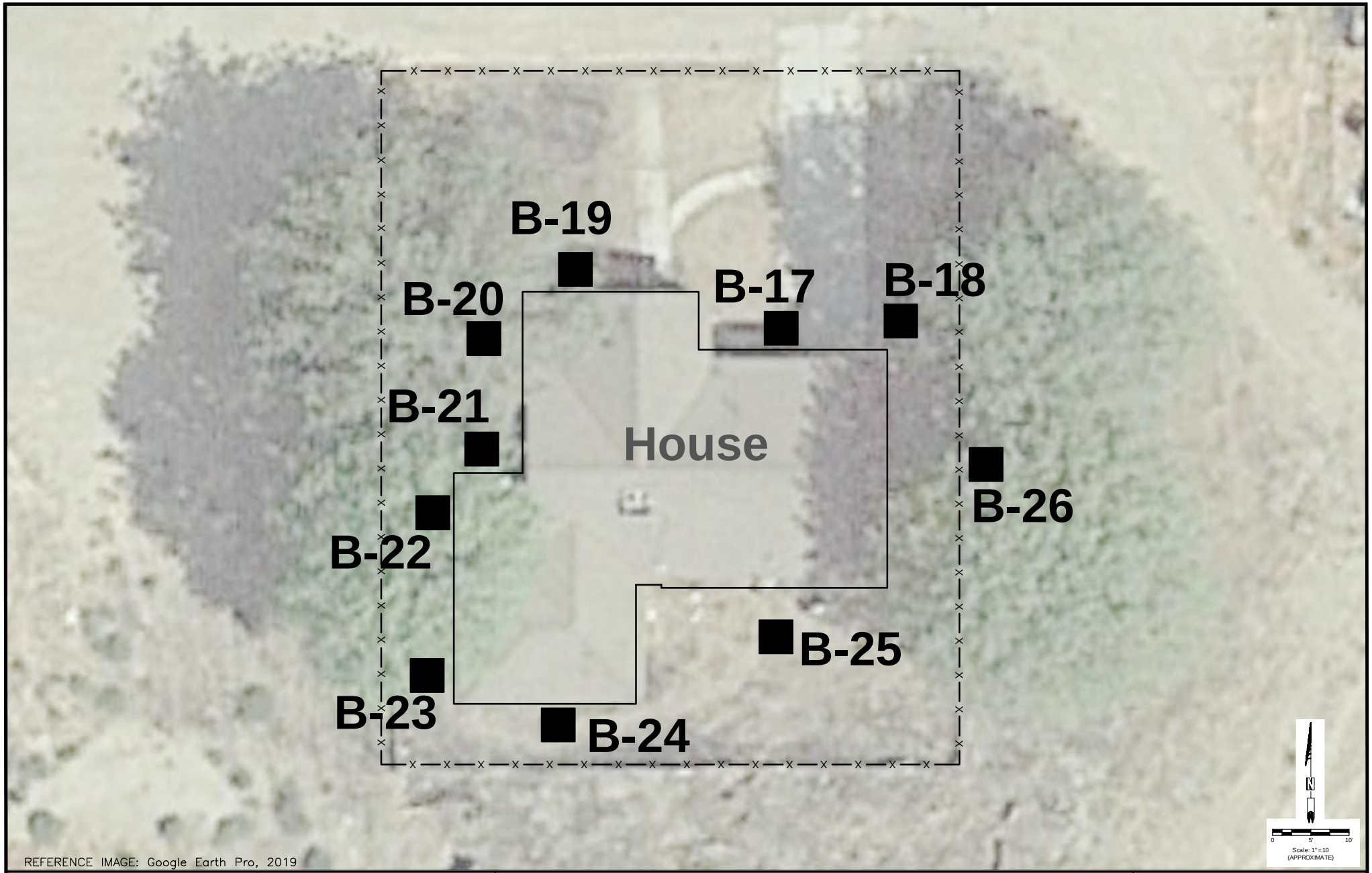
Final Limited Soil Investigation Report
Kern Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 3

JOB NO. E19-041-01F
DATE December 6, 2019

DR. BY KTW
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



REFERENCE IMAGE: Google Earth Pro, 2019

LEGEND:

- Soil Sample Location
- Chain Link Fence

BSK ASSOCIATES
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Tel. (559) 497-2880

SHALLOW SOIL SAMPLE LOCATIONS - HOUSE

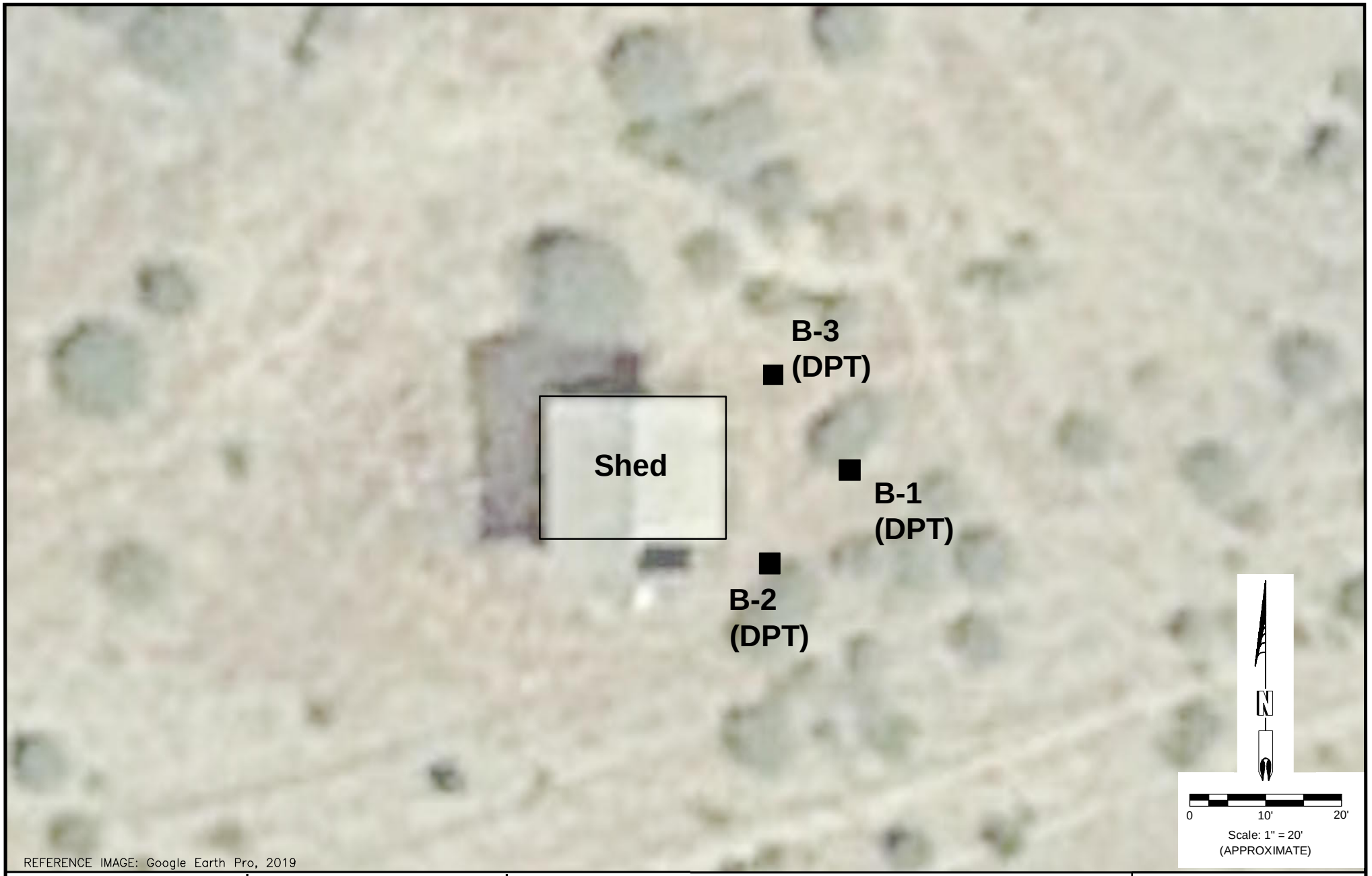
Final Limited Soil Investigation Report
Kern Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 4

JOB NO. E19-041-01F
DATE November 25, 2019

DR. BY KTW
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS



REFERENCE IMAGE: Google Earth Pro, 2019

LEGEND:

■ Soil Boring Location

BSK ASSOCIATES
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SOIL BORING LOCATIONS - UST

Final Limited Soil Investigation Report
Kern Community College District
Kern County APN's 190-020-14, 190-020-46,
and 190-020-48
Arvin, California

FIGURE 5

JOB NO. E19-041-01F
DATE December 6, 2019

DR. BY KTW
CH. BY LMB
SCALE AS SHOWN

SHEET NO. 1
OF 1 SHEETS

APPENDIX A

Drilling Logs for Hand-Augered Soil Borings

BSK ASSOCIATES
BSK Associates
550 West Locust Avenue
Fresno, CA 93650
Telephone: 559-497-2880
Fax: 559-497-2886

Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 1

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			Silty SAND (SM) light brown, moist, Fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Telephone: 559-497-2880
Fax: 559-497-2886

Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 2

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	
2					
3				" " " "	
4					
5				" " " "	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 3

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	
2					
3				ooo o	
4					
5				ooo o	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Telephone: 559-497-2880
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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-4

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand, (SM) light brown, moist, fine sand.	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-5

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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BSK Associates
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Telephone: 559-497-2880
Fax: 559-497-2886

Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-6

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand.	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Fresno, CA 93650
Telephone: 559-497-2880
Fax: 559-497-2886

Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 7

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand-	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-8

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand.	
2				reddish brown .... with fine gravel	
3	☐				
4				increasing gravel ↓	
5	☐			.....	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-9

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Boring: B- 10

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand.	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Boring: B- 11

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sandy (sm) light brown, moist, fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project No.: E19-041-01F

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Checked By: LMB

Boring: B-12

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐			∘∘∘∘	
4					
5	☐			∘∘∘∘	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B-13

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand.	
2					
3	☐			∘∘∘∘	
4					
5	☐			∘∘∘∘	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/29/19
Date Completed: 10/29/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 14

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (sm) light brown, moist, fine sand.	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 15

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (sm), light brown, moist, fine sand	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Boring: B- 16

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand, barn debris in soil	
2				barn debris dissappears,	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Boring: B- 17

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sd.	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

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Boring: B-18

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 19

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐			...	
4					
5	☐			....	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Boring: B-20

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty sand (SM) light brown, moist, fine sand	
2					
3	☐				
4					
5	☐				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Checked By: LMB

Boring: B-21

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project No.: E19-041-01F

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Checked By: LMB

Boring: B-22

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Checked By: LMB

Boring: B- 23

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1	☐			silty Sand (SM) light brown, moist, fine sands.	
2					
3	☐			∘∘∘∘	
4					
5	☐			∘∘∘∘	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 24

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand.	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

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Checked By: LMB

Boring: B- 25

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	
2					
3				" " " "	
4					
5				" " " "	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW / FNG

Checked By: LMB

Boring: B- 26

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sands.	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Drilling Contractor: BSK
Drilling Method: Hand Auger
Drilling Equipment: Hand Auger
Date Started: 10/30/19
Date Completed: 10/30/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 5'
Sample Method: 2" Stainless Sleeve / Slide Hammer
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

APPENDIX B

Drilling Logs for Direct-Push Technology Soil Borings

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Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW

Checked By: LMB

Boring: B- 1

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
-1			Hand Auger	silty sand (SM), light brown, moist, fine sand.	(09:20)
-2					PID = 0.0 ppm
-3					
-4					
-5					
-6					
-7					
-8					
-9					
-10					PID = 0.0 ppm (09:59)
-11					
-12					
-13					
-14			Direct Push		
-15					PID = 0.0 ppm (10:10)
-16					
-17					
-18					
-19				BOB @ 20' BGS / no GW / sealed w/ Bentonite/ patched grout.	PID = 0.0 ppm (10:15)

Drilling Contractor: BSK
Drilling Method: HA & DP
Drilling Equipment: GeoProbe 6600
Date Started: 11/4/19
Date Completed: 11/4/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 20'
Sample Method: Direct Push
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW

Checked By: LMB

Boring: B-2

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
0				silty sand (SM) light brown, moist, fine sand	0.0 ppm (09:59)
5			Hand Auger	slightly firmer	PID = 0.0 ppm (10:05)
10					PID = 0.0 ppm (10:38) (10:47)
15			Direct Push		PID = 0.0 ppm (10:54)
19				slight increase in sand content	
				BOB @ 20' bgs / NO GW / backfilled w/ bentonite / pedal grout	PID = 0.0 ppm (10:59)

Drilling Contractor: BSK
Drilling Method: Hand Auger / Direct Push
Drilling Equipment: GeoProbe 6600
Date Started: 11/11/19
Date Completed: 11/11/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 20'
Sample Method: Direct Push
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

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Fax: 559-497-2886

Project: KCCCD Limited Subsurface Soil Investigation

Location: Varsity Rd & Campus Drive - Arvin, Ca

Project No.: E19-041-01F

Logged By: KTW

Checked By: LMB

Boring: B-3

Depth (Feet)	Samples	Bulk Samples	Penetration Blows / Foot	MATERIAL DESCRIPTION	REMARKS
1				silty sand (SM) light brown, moist, fine sand	PID = 0.0 ppm (10:45)
2					
3					
4					
5			Hand Auger		0.0 ppm (11:00)
6	(Jar)			≈ 6'	0.0 ppm (11:02)
7					
8					
9					
10					11.5 ppm (11:15)
11	(Jar)				
12					
13			Direct Push		
14					
15					pid = 0.0 ppm. (11:45)
16					
17					
18					
19				BOB @ 20' bgs / NO GW / sealed w/ bentonite & patched	PID = 0.0 (11:50)

Drilling Contractor: BSK
Drilling Method: Hand Auger and Direct Push
Drilling Equipment: geoprobe 6600
Date Started: 11/11/19
Date Completed: 11/11/19

Surface Elevation: approx. 450'
Groundwater Depth: approx. 350'
Completion Depth: 20'
Sample Method: Direct Push
Borehole Diameter: 3.5"

* See key sheet for symbols and abbreviations used above.

APPENDIX C

Analytical Reports

BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (FAX)

A9J3351
11/14/2019
Invoice: A931421

Lynne Baumgras
BSK Associates - Fresno
550 West Locust Avenue
Fresno, CA 93650

RE: Report for A9J3351 KCCD Arvin Campus E19-041-01F

Dear Lynne Baumgras,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/31/2019. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Heather S. White , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Heather S. White, Project Manager

Accredited in Accordance with NELAP
ORELAP #4021-009

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Case Narrative

Project and Report Details		Invoice Details	
Client:	BSK Associates - Fresno	**Invoice To:**	BSK Associates - Fresno
Report To:	Lynne Baumgras	**Invoice Attn:**	Lynne Baumgras
Project #:	KCCD Arvin Campus E19-041-01F	**Project PO#:**	-
Received:	10/31/2019 - 12:55		
Report Due:	11/14/2019		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 2.9

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample detection is below the reporting limit for this parameter.
MS1.0	Matrix spike recoveries exceed control limits.
MS1.2	Matrix spike recovery exceeds lower control limit. Reported results for parent matrix should be considered estimated due to matrix interferences.
SD1.1	Serial Dilution check exceeds control limits. Concentration estimated.
SR4.1	Surrogate compound diluted outside of quantitation range due to matrix interferences. Recovery data unavailable or unreliable due to dilution.

Report Distribution

Recipient(s)	Report Format	CC:
Lynne Baumgras	FINAL.RPT	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-01
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-1 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 09:45
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916528	11/04/19	11/06/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916528	11/04/19	11/06/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	104 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	MS1.2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-01
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-1 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 09:45
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	83 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-04
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-2 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:10
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**11**	2.5	mg/kg	1	A916528	11/04/19	11/06/19	
Lead	EPA 6020	**28**	6.3	mg/kg	1	A916528	11/04/19	11/06/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**70**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**130**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	**20**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	92 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	100	ug/kg	20	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	100	ug/kg	20	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-04
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-2 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:10
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	100	ug/kg	20	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	20	ug/kg	20	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	148 %	*Acceptable range: 46-144 %*			*Qualifiers - SR4.1*			
Surrogate: Nitrobenzene-d5	EPA 8270C	103 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	135 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-07
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-3 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:35
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**11**	2.5	mg/kg	1	A916528	11/04/19	11/06/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916528	11/04/19	11/06/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**11**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**8.6**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	108 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	50	ug/kg	10	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	50	ug/kg	10	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-07
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-3 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:35
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	50	ug/kg	10	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	10	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	114 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	92 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	108 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-10
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-4 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:55
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**11**	2.5	mg/kg	1	A916528	11/04/19	11/06/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916528	11/04/19	11/06/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**16**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**11**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	107 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-10
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-4 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 10:55
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-13
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-5 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 11:20
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	SD1.1
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	114 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-13
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-5 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 11:20
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-16
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-6 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 11:50
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**9.5**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	99 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-16
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-6 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 11:50
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	84 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	86 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-19
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-7 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:07
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	99 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-19
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-7 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:07
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	82 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-22
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-8 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:29
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**11**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**7.0**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	101 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-22
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-8 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:29
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	84 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	86 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	84 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-25
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-9 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:58
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**30**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**26**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	102 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-25
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-9 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 12:58
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	82 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	84 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-28
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-10 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:13
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	107 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-28
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-10 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:13
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	83 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-31
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-11 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:28
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**9.9**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**10**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**94**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**81**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	**13**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	102 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-31
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-11 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:28
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	81 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	120 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-34
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-12 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:43
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	**66**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	106 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-34
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-12 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 13:43
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	80 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	83 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-37
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-13 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 14:11
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**15**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**14**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDE	EPA 8081A	**51**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
4,4'-DDT	EPA 8081A	**24**	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916600	11/04/19	11/07/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916600	11/04/19	11/07/19	
Surrogate: TCMX	EPA 8081A	98 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-37
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-13 @ 0.5-1.0'

Sample Date - Time: 10/29/19 - 14:11
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916893	11/08/19	11/11/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	82 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	85 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-40
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-14 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 08:00
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**7.9**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/11/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	93 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	MS1.2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-40
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-14 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 08:00
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	84 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	82 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-43
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-15 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 09:20
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	101 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-43
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-15 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 09:20
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	84 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	86 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	81 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-46
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-16 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 09:42
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**20**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**30**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**29**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	**23**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	93 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-46
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-16 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 09:42
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	95 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-49
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-17 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:10
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**11**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**7.8**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**110**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**58**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	99 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-49
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-17 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:10
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	100 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-52
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-18 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:30
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**15**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	99 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-52
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-18 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:30
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	82 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-55
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-19 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:50
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	93 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-55
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-19 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 10:50
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	84 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	84 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-58
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-20 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:02
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**13**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	98 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-58
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-20 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:02
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	85 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	86 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	83 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-61
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-21 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:13
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**13**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**54**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**64**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	**23**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	99 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-61
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-21 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:13
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	85 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	87 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-64
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-22 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:27
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**7.8**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**31**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**9.0**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	98 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-64
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-22 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 11:27
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	82 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	83 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-67
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-23 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 12:25
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**9.7**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	**7.2**	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**47**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**9.5**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	96 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-67
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-23 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 12:25
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	97 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-70
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-24 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 12:36
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**13**	2.5	mg/kg	1	A916533	11/04/19	11/11/19	
Lead	EPA 6020	**20**	6.3	mg/kg	1	A916533	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**140**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**33**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	102 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-70
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-24 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 12:36
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	86 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	86 %	*Acceptable range: 45-161 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-73
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-25 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 13:00
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A916533	11/04/19	11/11/19	
Lead	EPA 6020	**6.4**	6.3	mg/kg	1	A916533	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	**16**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	**5.1**	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	103 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9J3351-73
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-25 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 13:00
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	79 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	77 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	93 %	*Acceptable range: 45-161 %*						

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Certificate of Analysis

Sample ID: A9J3351-76
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-26 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 13:26
Matrix: Solid
Sample Type: Grab

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Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**13**	2.5	mg/kg	1	A916531	11/04/19	11/11/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A916531	11/04/19	11/11/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organochlorine Pesticides by GC-ECD									
4,4'-DDD	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDE	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
4,4'-DDT	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Aldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
alpha-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
beta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Chlordane (Technical)	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	CV0.0
delta-BHC	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Dieldrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan I	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan II	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endosulfan Sulfate	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Endrin Aldehyde	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Heptachlor Epoxide	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Lindane	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Methoxychlor	EPA 8081A	ND	5.0	ug/kg	50	A916676	11/05/19	11/08/19	
Toxaphene	EPA 8081A	ND	50	ug/kg	50	A916676	11/05/19	11/08/19	
Surrogate: TCMX	EPA 8081A	98 %	*Acceptable range: 10-138 %*						
Organophosphates (EPA 8141 List) by GC-MS									
Bolstar	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Chlorpyrifos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Demeton O & S	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Diazinon	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dichlorvos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Dimethoate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Disulfoton	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ethoprop	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fensulfothion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Fenthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Guthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Malathion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Mevinphos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	

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Certificate of Analysis

Sample ID: A9J3351-76
Sampled By: Kyle Wright / Freddy Gomez
Sample Description: B-26 @ 0.5-1.0'

Sample Date - Time: 10/30/19 - 13:26
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Organophosphates (EPA 8141 List) by GC-MS									
Naled	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Ethyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Parathion Methyl	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phorate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Phosmet	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Ronnel	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Stirophos	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Tokuthion	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Trichloronate	EPA 8270C	ND	10	ug/kg	1	A916894	11/08/19	11/12/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	84 %	*Acceptable range: 45-161 %*						

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Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A916528										Prepared: 11/4/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A916528-BLK1)											
Arsenic	ND	2.5	mg/kg							11/06/19	
Lead	ND	6.3	mg/kg							11/06/19	
Blank Spike (A916528-BS1)											
Arsenic	98	2.5	mg/kg	100	ND	98	75-125			11/06/19	
Lead	93	6.3	mg/kg	100	ND	93	75-125			11/06/19	
Blank Spike Dup (A916528-BSD1)											
Arsenic	96	2.5	mg/kg	100	ND	96	75-125	2	20	11/06/19	
Lead	93	6.3	mg/kg	100	ND	93	75-125	0	20	11/06/19	
Matrix Spike (A916528-MS1), Source: A9J3284-14											
Arsenic	97	2.5	mg/kg	100	3.7	93	75-125			11/06/19	
Lead	110	6.3	mg/kg	100	9.8	98	75-125			11/06/19	
Matrix Spike Dup (A916528-MSD1), Source: A9J3284-14											
Arsenic	97	2.5	mg/kg	100	3.7	93	75-125	0	20	11/06/19	
Lead	100	6.3	mg/kg	100	9.8	93	75-125	5	20	11/06/19	
EPA 6020 - Quality Control											
Batch: A916531										Prepared: 11/4/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A916531-BLK1)											
Arsenic	ND	2.5	mg/kg							11/11/19	
Lead	ND	6.3	mg/kg							11/11/19	
Blank Spike (A916531-BS1)											
Arsenic	96	2.5	mg/kg	99	ND	97	75-125			11/11/19	
Lead	97	6.3	mg/kg	99	ND	98	75-125			11/11/19	
Blank Spike Dup (A916531-BSD1)											
Arsenic	97	2.5	mg/kg	100	ND	95	75-125	0	20	11/11/19	
Lead	95	6.3	mg/kg	100	ND	93	75-125	2	20	11/11/19	
Matrix Spike (A916531-MS1), Source: A9J3351-13											
Arsenic	110	2.5	mg/kg	100	12	96	75-125			11/11/19	
Lead	94	6.3	mg/kg	100	ND	92	75-125			11/11/19	
Matrix Spike Dup (A916531-MSD1), Source: A9J3351-13											
Arsenic	100	2.5	mg/kg	100	12	91	75-125	6	20	11/11/19	
Lead	92	6.3	mg/kg	100	ND	92	75-125	3	20	11/11/19	

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BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A916533										Prepared: 11/4/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A916533-BLK1)											
Arsenic	ND	2.5	mg/kg							11/11/19	
Lead	ND	6.3	mg/kg							11/11/19	
Blank Spike (A916533-BS1)											
Arsenic	93	2.5	mg/kg	99	ND	94	75-125			11/11/19	
Lead	90	6.3	mg/kg	99	ND	91	75-125			11/11/19	
Blank Spike Dup (A916533-BSD1)											
Arsenic	93	2.5	mg/kg	100	ND	93	75-125	1	20	11/11/19	
Lead	89	6.3	mg/kg	100	ND	89	75-125	1	20	11/11/19	
Matrix Spike (A916533-MS1), Source: A9J3351-70											
Arsenic	110	2.5	mg/kg	100	13	96	75-125			11/11/19	
Lead	110	6.3	mg/kg	100	20	90	75-125			11/11/19	
Matrix Spike Dup (A916533-MSD1), Source: A9J3351-70											
Arsenic	110	2.5	mg/kg	100	13	96	75-125	1	20	11/11/19	
Lead	110	6.3	mg/kg	100	20	87	75-125	1	20	11/11/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8081A - Quality Control											
Batch: A916600										Prepared: 11/4/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Blank (A916600-BLK1)											
4,4'-DDD	ND	5.0	ug/kg							11/06/19	
4,4'-DDE	ND	5.0	ug/kg							11/06/19	
4,4'-DDT	ND	5.0	ug/kg							11/06/19	
Aldrin	ND	5.0	ug/kg							11/06/19	
alpha-BHC	ND	5.0	ug/kg							11/06/19	
beta-BHC	ND	5.0	ug/kg							11/06/19	
Chlordane (Technical)	ND	50	ug/kg							11/06/19	
delta-BHC	ND	5.0	ug/kg							11/06/19	
Dieldrin	ND	5.0	ug/kg							11/06/19	
Endosulfan I	ND	5.0	ug/kg							11/06/19	
Endosulfan II	ND	5.0	ug/kg							11/06/19	
Endosulfan Sulfate	ND	5.0	ug/kg							11/06/19	
Endrin	ND	5.0	ug/kg							11/06/19	
Endrin Aldehyde	ND	5.0	ug/kg							11/06/19	
Heptachlor	ND	5.0	ug/kg							11/06/19	
Heptachlor Epoxide	ND	5.0	ug/kg							11/06/19	
Lindane	ND	5.0	ug/kg							11/06/19	
Methoxychlor	ND	5.0	ug/kg							11/06/19	
Toxaphene	ND	50	ug/kg							11/06/19	
Surrogate: TCMX	*380*			*380*		*101*	*10-138*			11/06/19	
Blank Spike (A916600-BS1)											
4,4'-DDD	110	5.0	ug/kg	100	ND	109	40-134			11/06/19	
4,4'-DDE	110	5.0	ug/kg	100	ND	106	46-139			11/06/19	
4,4'-DDT	100	5.0	ug/kg	100	ND	104	38-156			11/06/19	
Aldrin	100	5.0	ug/kg	100	ND	104	44-125			11/06/19	
alpha-BHC	100	5.0	ug/kg	100	ND	100	30-137			11/06/19	
beta-BHC	100	5.0	ug/kg	100	ND	102	40-155			11/06/19	
delta-BHC	88	5.0	ug/kg	100	ND	88	11-139			11/06/19	
Dieldrin	110	5.0	ug/kg	100	ND	109	39-137			11/06/19	
Endosulfan I	100	5.0	ug/kg	100	ND	103	38-132			11/06/19	
Endosulfan II	100	5.0	ug/kg	100	ND	102	34-138			11/06/19	
Endosulfan Sulfate	100	5.0	ug/kg	100	ND	104	38-144			11/06/19	
Endrin	100	5.0	ug/kg	100	ND	101	22-161			11/06/19	
Endrin Aldehyde	96	5.0	ug/kg	100	ND	96	42-142			11/06/19	
Heptachlor	110	5.0	ug/kg	100	ND	110	44-133			11/06/19	
Heptachlor Epoxide	110	5.0	ug/kg	100	ND	109	46-137			11/06/19	
Lindane	100	5.0	ug/kg	100	ND	100	37-140			11/06/19	
Methoxychlor	100	5.0	ug/kg	100	ND	101	42-161			11/06/19	
Surrogate: TCMX	*390*			*380*		*103*	*10-138*			11/06/19	
Blank Spike (A916600-BS2)											
Toxaphene	160	50	ug/kg	200	ND	81	50-150			11/07/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8081A - Quality Control											
Batch: A916600										Prepared: 11/4/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Blank Spike (A916600-BS2)											
Surrogate: TCMX	*340*			*380*		*90*	*10-138*			11/07/19	
Blank Spike (A916600-BS3)											
Chlordane (Technical)	150	50	ug/kg	200	ND	76	50-150			11/07/19	
Surrogate: TCMX	*350*			*380*		*94*	*10-138*			11/07/19	
Blank Spike Dup (A916600-BSD1)											
4,4'-DDD	120	5.0	ug/kg	100	ND	119	40-134	9	30	11/07/19	
4,4'-DDE	120	5.0	ug/kg	100	ND	118	46-139	10	30	11/07/19	
4,4'-DDT	120	5.0	ug/kg	100	ND	119	38-156	14	30	11/07/19	
Aldrin	120	5.0	ug/kg	100	ND	116	44-125	11	30	11/07/19	
alpha-BHC	120	5.0	ug/kg	100	ND	115	30-137	14	30	11/07/19	
beta-BHC	110	5.0	ug/kg	100	ND	114	40-155	11	30	11/07/19	
delta-BHC	100	5.0	ug/kg	100	ND	100	11-139	12	30	11/07/19	
Dieldrin	120	5.0	ug/kg	100	ND	121	39-137	10	30	11/07/19	
Endosulfan I	120	5.0	ug/kg	100	ND	116	38-132	12	30	11/07/19	
Endosulfan II	110	5.0	ug/kg	100	ND	115	34-138	12	30	11/07/19	
Endosulfan Sulfate	110	5.0	ug/kg	100	ND	115	38-144	10	30	11/07/19	
Endrin	110	5.0	ug/kg	100	ND	115	22-161	13	30	11/07/19	
Endrin Aldehyde	110	5.0	ug/kg	100	ND	107	42-142	11	30	11/07/19	
Heptachlor	120	5.0	ug/kg	100	ND	121	44-133	9	30	11/07/19	
Heptachlor Epoxide	120	5.0	ug/kg	100	ND	121	46-137	11	30	11/07/19	
Lindane	110	5.0	ug/kg	100	ND	115	37-140	14	30	11/07/19	
Methoxychlor	110	5.0	ug/kg	100	ND	114	42-161	12	30	11/07/19	
Surrogate: TCMX	*420*			*380*		*111*	*10-138*			11/07/19	
Matrix Spike (A916600-MS1), Source: A9J3351-01											
4,4'-DDD	99	5.0	ug/kg	99	ND	100	40-134			11/08/19	
4,4'-DDE	98	5.0	ug/kg	99	ND	97	46-139			11/08/19	
4,4'-DDT	98	5.0	ug/kg	99	ND	99	38-156			11/08/19	
Aldrin	99	5.0	ug/kg	99	ND	100	44-125			11/08/19	
alpha-BHC	94	5.0	ug/kg	99	ND	95	30-137			11/08/19	
beta-BHC	96	5.0	ug/kg	99	ND	97	40-155			11/08/19	
delta-BHC	83	5.0	ug/kg	99	ND	83	11-139			11/08/19	
Dieldrin	100	5.0	ug/kg	99	ND	102	39-137			11/08/19	
Endosulfan I	97	5.0	ug/kg	99	ND	98	38-132			11/08/19	
Endosulfan II	93	5.0	ug/kg	99	ND	94	34-138			11/08/19	
Endosulfan Sulfate	93	5.0	ug/kg	99	ND	94	38-144			11/08/19	
Endrin	94	5.0	ug/kg	99	ND	95	22-161			11/08/19	
Endrin Aldehyde	87	5.0	ug/kg	99	ND	87	42-142			11/08/19	
Heptachlor	100	5.0	ug/kg	99	ND	101	44-133			11/08/19	
Heptachlor Epoxide	98	5.0	ug/kg	99	ND	99	46-137			11/08/19	
Lindane	94	5.0	ug/kg	99	ND	95	37-140			11/08/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8081A - Quality Control											
Batch: A916600										Prepared: 11/4/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Matrix Spike (A916600-MS1), Source: A9J3351-01											
Methoxychlor	82	5.0	ug/kg	99	ND	83	42-161			11/08/19	
Surrogate: TCMX	*340*			*370*		*92*	*10-138*			11/08/19	
EPA 8081A - Quality Control											
Batch: A916676										Prepared: 11/5/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Blank (A916676-BLK1)											
4,4'-DDD	ND	5.0	ug/kg							11/07/19	
4,4'-DDE	ND	5.0	ug/kg							11/07/19	
4,4'-DDT	ND	5.0	ug/kg							11/07/19	
Aldrin	ND	5.0	ug/kg							11/07/19	
alpha-BHC	ND	5.0	ug/kg							11/07/19	
beta-BHC	ND	5.0	ug/kg							11/07/19	
Chlordane (Technical)	ND	50	ug/kg							11/07/19	
delta-BHC	ND	5.0	ug/kg							11/07/19	
Dieldrin	ND	5.0	ug/kg							11/07/19	
Endosulfan I	ND	5.0	ug/kg							11/07/19	
Endosulfan II	ND	5.0	ug/kg							11/07/19	
Endosulfan Sulfate	ND	5.0	ug/kg							11/07/19	
Endrin	ND	5.0	ug/kg							11/07/19	
Endrin Aldehyde	ND	5.0	ug/kg							11/07/19	
Heptachlor	ND	5.0	ug/kg							11/07/19	
Heptachlor Epoxide	ND	5.0	ug/kg							11/07/19	
Lindane	ND	5.0	ug/kg							11/07/19	
Methoxychlor	ND	5.0	ug/kg							11/07/19	
Toxaphene	ND	50	ug/kg							11/07/19	
Surrogate: TCMX	*370*			*380*		*98*	*10-138*			11/07/19	
Blank Spike (A916676-BS1)											
4,4'-DDD	99	5.0	ug/kg	100	ND	99	40-134			11/07/19	
4,4'-DDE	95	5.0	ug/kg	100	ND	95	46-139			11/07/19	
4,4'-DDT	95	5.0	ug/kg	100	ND	95	38-156			11/07/19	
Aldrin	96	5.0	ug/kg	100	ND	96	44-125			11/07/19	
alpha-BHC	97	5.0	ug/kg	100	ND	97	30-137			11/07/19	
beta-BHC	94	5.0	ug/kg	100	ND	94	40-155			11/07/19	
delta-BHC	92	5.0	ug/kg	100	ND	92	11-139			11/07/19	
Dieldrin	100	5.0	ug/kg	100	ND	102	39-137			11/07/19	
Endosulfan I	94	5.0	ug/kg	100	ND	94	38-132			11/07/19	
Endosulfan II	94	5.0	ug/kg	100	ND	94	34-138			11/07/19	
Endosulfan Sulfate	96	5.0	ug/kg	100	ND	96	38-144			11/07/19	
Endrin	92	5.0	ug/kg	100	ND	92	22-161			11/07/19	
Endrin Aldehyde	86	5.0	ug/kg	100	ND	86	42-142			11/07/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8081A - Quality Control											
Batch: A916676										Prepared: 11/5/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Blank Spike (A916676-BS1)											
Heptachlor	100	5.0	ug/kg	100	ND	100	44-133			11/07/19	
Heptachlor Epoxide	97	5.0	ug/kg	100	ND	97	46-137			11/07/19	
Lindane	94	5.0	ug/kg	100	ND	94	37-140			11/07/19	
Methoxychlor	92	5.0	ug/kg	100	ND	92	42-161			11/07/19	
Surrogate: TCMX	*410*			*380*		*109*	*10-138*			11/07/19	
Blank Spike (A916676-BS2)											
Toxaphene	140	50	ug/kg	200	ND	72	50-150			11/07/19	
Surrogate: TCMX	*310*			*380*		*82*	*10-138*			11/07/19	
Blank Spike (A916676-BS3)											
Chlordane (Technical)	140	50	ug/kg	200	ND	71	50-150			11/08/19	
Surrogate: TCMX	*340*			*380*		*90*	*10-138*			11/08/19	
Blank Spike Dup (A916676-BSD1)											
4,4'-DDD	110	5.0	ug/kg	100	ND	107	40-134	7	30	11/07/19	
4,4'-DDE	100	5.0	ug/kg	100	ND	101	46-139	7	30	11/07/19	
4,4'-DDT	100	5.0	ug/kg	100	ND	103	38-156	8	30	11/07/19	
Aldrin	100	5.0	ug/kg	100	ND	104	44-125	7	30	11/07/19	
alpha-BHC	100	5.0	ug/kg	100	ND	105	30-137	8	30	11/07/19	
beta-BHC	100	5.0	ug/kg	100	ND	104	40-155	10	30	11/07/19	
delta-BHC	100	5.0	ug/kg	100	ND	100	11-139	8	30	11/07/19	
Dieldrin	110	5.0	ug/kg	100	ND	110	39-137	8	30	11/07/19	
Endosulfan I	100	5.0	ug/kg	100	ND	102	38-132	8	30	11/07/19	
Endosulfan II	100	5.0	ug/kg	100	ND	102	34-138	8	30	11/07/19	
Endosulfan Sulfate	110	5.0	ug/kg	100	ND	105	38-144	9	30	11/07/19	
Endrin	100	5.0	ug/kg	100	ND	103	22-161	12	30	11/07/19	
Endrin Aldehyde	94	5.0	ug/kg	100	ND	94	42-142	9	30	11/07/19	
Heptachlor	110	5.0	ug/kg	100	ND	106	44-133	5	30	11/07/19	
Heptachlor Epoxide	110	5.0	ug/kg	100	ND	108	46-137	11	30	11/07/19	
Lindane	100	5.0	ug/kg	100	ND	103	37-140	9	30	11/07/19	
Methoxychlor	100	5.0	ug/kg	100	ND	101	42-161	10	30	11/07/19	
Surrogate: TCMX	*410*			*380*		*110*	*10-138*			11/07/19	
Matrix Spike (A916676-MS1), Source: A9J3351-40											
4,4'-DDD	93	5.0	ug/kg	99	ND	94	40-134			11/08/19	
4,4'-DDE	100	5.0	ug/kg	99	7.9	94	46-139			11/08/19	
4,4'-DDT	96	5.0	ug/kg	99	ND	94	38-156			11/08/19	
Aldrin	98	5.0	ug/kg	99	ND	99	44-125			11/08/19	
alpha-BHC	95	5.0	ug/kg	99	ND	96	30-137			11/08/19	
beta-BHC	91	5.0	ug/kg	99	ND	92	40-155			11/08/19	
delta-BHC	92	5.0	ug/kg	99	ND	93	11-139			11/08/19	
Dieldrin	100	5.0	ug/kg	99	ND	103	39-137			11/08/19	
Endosulfan I	92	5.0	ug/kg	99	ND	93	38-132			11/08/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8081A - Quality Control											
Batch: A916676										Prepared: 11/5/2019	
Prep Method: EPA 3540C										Analyst: PNN	
Matrix Spike (A916676-MS1), Source: A9J3351-40											
Endosulfan II	87	5.0	ug/kg	99	ND	88	34-138			11/08/19	
Endosulfan Sulfate	87	5.0	ug/kg	99	ND	88	38-144			11/08/19	
Endrin	91	5.0	ug/kg	99	ND	92	22-161			11/08/19	
Endrin Aldehyde	80	5.0	ug/kg	99	ND	81	42-142			11/08/19	
Heptachlor	97	5.0	ug/kg	99	ND	98	44-133			11/08/19	
Heptachlor Epoxide	99	5.0	ug/kg	99	ND	100	46-137			11/08/19	
Lindane	93	5.0	ug/kg	99	ND	94	37-140			11/08/19	
Methoxychlor	71	5.0	ug/kg	99	ND	71	42-161			11/08/19	
Surrogate: TCMX	*370*			*370*		*100*	*10-138*			11/08/19	
EPA 8270C - Quality Control											
Batch: A916893										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank (A916893-BLK1)											
Bolstar	ND	10	ug/kg							11/11/19	
Chlorpyrifos	ND	10	ug/kg							11/11/19	
Demeton O & S	ND	10	ug/kg							11/11/19	
Diazinon	ND	10	ug/kg							11/11/19	
Dichlorvos	ND	10	ug/kg							11/11/19	
Dimethoate	ND	10	ug/kg							11/11/19	
Disulfoton	ND	10	ug/kg							11/11/19	
Ethion	ND	10	ug/kg							11/11/19	
Ethoprop	ND	10	ug/kg							11/11/19	
Fensulfothion	ND	10	ug/kg							11/11/19	
Fenthion	ND	10	ug/kg							11/11/19	
Guthion	ND	10	ug/kg							11/11/19	
Malathion	ND	10	ug/kg							11/11/19	
Mevinphos	ND	10	ug/kg							11/11/19	
Naled	ND	10	ug/kg							11/11/19	
Parathion Ethyl	ND	10	ug/kg							11/11/19	
Parathion Methyl	ND	10	ug/kg							11/11/19	
Phorate	ND	10	ug/kg							11/11/19	
Phosmet	ND	10	ug/kg							11/11/19	
Ronnel	ND	10	ug/kg							11/11/19	
Stirophos	ND	10	ug/kg							11/11/19	
Tokuthion	ND	10	ug/kg							11/11/19	
Trichloronate	ND	10	ug/kg							11/11/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*82*	*46-144*			11/11/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*84*	*30-149*			11/11/19	
Surrogate: p-Terphenyl-d14	*410*			*500*		*82*	*45-161*			11/11/19	
Blank Spike (A916893-BS1)											
Bolstar	22	10	ug/kg	25	ND	89	10-160			11/11/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A916893										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank Spike (A916893-BS1)											
Chlorpyrifos	24	10	ug/kg	25	ND	94	64-142			11/11/19	
Demeton O & S	16	10	ug/kg	25	ND	65	10-130			11/11/19	
Diazinon	23	10	ug/kg	25	ND	94	61-144			11/11/19	
Dichlorvos	24	10	ug/kg	25	ND	95	18-181			11/11/19	
Dimethoate	23	10	ug/kg	25	ND	91	12-200			11/11/19	
Disulfoton	18	10	ug/kg	25	ND	73	10-123			11/11/19	
Ethion	21	10	ug/kg	25	ND	85	66-153			11/11/19	
Ethoprop	23	10	ug/kg	25	ND	92	53-148			11/11/19	
Fensulfothion	24	10	ug/kg	25	ND	95	10-200			11/11/19	
Fenthion	22	10	ug/kg	25	ND	89	10-164			11/11/19	
Guthion	24	10	ug/kg	25	ND	95	10-200			11/11/19	
Malathion	24	10	ug/kg	25	ND	95	61-167			11/11/19	
Mevinphos	23	10	ug/kg	25	ND	92	43-161			11/11/19	
Naled	23	10	ug/kg	25	ND	93	10-200			11/11/19	
Parathion Ethyl	23	10	ug/kg	25	ND	93	65-153			11/11/19	
Parathion Methyl	22	10	ug/kg	25	ND	88	58-170			11/11/19	
Phorate	23	10	ug/kg	25	ND	90	33-125			11/11/19	
Phosmet	24	10	ug/kg	25	ND	95	10-200			11/11/19	
Ronnel	24	10	ug/kg	25	ND	96	72-138			11/11/19	
Stirophos	23	10	ug/kg	25	ND	92	44-184			11/11/19	
Tokuthion	24	10	ug/kg	25	ND	94	82-120			11/11/19	
Trichloronate	24	10	ug/kg	25	ND	94	72-134			11/11/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*83*	*46-144*			11/11/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*84*	*30-149*			11/11/19	
Surrogate: p-Terphenyl-d14	*410*			*500*		*82*	*45-161*			11/11/19	
Blank Spike Dup (A916893-BSD1)											
Bolstar	23	10	ug/kg	25	ND	91	10-160	2	30	11/11/19	
Chlorpyrifos	24	10	ug/kg	25	ND	96	64-142	2	30	11/11/19	
Demeton O & S	18	10	ug/kg	25	ND	72	10-130	10	30	11/11/19	
Diazinon	23	10	ug/kg	25	ND	94	61-144	0	30	11/11/19	
Dichlorvos	24	10	ug/kg	25	ND	96	18-181	2	30	11/11/19	
Dimethoate	23	10	ug/kg	25	ND	94	12-200	3	30	11/11/19	
Disulfoton	19	10	ug/kg	25	ND	76	10-123	4	30	11/11/19	
Ethion	21	10	ug/kg	25	ND	84	66-153	1	30	11/11/19	
Ethoprop	23	10	ug/kg	25	ND	94	53-148	2	30	11/11/19	
Fensulfothion	24	10	ug/kg	25	ND	95	10-200	0	30	11/11/19	
Fenthion	23	10	ug/kg	25	ND	91	10-164	2	30	11/11/19	
Guthion	24	10	ug/kg	25	ND	94	10-200	1	30	11/11/19	
Malathion	24	10	ug/kg	25	ND	96	61-167	1	30	11/11/19	
Mevinphos	24	10	ug/kg	25	ND	94	43-161	2	30	11/11/19	
Naled	24	10	ug/kg	25	ND	94	10-200	1	30	11/11/19	
Parathion Ethyl	24	10	ug/kg	25	ND	95	65-153	2	30	11/11/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A916893										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank Spike Dup (A916893-BSD1)											
Parathion Methyl	23	10	ug/kg	25	ND	91	58-170	3	30	11/11/19	
Phorate	23	10	ug/kg	25	ND	91	33-125	1	30	11/11/19	
Phosmet	24	10	ug/kg	25	ND	94	10-200	1	30	11/11/19	
Ronnel	24	10	ug/kg	25	ND	97	72-138	1	30	11/11/19	
Stirophos	23	10	ug/kg	25	ND	93	44-184	1	30	11/11/19	
Tokuthion	24	10	ug/kg	25	ND	95	82-120	1	30	11/11/19	
Trichloronate	24	10	ug/kg	25	ND	95	72-134	1	30	11/11/19	
Surrogate: 2-Fluorobiphenyl	*420*			*500*		*84*	*46-144*			11/11/19	
Surrogate: Nitrobenzene-d5	*430*			*500*		*86*	*30-149*			11/11/19	
Surrogate: p-Terphenyl-d14	*420*			*500*		*83*	*45-161*			11/11/19	
Matrix Spike (A916893-MS1), Source: A9J3351-01											
Bolstar	24	10	ug/kg	25	ND	97	10-160			11/11/19	
Chlorpyrifos	23	10	ug/kg	25	ND	94	64-142			11/11/19	
Demeton O & S	16	10	ug/kg	25	ND	64	10-130			11/11/19	
Diazinon	18	10	ug/kg	25	ND	73	61-144			11/11/19	
Dichlorvos	21	10	ug/kg	25	ND	83	18-181			11/11/19	
Dimethoate	19	10	ug/kg	25	ND	73	12-200			11/11/19	
Disulfoton	22	10	ug/kg	25	ND	88	10-123			11/11/19	
Ethion	21	10	ug/kg	25	ND	83	66-153			11/11/19	
Ethoprop	23	10	ug/kg	25	ND	93	53-148			11/11/19	
Fensulfothion	21	10	ug/kg	25	ND	83	10-200			11/11/19	
Fenthion	23	10	ug/kg	25	ND	94	10-164			11/11/19	
Guthion	25	10	ug/kg	25	ND	99	10-200			11/11/19	
Malathion	24	10	ug/kg	25	ND	96	61-167			11/11/19	
Mevinphos	8.3	10	ug/kg	25	ND	33	43-161			11/11/19	MS1.0 ***Low***
Naled	14	10	ug/kg	25	ND	44	10-200			11/11/19	
Parathion Ethyl	23	10	ug/kg	25	ND	93	65-153			11/11/19	
Parathion Methyl	22	10	ug/kg	25	ND	91	58-170			11/11/19	
Phorate	23	10	ug/kg	25	ND	92	33-125			11/11/19	
Phosmet	25	10	ug/kg	25	ND	99	10-200			11/11/19	
Ronnel	24	10	ug/kg	25	ND	97	72-138			11/11/19	
Stirophos	23	10	ug/kg	25	ND	92	44-184			11/11/19	
Tokuthion	24	10	ug/kg	25	ND	97	82-120			11/11/19	
Trichloronate	23	10	ug/kg	25	ND	95	72-134			11/11/19	
Surrogate: 2-Fluorobiphenyl	*420*			*500*		*84*	*46-144*			11/11/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*85*	*30-149*			11/11/19	
Surrogate: p-Terphenyl-d14	*410*			*500*		*82*	*45-161*			11/11/19	
EPA 8270C - Quality Control											
Batch: A916894										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank (A916894-BLK1)											

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A916894										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank (A916894-BLK1)											
Bolstar	ND	10	ug/kg							11/12/19	
Chlorpyrifos	ND	10	ug/kg							11/12/19	
Demeton O & S	ND	10	ug/kg							11/12/19	
Diazinon	ND	10	ug/kg							11/12/19	
Dichlorvos	ND	10	ug/kg							11/12/19	
Dimethoate	ND	10	ug/kg							11/12/19	
Disulfoton	ND	10	ug/kg							11/12/19	
Ethion	ND	10	ug/kg							11/12/19	
Ethoprop	ND	10	ug/kg							11/12/19	
Fensulfothion	ND	10	ug/kg							11/12/19	
Fenthion	ND	10	ug/kg							11/12/19	
Guthion	ND	10	ug/kg							11/12/19	
Malathion	ND	10	ug/kg							11/12/19	
Mevinphos	ND	10	ug/kg							11/12/19	
Naled	ND	10	ug/kg							11/12/19	
Parathion Ethyl	ND	10	ug/kg							11/12/19	
Parathion Methyl	ND	10	ug/kg							11/12/19	
Phorate	ND	10	ug/kg							11/12/19	
Phosmet	ND	10	ug/kg							11/12/19	
Ronnel	ND	10	ug/kg							11/12/19	
Stirophos	ND	10	ug/kg							11/12/19	
Tokuthion	ND	10	ug/kg							11/12/19	
Trichloronate	ND	10	ug/kg							11/12/19	
Surrogate: 2-Fluorobiphenyl	*430*			*500*		*86*	*46-144*			11/12/19	
Surrogate: Nitrobenzene-d5	*430*			*500*		*86*	*30-149*			11/12/19	
Surrogate: p-Terphenyl-d14	*430*			*500*		*86*	*45-161*			11/12/19	
Blank Spike (A916894-BS1)											
Bolstar	22	10	ug/kg	25	ND	87	10-160			11/12/19	
Chlorpyrifos	24	10	ug/kg	25	ND	96	64-142			11/12/19	
Demeton O & S	14	10	ug/kg	25	ND	56	10-130			11/12/19	
Diazinon	23	10	ug/kg	25	ND	94	61-144			11/12/19	
Dichlorvos	24	10	ug/kg	25	ND	94	18-181			11/12/19	
Dimethoate	23	10	ug/kg	25	ND	93	12-200			11/12/19	
Disulfoton	16	10	ug/kg	25	ND	65	10-123			11/12/19	
Ethion	21	10	ug/kg	25	ND	83	66-153			11/12/19	
Ethoprop	23	10	ug/kg	25	ND	93	53-148			11/12/19	
Fensulfothion	22	10	ug/kg	25	ND	88	10-200			11/12/19	
Fenthion	22	10	ug/kg	25	ND	90	10-164			11/12/19	
Guthion	23	10	ug/kg	25	ND	91	10-200			11/12/19	
Malathion	24	10	ug/kg	25	ND	95	61-167			11/12/19	
Mevinphos	24	10	ug/kg	25	ND	94	43-161			11/12/19	
Naled	23	10	ug/kg	25	ND	91	10-200			11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A916894										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank Spike (A916894-BS1)											
Parathion Ethyl	23	10	ug/kg	25	ND	92	65-153			11/12/19	
Parathion Methyl	22	10	ug/kg	25	ND	88	58-170			11/12/19	
Phorate	21	10	ug/kg	25	ND	85	33-125			11/12/19	
Phosmet	23	10	ug/kg	25	ND	92	10-200			11/12/19	
Ronnel	24	10	ug/kg	25	ND	97	72-138			11/12/19	
Stirophos	23	10	ug/kg	25	ND	92	44-184			11/12/19	
Tokuthion	23	10	ug/kg	25	ND	93	82-120			11/12/19	
Trichloronate	24	10	ug/kg	25	ND	95	72-134			11/12/19	
Surrogate: 2-Fluorobiphenyl	*420*			*500*		*83*	*46-144*			11/12/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*85*	*30-149*			11/12/19	
Surrogate: p-Terphenyl-d14	*420*			*500*		*84*	*45-161*			11/12/19	
Blank Spike Dup (A916894-BSD1)											
Bolstar	22	10	ug/kg	25	ND	88	10-160	1	30	11/12/19	
Chlorpyrifos	24	10	ug/kg	25	ND	95	64-142	1	30	11/12/19	
Demeton O & S	15	10	ug/kg	25	ND	62	10-130	10	30	11/12/19	
Diazinon	23	10	ug/kg	25	ND	93	61-144	0	30	11/12/19	
Dichlorvos	24	10	ug/kg	25	ND	95	18-181	1	30	11/12/19	
Dimethoate	23	10	ug/kg	25	ND	92	12-200	1	30	11/12/19	
Disulfoton	17	10	ug/kg	25	ND	69	10-123	6	30	11/12/19	
Ethion	21	10	ug/kg	25	ND	82	66-153	1	30	11/12/19	
Ethoprop	24	10	ug/kg	25	ND	98	53-148	4	30	11/12/19	
Fensulfothion	21	10	ug/kg	25	ND	85	10-200	3	30	11/12/19	
Fenthion	23	10	ug/kg	25	ND	90	10-164	1	30	11/12/19	
Guthion	23	10	ug/kg	25	ND	92	10-200	1	30	11/12/19	
Malathion	24	10	ug/kg	25	ND	94	61-167	0	30	11/12/19	
Mevinphos	24	10	ug/kg	25	ND	96	43-161	2	30	11/12/19	
Naled	21	10	ug/kg	25	ND	85	10-200	6	30	11/12/19	
Parathion Ethyl	23	10	ug/kg	25	ND	91	65-153	1	30	11/12/19	
Parathion Methyl	21	10	ug/kg	25	ND	86	58-170	2	30	11/12/19	
Phorate	22	10	ug/kg	25	ND	88	33-125	3	30	11/12/19	
Phosmet	23	10	ug/kg	25	ND	90	10-200	2	30	11/12/19	
Ronnel	24	10	ug/kg	25	ND	96	72-138	1	30	11/12/19	
Stirophos	23	10	ug/kg	25	ND	92	44-184	0	30	11/12/19	
Tokuthion	23	10	ug/kg	25	ND	92	82-120	1	30	11/12/19	
Trichloronate	23	10	ug/kg	25	ND	94	72-134	2	30	11/12/19	
Surrogate: 2-Fluorobiphenyl	*430*			*500*		*86*	*46-144*			11/12/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*85*	*30-149*			11/12/19	
Surrogate: p-Terphenyl-d14	*420*			*500*		*84*	*45-161*			11/12/19	
Matrix Spike (A916894-MS1), Source: A9J3351-40											
Bolstar	23	10	ug/kg	25	ND	95	10-160			11/12/19	
Chlorpyrifos	23	10	ug/kg	25	ND	95	64-142			11/12/19	
Demeton O & S	8.0	10	ug/kg	25	ND	32	10-130			11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A916894										Prepared: 11/8/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Matrix Spike (A916894-MS1), Source: A9J3351-40											
Diazinon	18	10	ug/kg	25	ND	72	61-144			11/12/19	
Dichlorvos	17	10	ug/kg	25	ND	71	18-181			11/12/19	
Dimethoate	10	10	ug/kg	25	ND	40	12-200			11/12/19	
Disulfoton	20	10	ug/kg	25	ND	81	10-123			11/12/19	
Ethion	22	10	ug/kg	25	ND	84	66-153			11/12/19	
Ethoprop	22	10	ug/kg	25	ND	88	53-148			11/12/19	
Fensulfothion	15	10	ug/kg	25	ND	60	10-200			11/12/19	
Fenthion	22	10	ug/kg	25	ND	90	10-164			11/12/19	
Guthion	24	10	ug/kg	25	ND	98	10-200			11/12/19	
Malathion	22	10	ug/kg	25	ND	90	61-167			11/12/19	
Mevinphos	3.1	10	ug/kg	25	ND	12	43-161			11/12/19	MS1.0 ***Low***
Naled	14	10	ug/kg	25	ND	46	10-200			11/12/19	
Parathion Ethyl	23	10	ug/kg	25	ND	93	65-153			11/12/19	
Parathion Methyl	22	10	ug/kg	25	ND	89	58-170			11/12/19	
Phorate	22	10	ug/kg	25	ND	88	33-125			11/12/19	
Phosmet	25	10	ug/kg	25	ND	97	10-200			11/12/19	
Ronnel	24	10	ug/kg	25	ND	99	72-138			11/12/19	
Stirophos	21	10	ug/kg	25	ND	87	44-184			11/12/19	
Tokuthion	25	10	ug/kg	25	ND	100	82-120			11/12/19	
Trichloronate	24	10	ug/kg	25	ND	96	72-134			11/12/19	
Surrogate: 2-Fluorobiphenyl	*420*			*500*		*85*	*46-144*			11/12/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*84*	*30-149*			11/12/19	
Surrogate: p-Terphenyl-d14	*400*			*500*		*82*	*45-161*			11/12/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certificate of Analysis

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-012
State of Nevada	CA000792020-2	State of Oregon - NELAP	4021-012
EPA - UCMR4	CA00079	State of Washington	C997-19c

Sacramento

State of California - ELAP	2435		

San Bernardino

State of California - ELAP	2993	Los Angeles CSD	9254478
NELAP certified	4119-004	State of Oregon - NELAP	4119-004

Vancouver

NELAP certified	WA100008-012	State of Oregon - NELAP	WA100008-012
State of Washington	C824-19		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

BSK Associates SR-FL-0002-20

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	(Yes) No NA	Are correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No (NA) Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Is sufficient amount of sample received?	(Yes) No
Do all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Has PM been notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	1	2-3	4	5-6	7
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	1		1		1
Solids: Brass / Steel / Plastic Bag	—	—		1		1	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK Associates SR-FL-0002-20

A9J3351 BSKAs2880 10/31/2019

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Sample Integrity

BSK Bottles: Yes No Page 2 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	8-9	10	11-12	13	14-15
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		1		1	
Solids: Brass / Steel / Plastic Bag	—	—	1		1		1

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____



BSK Associates SR-FL-0002-20

Sample Integrity

BSK Bottles: Yes No Page 3 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	16	17-18	19	20-21	22
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	1		1		1
Solids: Brass / Steel / Plastic Bag	—	—		1		1	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

A9J3351 BSKAs2880 10/31/2019

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Sample Integrity

BSK Bottles: Yes No Page 4 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)?	Yes No NA
		TB Received? (Check Method Below)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"|" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	23-24	25	26-27	28	29-30
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		1		1	
Solids: Brass / Steel / Plastic Bag	—	—	1		1		1

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK Associates SR-FL-0002-20

A9J3351 BSKAs2880 10/31/2019

10

Sample Integrity

BSK Bottles: Yes No Page 5 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	~~Yes No NA~~	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA ~~Yes No NA~~
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	31	32-33	34	35-36	37
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	✓		✓		✓
Solids: Brass / Steel / Plastic Bag	—	—		✓		✓	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK Associates SR-FL-0002-20

Sample Integrity

BSK Bottles: Yes No Page 10 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	38-39	40	41-42	43	44-45
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		1		1	
Solids: Brass / Steel / Plastic Bag	—	—	1		1		1

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____



BSK Associates SR-FL-0002-20

Sample Integrity

BSK Bottles: Yes No Page 7 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	46	47-48	49	50-51	52
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	1		1		1
Solids: Brass / Steel / Plastic Bag	—	—		1		1	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK Associates SR-FL-0002-20

Sample Integrity

BSK Bottles: Yes No Page 8 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	53-54	55	56-57	58	59-60
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		✓		✓	
Solids: Brass / Steel / Plastic Bag	—	—	✓		✓		✓

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

A9J3351 BSKAs2880 10/31/2019



10

Sample Integrity

BSK Bottles: Yes No Page 9 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)?	Yes No NA
		TB Received? (Check Method Below)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	61	62&63	64	65&66	67
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	✓		✓		✓
Solids: Brass / Steel / Plastic Bag	—	—		✓		✓	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

A9J3351 BSKAs2880 10/31/2019

10

Sample Integrity

BSK Bottles: Yes No Page 10 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Are correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present in VOA (524.2/TCP/TTHM)?	Yes No NA
		TB Received? (Check Method Below)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Is sufficient amount of sample received?	Yes No
Do all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Has PM been notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	68-69	70	71-72	73	74-75
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		1		1	
Solids: Brass / Steel / Plastic Bag	—	—	1		1		1

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK Associates SR-FL-0002-20

A9J3351 BSKAs2880 10/31/2019

10

Sample Integrity

BSK Bottles: Yes No Page 11 of 11

COC Info

Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA		Are correct containers and preservatives received for the tests requested?	Yes No NA	
If samples were taken today, is there evidence that chilling has begun?	Yes No NA		Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA Yes No NA	
Did all bottles arrive unbroken and intact?	Yes No		Is sufficient amount of sample received?	Yes No	
Do all bottle labels agree with COC?	Yes No		Do samples have a hold time <72 hours?	Yes No	
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA		Has PM been notified of discrepancies? PM: By/Time:	Yes No NA	

Bottles Received

"-" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	76	77-78			
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					10-31-19
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					NR
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—	1				
Solids: Brass / Steel / Plastic Bag	—	—		1			

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

BSK ASSOCIATES
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893
www.bskassociates.com

#53

Turnaround Time Request
- [X] Standard - 10 business days
- [ ] Rush (Surcharge may apply)
  Date needed: 1 week

*Required Fields

Temp: 2.9

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax:
BSK	Lynne Baumgras Additional cc's: Kyle Wright	PO#:	(559)497-2880 E-mail*: kwright@bskassociates.com, lbaumgras@bskassociates.com	

Address*:	City*:	State*:	Zip*:
550 W Locust Ave	Fresno	Ca	93650

Project:	Project #:	How would you like to receive your completed results?*
KCCCD - Arvin Limited Subsurface Soil Investigation	E19-041-01F	[X] E-Mail [ ] Fax [ ] Mail

Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____

Regulatory Carbon Copies: [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____

Regulatory Compliance: [ ] EDT to California SWRCB (Drinking Water) System Number*: _____ [ ] Geotracker # _____

Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
1	B-1 @ 0.5 - 1.0'	10/29/19	09:45	SO		X	X	X
2	B-1 @ 2.5 - 3.0'		09:50		Hold Sample			
3	B-1 @ 4.5 - 5.0'		10:03		Hold Sample			
4	B-2 @ 0.5 - 1.0'		10:10			X	X	X
5	B-2 @ 2.5 - 3.0'		10:12		Hold Sample			
6	B-2 @ 4.5 - 5.0'		10:25		Hold Sample			
7	B-3 @ 0.5 - 1.0'		10:35			X	X	X
8	B-3 @ 2.5 - 3.0'		10:42		Hold Sample			
9	B-3 @ 4.5 - 5.0'		10:50		Hold Sample			
10	B-4 @ 0.5 - 1.0'		10:55			X	X	X
11	B-4 @ 2.5 - 3.0'		11:00		Hold Sample			
12	B-4 @ 4.5 - 5.0'		11:10		Hold Sample			
13	B-5 @ 0.5 - 1.0'		11:20			X	X	X
14	B-5 @ 2.5 - 3.0'	10/29/19	11:23	SO	Hold Sample			

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Kyle Wright	BSK	10/31/19	12:55		
		Date	Time		
Received for Lab by: (Signature and Printed Name)		Date 10/31/19	Time 1255	Payment Received at Delivery: Date: Amount: PIA#: Check / Cash Init.	

Shipping Method: ONTRAC UPS GSO (WALK-IN) FED EX Courier: _____
Custody Seal: Y / N
Cooling Method: (Wet) Blue None
Chilling Process Begun: (Y) / N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

BSK ASSOCIATES
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893
www.bskassociates.com

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed: 1 week

A9J3351 BSKAs2880 10/31/2019

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax:
BSK	Lynne Baumgras Additional cc's: Kyle Wright	PO#:	(559)497-2880 E-mail*: kwright@bskassociates.com, lbaumgras@bskassociates.com	

Address*:	City*:	State*:	Zip*:
550 W Locust Ave	Fresno	Ca	93650

Project: KCCCD - Arvin Limited Subsurface Soil Investigation
Project #: E19-041-01F
How would you like to receive your completed results?* [X] E-Mail [ ] Fax [ ] Mail

Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____
Regulatory Carbon Copies: [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____
Regulatory Compliance: [ ] EDT to California SWRCB (Drinking Water) System Number* _____ [ ] Geotracker # _____

Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
15	B-5 @ 4.5 - 5.0'	10/29/19	11:30	SO	Hold Sample			
16	B-6 @ 0.5 - 1.0'		11:50			X	X	X
17	B-6 @ 2.5 - 3.0'		11:55		Hold Sample			
18	B-6 @ 4.5 - 5.0'		12:00		Hold Sample			
19	B-7 @ 0.5 - 1.0'		12:07			X	X	X
20	B-7 @ 2.5 - 3.0'		12:10		Hold Sample			
21	B-7 @ 4.5 - 5.0'		12:16		Hold Sample			
22	B-8 @ 0.5 - 1.0'		12:29			X	X	X
23	B-8 @ 2.5 - 3.0'		12:36		Hold Sample			
24	B-8 @ 4.5 - 5.0'		12:45		Hold Sample			
25	B-9 @ 0.5 - 1.0'		12:58			X	X	X
26	B-9 @ 2.5 - 3.0'		13:05		Hold Sample			
27	B-9 @ 4.5 - 5.0'		13:07		Hold Sample			
28	B-10 @ 0.5 - 1.0'	10/29/19	13:13	SO		X	X	X

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Kyle Wright	BSK	10/31/19	12:55		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date 10/31/19	Time 1255	Payment Received at Delivery Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: CONTRAC UPS GSO WALK-IN FED EX Courier: _____
Cooling Method: Wet Blue None
Custody Seal: Y / N
Chilling Process Begun: Y / N

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Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed: 1 week

A9J3351 BSKAs2880 10/31/2019 10

*Required Fields

Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax:
BSK	Lynne Baumgras		(559)497-2880	
	Additional cc's: Kyle Wright	PO#:	E-mail*: kwright@bskassociates.com, lbaumgras@bskassociates.com	
Address*: 550 W Locust Ave	City*: Fresno	State*: Ca	Zip*: 93650	

Project: KCCCD - Arvin Limited Subsurface Soil Investigation
Project #: E19-041-01F
How would you like to receive your completed results?* [X] E-Mail [ ] Fax [ ] Mail

Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____

Regulatory Carbon Copies: [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____

Regulatory Compliance: [ ] EDT to California SWRCB (Drinking Water) System Number*: _____ [ ] Geotracker # _____

Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
29	B-10 @ 2.5 - 3.0'	10/29/19	13:17	SO	Hold Sample			
30	B-10 @ 4.5 - 5.0'		13:21		Hold Sample			
31	B-11 @ 0.5 - 1.0'		13:28			X	X	X
32	B-11 @ 2.5 - 3.0'		13:30		Hold Sample			
33	B-11 @ 4.5 - 5.0'		13:35		Hold Sample			
34	B-12 @ 0.5 - 1.0'		13:43			X	X	X
35	B-12 @ 2.5 - 3.0'		13:50		Hold Sample			
36	B-12 @ 4.5 - 5.0'		13:57		Hold Sample			
37	B-13 @ 0.5 - 1.0'		14:11			X	X	X
38	B-13 @ 2.5 - 3.0'		14:20		Hold Sample			
39	B-13 @ 4.5 - 5.0'	10/29/19	14:25		Hold Sample			
40	B-14 @ 0.5 - 1.0'	10/30/19	08:00			X	X	X
41	B-14 @ 2.5 - 3.0'	10/30/19	09:05		Hold Sample			
42	B-14 @ 4.5 - 5.0'	10/30/19	09:10	SO	Hold Sample			

	Company	Date	Time		Company
Relinquished by: (Signature and Printed Name) Kyle Wright	BSK	10/31/19	12:55	Received by: (Signature and Printed Name)	
Relinquished by: (Signature and Printed Name)				Received by: (Signature and Printed Name)	
Received for Lab by: (Signature and Printed Name)		Date: 10/31/19	Time: 1255	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____
Cooling Method: Wet Blue None
Custody Seal: Y / N
Chilling Process Begun: Y / N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

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SR-FL-0012-07

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www.bskassociates.com

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed: 1 week

A9J3351 BSKAs2880 10/31/2019 10

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax:
BSK	Lynne Baumgras Additional cc's: Kyle Wright	PO#:	(559)497-2880 kwright@bskassociates.com E-mail*: lbaumgras@bskassociates.com	

Address*:	City*:	State*:	Zip*:
550 W Locust Ave	Fresno	Ca	93650

Project: KCCCD - Arvin Limited Subsurface Soil Investigation
Project #: E19-041-01F
How would you like to receive your completed results?* [X] E-Mail [ ] Fax [ ] Mail

Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____

Regulatory Carbon Copies: [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____

Regulatory Compliance: [ ] EDT to California SWRCB (Drinking Water) System Number*: _____ [ ] Geotracker #: _____

Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
43 15	B-15 @ 0.5 - 1.0'	10/30/19	09:20	SO		X	X	X
44	B-15 @ 2.5 - 3.0'		09:26		Hold Sample			
45	B-15 @ 4.5 - 5.0'		09:30		Hold Sample			
46 16	B-16 @ 0.5 - 1.0'		09:42			X	X	X
47	B-16 @ 2.5 - 3.0'		09:45		Hold Sample			
48	B-16 @ 4.5 - 5.0'		09:50		Hold Sample			
49 17	B-17 @ 0.5 - 1.0'		10:10			X	X	X
50	B-17 @ 2.5 - 3.0'		10:15		Hold Sample			
51	B-17 @ 4.5 - 5.0'		10:27		Hold Sample			
52 18	B-18 @ 0.5 - 1.0'	"	10:30			X	X	X
53	B-18 @ 2.5 - 3.0'		10:35		Hold Sample			
54	B-18 @ 4.5 - 5.0'		10:45		Hold Sample			
55 19	B-19 @ 0.5 - 1.0'		10:50			X	X	X
56	B-19 @ 2.5 - 3.0'	10/30/19	10:55	SO	Hold Sample			

	Company	Date	Time		Company
Relinquished by: (Signature and Printed Name) Kyle Wright	BSK	10/31/19	12:55	Received by: (Signature and Printed Name)	
Relinquished by: (Signature and Printed Name)		Date	Time	Received by: (Signature and Printed Name)	
Received for Lab by: (Signature and Printed Name)		Date 10/31/19	Time 1255	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____
Cooling Method: Wet Blue None
Custody Seal: Y / N
Chilling Process Begun: Y / N

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Turnaround Time Request
- [X] Standard - 10 business days
- [ ] Rush (Surcharge may apply)
  Date needed: 1 week

*Required Fields Temp:

Company/Client Name*: BSK	**Report Attention*:** Lynne Baumgras **Additional cc's:** Kyle Wright	**Invoice To*:** **PO#:**	**Phone*:** (559)497-2880 **Fax:** kwright@bskassociates.com **E-mail*:** lbaumgras@bskassociates.com
Address*: 550 W Locust Ave	**City*:** Fresno	**State*:** Ca **Zip*:** 93650	
Project: KCCCD - Arvin Limited Subsurface Soil Investigation	**Project #:** E19-041-01F	**How would you like to receive your completed results?*** [X] E-Mail [ ] Fax [ ] Mail	
Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____	**Regulatory Carbon Copies** [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____	**Regulatory Compliance** [ ] EDT to California SWRCB (Drinking Water) System Number*: _____ [ ] Geotracker # _____	
Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez			

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
57	B-19 @ 4.5 - 5.0'	10/30/19	11:00	SO	Hold Sample			
58 20	B-20 @ 0.5 - 1.0'		11:02			X	X	X
59	B-20 @ 2.5 - 3.0'		11:04		Hold Sample			
60	B-20 @ 4.5 - 5.0'		11:07		Hold Sample			
61 21	B-21 @ 0.5 - 1.0'		11:13			X	X	X
62	B-21 @ 2.5 - 3.0'		11:17		Hold Sample			
63	B-21 @ 4.5 - 5.0'		11:20		Hold Sample			
64 22	B-22 @ 0.5 - 1.0'	10/30/19	11:27			X	X	X
65	B-22 @ 2.5 - 3.0'		11:55		Hold Sample			
66	B-22 @ 4.5 - 5.0'		12:10		Hold Sample			
67 23	B-23 @ 0.5 - 1.0'	10/30/19	12:25			X	X	X
68	B-23 @ 2.5 - 3.0'		12:27		Hold Sample			
69	B-23 @ 4.5 - 5.0'		12:32		Hold Sample			
70 24	B-24 @ 0.5 - 1.0'	10/30/19	12:36	SO		X	X	X

Relinquished by: (Signature and Printed Name) Kyle Wright	Company: BSK	Date: 10/31/19	Time: 12:55	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date: 10/31/19	Time: 1255	Payment Received at Delivery Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____
Custody Seal: Y / N
Cooling Method: Wet Blue None
Chilling Process Begun: Y / N

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A9J3351 BSKAs2880 10/31/2019

10

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www.bskassociates.com

Turnaround Time Request
- [X] Standard - 10 business days
- [ ] Rush (Surcharge may apply)

Date needed: 1 week

*Required Fields

Temp:

Company/Client Name*: BSK	**Report Attention*:** Lynne Baumgras Additional cc's: Kyle Wright	**Invoice To*:** PO#:	**Phone*:** (559)497-2880 **Fax:** kwright@bskassociates.com **E-mail*:** lbaumgras@bskassociates.com
Address*: 550 W Locust Ave	**City*:** Fresno	**State*:** Ca **Zip*:** 93650	
Project: KCCCD - Arvin Limited Subsurface Soil Investigation	**Project #:** E19-041-01F	**How would you like to receive your completed results?** [X] E-Mail [ ] Fax [ ] Mail	
Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type:	**Regulatory Carbon Copies:** [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other:	**Regulatory Compliance:** [ ] EDT to California SWRCB (Drinking Water) System Number*: [ ] Geotracker #	
Sampler Name (Printed/Signature)*: Kyle Wright, Freddy Gomez			

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020
71	B-24 @ 2.5 - 3.0'	10/30/19	12:48	SO	Hold Sample			
72	B-24 @ 4.5 - 5.0'		12:53		Hold Sample			
73 (25)	B-25 @ 0.5 - 1.0'		13:00			X	X	X
74	B-25 @ 2.5 - 3.0'		13:10		Hold Sample			
75	B-25 @ 4.5 - 5.0'		13:12		Hold Sample			
76 (26)	B-26 @ 0.5 - 1.0'		13:26			X	X	X
77	B-26 @ 2.5 - 3.0'		13:30		Hold Sample			
78	B-6 @ 4.5 - 5.0'	10/30/19	13:35	SO	Hold Sample			

10-31-19 MR

Relinquished by: (Signature and Printed Name) Kyle Wright	Company: BSK	Date: 10/31/19	Time: 12:55	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date: 10/31/19	Time: 1255	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier:

Cooling Method: Wet Blue None

Custody Seal: Y / N

Chilling Process Begun: Y / N

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BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (FAX)

A9K0882
11/20/2019
Invoice: A931750

Lynne Baumgras
BSK Associates - Fresno
550 West Locust Avenue
Fresno, CA 93650

RE: Report for A9K0882 KCCD Arvin Campus E19-041-01F

Dear Lynne Baumgras,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/12/2019. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Heather S. White , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Heather S. White, Project Manager

Accredited in Accordance with NELAP
ORELAP #4021-009

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Case Narrative

Project and Report Details		Invoice Details	
Client:	BSK Associates - Fresno	**Invoice To:**	BSK Associates - Fresno
Report To:	Lynne Baumgras	**Invoice Attn:**	Lynne Baumgras
Project #:	KCCD Arvin Campus E19-041-01F	**Project PO#:**	-
Received:	11/12/2019 - 11:36		
Report Due:	11/19/2019		

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt ºC: 7.0

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample detection is below the reporting limit for this parameter.
MS1.0	Matrix spike recoveries exceed control limits.
MS1.2	Matrix spike recovery exceeds lower control limit. Reported results for parent matrix should be considered estimated due to matrix interferences.

Report Distribution

Recipient(s)	Report Format	CC:
Lynne Baumgras	FINAL.RPT	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-01
Sampled By: Kyle Wright
Sample Description: B-1 @ 10'

Sample Date - Time: 11/11/19 - 09:59
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**14**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**220**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**18**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**13**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**53**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	**67**	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-01
Sampled By: Kyle Wright
Sample Description: B-1 @ 10'

Sample Date - Time: 11/11/19 - 09:59
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-01
Sampled By: Kyle Wright
Sample Description: B-1 @ 10'

Sample Date - Time: 11/11/19 - 09:59
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	104 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 8260B	114 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 8260B	87 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	CV0.0
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	CV0.0
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range:*		*46-144 %*				
Surrogate: Nitrobenzene-d5	EPA 8270C	86 %	*Acceptable range:*		*30-149 %*				
Surrogate: p-Terphenyl-d14	EPA 8270C	85 %	*Acceptable range:*		*45-161 %*				
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	111 %	*Acceptable range:*		*50-150 %*				

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Certificate of Analysis

Sample ID: A9K0882-02
Sampled By: Kyle Wright
Sample Description: B-1 @ 15'

Sample Date - Time: 11/11/19 - 10:15
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**8.6**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**210**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**13**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**8.6**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**43**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	ND	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-02
Sampled By: Kyle Wright
Sample Description: B-1 @ 15'

Sample Date - Time: 11/11/19 - 10:15
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-02
Sampled By: Kyle Wright
Sample Description: B-1 @ 15'

Sample Date - Time: 11/11/19 - 10:15
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	103 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 8260B	110 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 8260B	88 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	CV0.0
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	CV0.0
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range:*		*46-144 %*				
Surrogate: Nitrobenzene-d5	EPA 8270C	87 %	*Acceptable range:*		*30-149 %*				
Surrogate: p-Terphenyl-d14	EPA 8270C	86 %	*Acceptable range:*		*45-161 %*				
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	114 %	*Acceptable range:*		*50-150 %*				

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-03
Sampled By: Kyle Wright
Sample Description: B-2 @ 10'

Sample Date - Time: 11/11/19 - 10:47
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**12**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**230**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**17**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**13**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	**1.5**	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**50**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	**65**	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-03
Sampled By: Kyle Wright
Sample Description: B-2 @ 10'

Sample Date - Time: 11/11/19 - 10:47
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-03
Sampled By: Kyle Wright
Sample Description: B-2 @ 10'

Sample Date - Time: 11/11/19 - 10:47
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	109 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 8260B	114 %	*Acceptable range: 70-130 %*						
Surrogate: Toluene-d8	EPA 8260B	87 %	*Acceptable range: 70-130 %*						
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	80 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	85 %	*Acceptable range: 45-161 %*						
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	121 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-04
Sampled By: Kyle Wright
Sample Description: B-2 @ 15'

Sample Date - Time: 11/11/19 - 10:54
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**9.8**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**180**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**14**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**10**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**44**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	ND	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-04
Sampled By: Kyle Wright
Sample Description: B-2 @ 15'

Sample Date - Time: 11/11/19 - 10:54
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-04
Sampled By: Kyle Wright
Sample Description: B-2 @ 15'

Sample Date - Time: 11/11/19 - 10:54
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	106 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 8260B	110 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 8260B	89 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range:*		*46-144 %*				
Surrogate: Nitrobenzene-d5	EPA 8270C	84 %	*Acceptable range:*		*30-149 %*				
Surrogate: p-Terphenyl-d14	EPA 8270C	85 %	*Acceptable range:*		*45-161 %*				
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	117 %	*Acceptable range:*		*50-150 %*				

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Certificate of Analysis

Sample ID: A9K0882-05
Sampled By: Kyle Wright
Sample Description: B-3 @ 5'

Sample Date - Time: 11/11/19 - 11:00
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	MS1.2
Arsenic	EPA 6020	**19**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**200**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**17**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**13**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	**25**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	MS1.2
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**51**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	**68**	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-05
Sampled By: Kyle Wright
Sample Description: B-3 @ 5'

Sample Date - Time: 11/11/19 - 11:00
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-05
Sampled By: Kyle Wright
Sample Description: B-3 @ 5'

Sample Date - Time: 11/11/19 - 11:00
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	108 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 8260B	113 %	*Acceptable range: 70-130 %*						
Surrogate: Toluene-d8	EPA 8260B	86 %	*Acceptable range: 70-130 %*						
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	**1.2**	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	83 %	*Acceptable range: 46-144 %*						
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range: 30-149 %*						
Surrogate: p-Terphenyl-d14	EPA 8270C	85 %	*Acceptable range: 45-161 %*						
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	121 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-06
Sampled By: Kyle Wright
Sample Description: B-3 @ 10'

Sample Date - Time: 11/11/19 - 11:15
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**16**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**240**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	**19**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**13**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	**9.7**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**54**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	**69**	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-06
Sampled By: Kyle Wright
Sample Description: B-3 @ 10'

Sample Date - Time: 11/11/19 - 11:15
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-06
Sampled By: Kyle Wright
Sample Description: B-3 @ 10'

Sample Date - Time: 11/11/19 - 11:15
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	111 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 8260B	109 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 8260B	86 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range:*		*46-144 %*				
Surrogate: Nitrobenzene-d5	EPA 8270C	83 %	*Acceptable range:*		*30-149 %*				
Surrogate: p-Terphenyl-d14	EPA 8270C	86 %	*Acceptable range:*		*45-161 %*				
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	122 %	*Acceptable range:*		*50-150 %*				

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: A9K0882-07
Sampled By: Kyle Wright
Sample Description: B-3 @ 15'

Sample Date - Time: 11/11/19 - 11:45
Matrix: Solid
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony	EPA 6020	ND	10	mg/kg	1	A917186	11/14/19	11/18/19	
Arsenic	EPA 6020	**9.3**	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Barium	EPA 6020	**160**	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Beryllium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Cadmium	EPA 6020	ND	1.3	mg/kg	1	A917186	11/14/19	11/18/19	
Chromium	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Cobalt	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Copper	EPA 6020	**8.7**	5.0	mg/kg	1	A917186	11/14/19	11/18/19	
Lead	EPA 6020	ND	6.3	mg/kg	1	A917186	11/14/19	11/18/19	
Mercury	EPA 6020A	ND	0.50	mg/kg	1	A917186	11/14/19	11/18/19	
Molybdenum	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Nickel	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Selenium	EPA 6020	ND	2.5	mg/kg	1	A917186	11/14/19	11/18/19	
Silver	EPA 6020	ND	13	mg/kg	1	A917186	11/14/19	11/18/19	
Thallium	EPA 6020	ND	2.0	mg/kg	1	A917186	11/14/19	11/18/19	
Vanadium	EPA 6020	**40**	13	mg/kg	1	A917186	11/14/19	11/18/19	
Zinc	EPA 6020	ND	63	mg/kg	1	A917186	11/14/19	11/18/19	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
Total Xylenes	EPA 8260B	ND	5.0	ug/kg					
Volatile Organics (Standard List) by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,1-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1,2-Trichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,1-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,1-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,3-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,3-Trichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2,4-Trichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,2,4-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
1,3,5-Trimethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,3-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
1,4-Dichlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-07
Sampled By: Kyle Wright
Sample Description: B-3 @ 15'

Sample Date - Time: 11/11/19 - 11:45
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
2,2-Dichloropropane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Butanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
2-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
2-Hexanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
4-Chlorotoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
4-Methyl-2-pentanone	EPA 8260B	ND	20	ug/kg	1	A917139	11/13/19	11/13/19	
Acetone	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Benzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromodichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromoform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Bromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon disulfide	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Carbon Tetrachloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chlorobenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Chloroform	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Chloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
cis-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromochloropropane (DBCP)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dibromomethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichlorodifluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Dichloromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Ethylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Hexachlorobutadiene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Hexachloroethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	
Iodomethane	EPA 8260B	ND	50	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Isopropylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
m,p-Xylenes	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Methyl-t-butyl ether	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Naphthalene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
n-Propylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
o-Xylene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
p-Isopropyltoluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
sec-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Styrene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
tert-Butylbenzene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Tetrachloroethene (PCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Toluene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
trans-1,2-Dichloroethene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	

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Certificate of Analysis

Sample ID: A9K0882-07
Sampled By: Kyle Wright
Sample Description: B-3 @ 15'

Sample Date - Time: 11/11/19 - 11:45
Matrix: Solid
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS									
trans-1,3-Dichloropropene	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Trichloroethene (TCE)	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Trichlorofluoromethane	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	
Vinyl Chloride	EPA 8260B	ND	5.0	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	114 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 8260B	120 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 8260B	89 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics (PAHs, 8100 List) by GC-MS									
Acenaphthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Acenaphthylene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(a)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(b)fluoranthene	EPA 8270C	**1.9**	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(g,h,i)perylene	EPA 8270C	**1.9**	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Benzo(k)fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Chrysene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Dibenzo(a,h)anthracene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluoranthene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Fluorene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Indeno(1,2,3-cd)pyrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Naphthalene	EPA 8270C	**1.5**	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Phenanthrene	EPA 8270C	ND	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Pyrene	EPA 8270C	**1.3**	1.0	ug/kg	1	A917128	11/13/19	11/15/19	
Surrogate: 2-Fluorobiphenyl	EPA 8270C	81 %	*Acceptable range:*		*46-144 %*				
Surrogate: Nitrobenzene-d5	EPA 8270C	85 %	*Acceptable range:*		*30-149 %*				
Surrogate: p-Terphenyl-d14	EPA 8270C	92 %	*Acceptable range:*		*45-161 %*				
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	A917139	11/13/19	11/13/19	CV0.0
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	123 %	*Acceptable range:*		*50-150 %*				

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BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A917186										Prepared: 11/14/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A917186-BLK1)											
Antimony	ND	10	mg/kg							11/18/19	
Arsenic	ND	2.5	mg/kg							11/18/19	
Barium	ND	6.3	mg/kg							11/18/19	
Beryllium	ND	1.3	mg/kg							11/18/19	
Cadmium	ND	1.3	mg/kg							11/18/19	
Chromium	ND	13	mg/kg							11/18/19	
Cobalt	ND	13	mg/kg							11/18/19	
Copper	ND	5.0	mg/kg							11/18/19	
Lead	ND	6.3	mg/kg							11/18/19	
Molybdenum	ND	13	mg/kg							11/18/19	
Nickel	ND	13	mg/kg							11/18/19	
Selenium	ND	2.5	mg/kg							11/18/19	
Silver	ND	13	mg/kg							11/18/19	
Thallium	ND	2.0	mg/kg							11/18/19	
Vanadium	ND	13	mg/kg							11/18/19	
Zinc	ND	63	mg/kg							11/18/19	
Blank Spike (A917186-BS1)											
Antimony	110	10	mg/kg	100	ND	105	75-125			11/18/19	
Arsenic	94	2.5	mg/kg	100	ND	93	75-125			11/18/19	
Barium	98	6.3	mg/kg	100	ND	97	75-125			11/18/19	
Beryllium	95	1.3	mg/kg	100	ND	94	75-125			11/18/19	
Cadmium	98	1.3	mg/kg	100	ND	97	75-125			11/18/19	
Chromium	92	13	mg/kg	100	ND	91	75-125			11/18/19	
Cobalt	92	13	mg/kg	100	ND	91	75-125			11/18/19	
Copper	93	5.0	mg/kg	100	ND	92	75-125			11/18/19	
Lead	96	6.3	mg/kg	100	ND	95	75-125			11/18/19	
Molybdenum	98	13	mg/kg	100	ND	97	75-125			11/18/19	
Nickel	93	13	mg/kg	100	ND	92	75-125			11/18/19	
Selenium	91	2.5	mg/kg	100	ND	90	75-125			11/18/19	
Silver	48	13	mg/kg	51	ND	96	75-125			11/18/19	
Thallium	95	2.0	mg/kg	100	ND	94	75-125			11/18/19	
Vanadium	99	13	mg/kg	100	ND	98	75-125			11/18/19	
Zinc	91	63	mg/kg	100	ND	90	75-125			11/18/19	
Blank Spike Dup (A917186-BSD1)											
Antimony	100	10	mg/kg	100	ND	104	75-125	2	20	11/18/19	
Arsenic	93	2.5	mg/kg	100	ND	92	75-125	2	20	11/18/19	
Barium	98	6.3	mg/kg	100	ND	97	75-125	1	20	11/18/19	
Beryllium	93	1.3	mg/kg	100	ND	92	75-125	2	20	11/18/19	
Cadmium	97	1.3	mg/kg	100	ND	96	75-125	1	20	11/18/19	
Chromium	90	13	mg/kg	100	ND	90	75-125	2	20	11/18/19	
Cobalt	91	13	mg/kg	100	ND	90	75-125	1	20	11/18/19	

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BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A917186										Prepared: 11/14/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank Spike Dup (A917186-BSD1)											
Copper	94	5.0	mg/kg	100	ND	93	75-125	1	20	11/18/19	
Lead	94	6.3	mg/kg	100	ND	93	75-125	1	20	11/18/19	
Molybdenum	96	13	mg/kg	100	ND	95	75-125	2	20	11/18/19	
Nickel	94	13	mg/kg	100	ND	93	75-125	1	20	11/18/19	
Selenium	89	2.5	mg/kg	100	ND	88	75-125	2	20	11/18/19	
Silver	48	13	mg/kg	51	ND	96	75-125	0	20	11/18/19	
Thallium	91	2.0	mg/kg	100	ND	90	75-125	4	20	11/18/19	
Vanadium	97	13	mg/kg	100	ND	97	75-125	2	20	11/18/19	
Zinc	89	63	mg/kg	100	ND	88	75-125	2	20	11/18/19	
Matrix Spike (A917186-MS1), Source: A9K0882-05											
Antimony	40	10	mg/kg	99	ND	40	75-125			11/18/19	MS1.0 ***Low***
Arsenic	110	2.5	mg/kg	99	19	89	75-125			11/18/19	
Barium	300	6.3	mg/kg	99	200	96	75-125			11/18/19	
Beryllium	93	1.3	mg/kg	99	ND	94	75-125			11/18/19	
Cadmium	96	1.3	mg/kg	99	ND	97	75-125			11/18/19	
Chromium	110	13	mg/kg	99	17	95	75-125			11/18/19	
Cobalt	100	13	mg/kg	99	ND	93	75-125			11/18/19	
Copper	100	5.0	mg/kg	99	13	91	75-125			11/18/19	
Lead	110	6.3	mg/kg	99	25	82	75-125			11/18/19	
Molybdenum	92	13	mg/kg	99	ND	93	75-125			11/18/19	
Nickel	100	13	mg/kg	99	ND	93	75-125			11/18/19	
Selenium	88	2.5	mg/kg	99	ND	89	75-125			11/18/19	
Silver	35	13	mg/kg	50	ND	72	75-125			11/18/19	MS1.0 ***Low***
Thallium	89	2.0	mg/kg	99	ND	90	75-125			11/18/19	
Vanadium	150	13	mg/kg	99	51	98	75-125			11/18/19	
Zinc	150	63	mg/kg	99	68	85	75-125			11/18/19	
Matrix Spike Dup (A917186-MSD1), Source: A9K0882-05											
Antimony	37	10	mg/kg	100	ND	37	75-125	7	20	11/18/19	MS1.0 ***Low***
Arsenic	110	2.5	mg/kg	100	19	91	75-125	3	20	11/18/19	
Barium	300	6.3	mg/kg	100	200	100	75-125	2	20	11/18/19	
Beryllium	93	1.3	mg/kg	100	ND	93	75-125	0	20	11/18/19	
Cadmium	98	1.3	mg/kg	100	ND	98	75-125	2	20	11/18/19	
Chromium	110	13	mg/kg	100	17	94	75-125	0	20	11/18/19	
Cobalt	100	13	mg/kg	100	ND	92	75-125	1	20	11/18/19	
Copper	100	5.0	mg/kg	100	13	89	75-125	1	20	11/18/19	
Lead	110	6.3	mg/kg	100	25	86	75-125	5	20	11/18/19	
Molybdenum	93	13	mg/kg	100	ND	93	75-125	0	20	11/18/19	
Nickel	100	13	mg/kg	100	ND	92	75-125	1	20	11/18/19	
Selenium	89	2.5	mg/kg	100	ND	89	75-125	1	20	11/18/19	
Silver	39	13	mg/kg	50	ND	78	75-125	10	20	11/18/19	
Thallium	90	2.0	mg/kg	100	ND	90	75-125	1	20	11/18/19	

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BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A917186										Prepared: 11/14/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Matrix Spike Dup (A917186-MSD1), Source: A9K0882-05											
Vanadium	150	13	mg/kg	100	51	101	75-125	2	20	11/18/19	
Zinc	160	63	mg/kg	100	68	89	75-125	3	20	11/18/19	
EPA 6020A - Quality Control											
Batch: A917186										Prepared: 11/14/2019	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A917186-BLK1)											
Mercury	ND	0.50	mg/kg							11/18/19	
Blank Spike (A917186-BS1)											
Mercury	2.4	0.50	mg/kg	2.5	ND	94	75-125			11/18/19	
Blank Spike Dup (A917186-BSD1)											
Mercury	2.4	0.50	mg/kg	2.5	ND	93	75-125	1	20	11/18/19	
Matrix Spike (A917186-MS1), Source: A9K0882-05											
Mercury	2.4	0.50	mg/kg	2.5	ND	96	75-125			11/18/19	
Matrix Spike Dup (A917186-MSD1), Source: A9K0882-05											
Mercury	2.4	0.50	mg/kg	2.5	ND	96	75-125	2	20	11/18/19	

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BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (A917139-BLK1)											
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							11/13/19	
1,1,1-Trichloroethane	ND	5.0	ug/kg							11/13/19	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg							11/13/19	
1,1,2-Trichloroethane	ND	5.0	ug/kg							11/13/19	
1,1-Dichloroethane	ND	5.0	ug/kg							11/13/19	
1,1-Dichloroethene	ND	5.0	ug/kg							11/13/19	
1,1-Dichloropropene	ND	5.0	ug/kg							11/13/19	
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							11/13/19	
1,2,3-Trichloropropane	ND	5.0	ug/kg							11/13/19	
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							11/13/19	
1,2,4-Trimethylbenzene	ND	5.0	ug/kg							11/13/19	
1,2-Dibromoethane (EDB)	ND	5.0	ug/kg							11/13/19	
1,2-Dichlorobenzene	ND	5.0	ug/kg							11/13/19	
1,2-Dichloroethane	ND	5.0	ug/kg							11/13/19	
1,2-Dichloropropane	ND	5.0	ug/kg							11/13/19	
1,3,5-Trimethylbenzene	ND	5.0	ug/kg							11/13/19	
1,3-Dichlorobenzene	ND	5.0	ug/kg							11/13/19	
1,3-Dichloropropane	ND	5.0	ug/kg							11/13/19	
1,4-Dichlorobenzene	ND	5.0	ug/kg							11/13/19	
2,2-Dichloropropane	ND	5.0	ug/kg							11/13/19	
2-Butanone	ND	20	ug/kg							11/13/19	
2-Chlorotoluene	ND	5.0	ug/kg							11/13/19	
2-Hexanone	ND	20	ug/kg							11/13/19	
4-Chlorotoluene	ND	5.0	ug/kg							11/13/19	
4-Methyl-2-pentanone	ND	20	ug/kg							11/13/19	
Acetone	ND	50	ug/kg							11/13/19	
Benzene	ND	5.0	ug/kg							11/13/19	
Bromobenzene	ND	5.0	ug/kg							11/13/19	
Bromochloromethane	ND	5.0	ug/kg							11/13/19	
Bromodichloromethane	ND	5.0	ug/kg							11/13/19	
Bromoform	ND	5.0	ug/kg							11/13/19	
Bromomethane	ND	5.0	ug/kg							11/13/19	
Carbon disulfide	ND	5.0	ug/kg							11/13/19	
Carbon Tetrachloride	ND	5.0	ug/kg							11/13/19	
Chlorobenzene	ND	5.0	ug/kg							11/13/19	
Chloroethane	ND	5.0	ug/kg							11/13/19	
Chloroform	ND	5.0	ug/kg							11/13/19	
Chloromethane	ND	5.0	ug/kg							11/13/19	
cis-1,2-Dichloroethene	ND	5.0	ug/kg							11/13/19	
cis-1,3-Dichloropropene	ND	5.0	ug/kg							11/13/19	
Dibromochloromethane	ND	5.0	ug/kg							11/13/19	
Dibromochloropropane (DBCP)	ND	5.0	ug/kg							11/13/19	
Dibromomethane	ND	5.0	ug/kg							11/13/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (A917139-BLK1)											
Dichlorodifluoromethane	ND	5.0	ug/kg							11/13/19	
Dichloromethane	ND	5.0	ug/kg							11/13/19	
Ethylbenzene	ND	5.0	ug/kg							11/13/19	
Hexachlorobutadiene	ND	5.0	ug/kg							11/13/19	
Hexachloroethane	ND	50	ug/kg							11/13/19	
Iodomethane	ND	50	ug/kg							11/13/19	
Isopropylbenzene	ND	5.0	ug/kg							11/13/19	
m,p-Xylenes	ND	5.0	ug/kg							11/13/19	
Methyl-t-butyl ether	ND	5.0	ug/kg							11/13/19	
Naphthalene	ND	5.0	ug/kg							11/13/19	
n-Butylbenzene	ND	5.0	ug/kg							11/13/19	
n-Propylbenzene	ND	5.0	ug/kg							11/13/19	
o-Xylene	ND	5.0	ug/kg							11/13/19	
p-Isopropyltoluene	ND	5.0	ug/kg							11/13/19	
sec-Butylbenzene	ND	5.0	ug/kg							11/13/19	
Styrene	ND	5.0	ug/kg							11/13/19	
tert-Butylbenzene	ND	5.0	ug/kg							11/13/19	
Tetrachloroethene (PCE)	ND	5.0	ug/kg							11/13/19	
Toluene	ND	5.0	ug/kg							11/13/19	
trans-1,2-Dichloroethene	ND	5.0	ug/kg							11/13/19	
trans-1,3-Dichloropropene	ND	5.0	ug/kg							11/13/19	
Trichloroethene (TCE)	ND	5.0	ug/kg							11/13/19	
Trichlorofluoromethane	ND	5.0	ug/kg							11/13/19	
Vinyl Chloride	ND	5.0	ug/kg							11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*53*			*50*		*106*	*70-130*			11/13/19	
Surrogate: Bromofluorobenzene	*54*			*50*		*108*	*70-130*			11/13/19	
Surrogate: Toluene-d8	*44*			*50*		*88*	*70-130*			11/13/19	
Blank Spike (A917139-BS1)											
1,1,1,2-Tetrachloroethane	21	5.0	ug/kg	20	ND	106	75-121			11/13/19	
1,1,1-Trichloroethane	24	5.0	ug/kg	20	ND	118	75-145			11/13/19	
1,1,2,2-Tetrachloroethane	19	5.0	ug/kg	20	ND	96	55-151			11/13/19	
1,1,2-Trichloroethane	20	5.0	ug/kg	20	ND	101	44-159			11/13/19	
1,1-Dichloroethane	23	5.0	ug/kg	20	ND	114	72-151			11/13/19	
1,1-Dichloroethene	22	5.0	ug/kg	20	ND	112	68-157			11/13/19	
1,1-Dichloropropene	23	5.0	ug/kg	20	ND	116	74-149			11/13/19	
1,2,3-Trichlorobenzene	23	5.0	ug/kg	20	ND	117	53-138			11/13/19	
1,2,3-Trichloropropane	21	5.0	ug/kg	20	ND	104	50-145			11/13/19	
1,2,4-Trichlorobenzene	19	5.0	ug/kg	20	ND	94	49-141			11/13/19	
1,2,4-Trimethylbenzene	19	5.0	ug/kg	20	ND	95	58-138			11/13/19	
1,2-Dibromoethane (EDB)	20	5.0	ug/kg	20	ND	100	65-135			11/13/19	
1,2-Dichlorobenzene	18	5.0	ug/kg	20	ND	92	64-127			11/13/19	
1,2-Dichloroethane	23	5.0	ug/kg	20	ND	115	81-146			11/13/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank Spike (A917139-BS1)											
1,2-Dichloropropane	23	5.0	ug/kg	20	ND	116	75-147			11/13/19	
1,3,5-Trimethylbenzene	19	5.0	ug/kg	20	ND	96	63-129			11/13/19	
1,3-Dichlorobenzene	19	5.0	ug/kg	20	ND	95	64-127			11/13/19	
1,3-Dichloropropane	20	5.0	ug/kg	20	ND	101	62-139			11/13/19	
1,4-Dichlorobenzene	19	5.0	ug/kg	20	ND	94	62-134			11/13/19	
2,2-Dichloropropane	23	5.0	ug/kg	20	ND	116	70-151			11/13/19	
2-Butanone	21	20	ug/kg	20	ND	106	40-209			11/13/19	
2-Chlorotoluene	19	5.0	ug/kg	20	ND	97	62-131			11/13/19	
2-Hexanone	20	20	ug/kg	20	ND	101	48-166			11/13/19	
4-Chlorotoluene	19	5.0	ug/kg	20	ND	96	57-137			11/13/19	
4-Methyl-2-pentanone	24	20	ug/kg	20	ND	118	66-163			11/13/19	
Acetone	28	50	ug/kg	20	ND	142	30-216			11/13/19	
Benzene	23	5.0	ug/kg	20	ND	114	75-147			11/13/19	
Bromobenzene	20	5.0	ug/kg	20	ND	98	60-129			11/13/19	
Bromochloromethane	22	5.0	ug/kg	20	ND	110	74-147			11/13/19	
Bromodichloromethane	23	5.0	ug/kg	20	ND	113	82-146			11/13/19	
Bromoform	22	5.0	ug/kg	20	ND	108	61-135			11/13/19	
Bromomethane	22	5.0	ug/kg	20	ND	110	54-194			11/13/19	
Carbon disulfide	22	5.0	ug/kg	20	ND	108	67-153			11/13/19	
Carbon Tetrachloride	24	5.0	ug/kg	20	ND	122	71-148			11/13/19	
Chlorobenzene	20	5.0	ug/kg	20	ND	102	77-116			11/13/19	
Chloroethane	23	5.0	ug/kg	20	ND	113	36-196			11/13/19	
Chloroform	22	5.0	ug/kg	20	ND	112	80-149			11/13/19	
Chloromethane	18	5.0	ug/kg	20	ND	92	46-188			11/13/19	
cis-1,2-Dichloroethene	23	5.0	ug/kg	20	ND	115	75-147			11/13/19	
cis-1,3-Dichloropropene	23	5.0	ug/kg	20	ND	113	78-145			11/13/19	
Dibromochloromethane	21	5.0	ug/kg	20	ND	106	65-136			11/13/19	
Dibromochloropropane (DBCP)	23	5.0	ug/kg	20	ND	114	44-159			11/13/19	
Dibromomethane	22	5.0	ug/kg	20	ND	112	78-144			11/13/19	
Dichlorodifluoromethane	10	5.0	ug/kg	20	ND	51	46-171			11/13/19	
Dichloromethane	23	5.0	ug/kg	20	ND	114	75-148			11/13/19	
Ethylbenzene	20	5.0	ug/kg	20	ND	99	75-123			11/13/19	
Hexachlorobutadiene	19	5.0	ug/kg	20	ND	96	55-138			11/13/19	
Hexachloroethane	22	50	ug/kg	20	ND	108	56-134			11/13/19	
Iodomethane	24	50	ug/kg	20	ND	122	43-190			11/13/19	
Isopropylbenzene	20	5.0	ug/kg	20	ND	100	61-131			11/13/19	
m,p-Xylenes	39	5.0	ug/kg	40	ND	98	75-118			11/13/19	
Methyl-t-butyl ether	47	5.0	ug/kg	40	ND	117	73-147			11/13/19	
Naphthalene	20	5.0	ug/kg	20	ND	100	37-169			11/13/19	
n-Butylbenzene	18	5.0	ug/kg	20	ND	91	55-142			11/13/19	
n-Propylbenzene	19	5.0	ug/kg	20	ND	97	60-134			11/13/19	
o-Xylene	20	5.0	ug/kg	20	ND	98	73-121			11/13/19	
p-Isopropyltoluene	19	5.0	ug/kg	20	ND	96	60-130			11/13/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank Spike (A917139-BS1)											
sec-Butylbenzene	19	5.0	ug/kg	20	ND	96	59-132			11/13/19	
Styrene	19	5.0	ug/kg	20	ND	97	71-126			11/13/19	
tert-Butylbenzene	19	5.0	ug/kg	20	ND	97	61-130			11/13/19	
Tetrachloroethene (PCE)	21	5.0	ug/kg	20	ND	106	58-139			11/13/19	
Toluene	20	5.0	ug/kg	20	ND	102	65-136			11/13/19	
trans-1,2-Dichloroethene	23	5.0	ug/kg	20	ND	114	65-156			11/13/19	
trans-1,3-Dichloropropene	21	5.0	ug/kg	20	ND	103	52-151			11/13/19	
Trichloroethene (TCE)	23	5.0	ug/kg	20	ND	117	71-148			11/13/19	
Trichlorofluoromethane	22	5.0	ug/kg	20	ND	108	62-159			11/13/19	
Vinyl Chloride	21	5.0	ug/kg	20	ND	107	61-169			11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*51*			*50*		*101*	*70-130*			11/13/19	
Surrogate: Bromofluorobenzene	*52*			*50*		*103*	*70-130*			11/13/19	
Surrogate: Toluene-d8	*47*			*50*		*95*	*70-130*			11/13/19	
Blank Spike Dup (A917139-BSD1)											
1,1,1,2-Tetrachloroethane	21	5.0	ug/kg	20	ND	105	75-121	1	30	11/13/19	
1,1,1-Trichloroethane	24	5.0	ug/kg	20	ND	121	75-145	2	30	11/13/19	
1,1,2,2-Tetrachloroethane	20	5.0	ug/kg	20	ND	98	55-151	1	30	11/13/19	
1,1,2-Trichloroethane	20	5.0	ug/kg	20	ND	100	44-159	1	30	11/13/19	
1,1-Dichloroethane	23	5.0	ug/kg	20	ND	116	72-151	2	30	11/13/19	
1,1-Dichloroethene	23	5.0	ug/kg	20	ND	116	68-157	3	30	11/13/19	
1,1-Dichloropropene	23	5.0	ug/kg	20	ND	117	74-149	1	30	11/13/19	
1,2,3-Trichlorobenzene	23	5.0	ug/kg	20	ND	117	53-138	0	30	11/13/19	
1,2,3-Trichloropropane	20	5.0	ug/kg	20	ND	101	50-145	3	30	11/13/19	
1,2,4-Trichlorobenzene	19	5.0	ug/kg	20	ND	97	49-141	3	30	11/13/19	
1,2,4-Trimethylbenzene	20	5.0	ug/kg	20	ND	100	58-138	5	30	11/13/19	
1,2-Dibromoethane (EDB)	21	5.0	ug/kg	20	ND	104	65-135	3	30	11/13/19	
1,2-Dichlorobenzene	20	5.0	ug/kg	20	ND	98	64-127	6	30	11/13/19	
1,2-Dichloroethane	23	5.0	ug/kg	20	ND	114	81-146	0	30	11/13/19	
1,2-Dichloropropane	23	5.0	ug/kg	20	ND	114	75-147	2	30	11/13/19	
1,3,5-Trimethylbenzene	20	5.0	ug/kg	20	ND	99	63-129	3	30	11/13/19	
1,3-Dichlorobenzene	20	5.0	ug/kg	20	ND	98	64-127	3	30	11/13/19	
1,3-Dichloropropane	20	5.0	ug/kg	20	ND	102	62-139	1	30	11/13/19	
1,4-Dichlorobenzene	20	5.0	ug/kg	20	ND	98	62-134	5	30	11/13/19	
2,2-Dichloropropane	24	5.0	ug/kg	20	ND	118	70-151	1	30	11/13/19	
2-Butanone	21	20	ug/kg	20	ND	103	40-209	2	30	11/13/19	
2-Chlorotoluene	21	5.0	ug/kg	20	ND	104	62-131	7	30	11/13/19	
2-Hexanone	18	20	ug/kg	20	ND	90	48-166	12	30	11/13/19	
4-Chlorotoluene	20	5.0	ug/kg	20	ND	100	57-137	4	30	11/13/19	
4-Methyl-2-pentanone	22	20	ug/kg	20	ND	109	66-163	8	30	11/13/19	
Acetone	24	50	ug/kg	20	ND	120	30-216	17	30	11/13/19	
Benzene	23	5.0	ug/kg	20	ND	114	75-147	0	30	11/13/19	
Bromobenzene	20	5.0	ug/kg	20	ND	100	60-129	3	30	11/13/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank Spike Dup (A917139-BSD1)											
Bromochloromethane	21	5.0	ug/kg	20	ND	107	74-147	3	30	11/13/19	
Bromodichloromethane	23	5.0	ug/kg	20	ND	117	82-146	3	30	11/13/19	
Bromoform	22	5.0	ug/kg	20	ND	112	61-135	4	30	11/13/19	
Bromomethane	19	5.0	ug/kg	20	ND	96	54-194	13	30	11/13/19	
Carbon disulfide	22	5.0	ug/kg	20	ND	110	67-153	2	30	11/13/19	
Carbon Tetrachloride	25	5.0	ug/kg	20	ND	125	71-148	2	30	11/13/19	
Chlorobenzene	21	5.0	ug/kg	20	ND	103	77-116	2	30	11/13/19	
Chloroethane	25	5.0	ug/kg	20	ND	126	36-196	11	30	11/13/19	
Chloroform	23	5.0	ug/kg	20	ND	114	80-149	2	30	11/13/19	
Chloromethane	20	5.0	ug/kg	20	ND	100	46-188	8	30	11/13/19	
cis-1,2-Dichloroethene	23	5.0	ug/kg	20	ND	117	75-147	2	30	11/13/19	
cis-1,3-Dichloropropene	23	5.0	ug/kg	20	ND	115	78-145	2	30	11/13/19	
Dibromochloromethane	21	5.0	ug/kg	20	ND	106	65-136	0	30	11/13/19	
Dibromochloropropane (DBCP)	22	5.0	ug/kg	20	ND	108	44-159	5	30	11/13/19	
Dibromomethane	23	5.0	ug/kg	20	ND	115	78-144	3	30	11/13/19	
Dichlorodifluoromethane	9.8	5.0	ug/kg	20	ND	49	46-171	4	30	11/13/19	
Dichloromethane	24	5.0	ug/kg	20	ND	121	75-148	6	30	11/13/19	
Ethylbenzene	20	5.0	ug/kg	20	ND	100	75-123	1	30	11/13/19	
Hexachlorobutadiene	20	5.0	ug/kg	20	ND	102	55-138	6	30	11/13/19	
Hexachloroethane	23	50	ug/kg	20	ND	114	56-134	6	30	11/13/19	
Iodomethane	25	50	ug/kg	20	ND	126	43-190	4	30	11/13/19	
Isopropylbenzene	20	5.0	ug/kg	20	ND	102	61-131	3	30	11/13/19	
m,p-Xylenes	40	5.0	ug/kg	40	ND	101	75-118	3	30	11/13/19	
Methyl-t-butyl ether	45	5.0	ug/kg	40	ND	113	73-147	3	30	11/13/19	
Naphthalene	20	5.0	ug/kg	20	ND	98	37-169	2	30	11/13/19	
n-Butylbenzene	19	5.0	ug/kg	20	ND	95	55-142	4	30	11/13/19	
n-Propylbenzene	20	5.0	ug/kg	20	ND	99	60-134	2	30	11/13/19	
o-Xylene	20	5.0	ug/kg	20	ND	100	73-121	3	30	11/13/19	
p-Isopropyltoluene	20	5.0	ug/kg	20	ND	98	60-130	2	30	11/13/19	
sec-Butylbenzene	20	5.0	ug/kg	20	ND	100	59-132	4	30	11/13/19	
Styrene	20	5.0	ug/kg	20	ND	99	71-126	2	30	11/13/19	
tert-Butylbenzene	20	5.0	ug/kg	20	ND	101	61-130	4	30	11/13/19	
Tetrachloroethene (PCE)	21	5.0	ug/kg	20	ND	105	58-139	0	30	11/13/19	
Toluene	20	5.0	ug/kg	20	ND	102	65-136	0	30	11/13/19	
trans-1,2-Dichloroethene	24	5.0	ug/kg	20	ND	118	65-156	3	30	11/13/19	
trans-1,3-Dichloropropene	21	5.0	ug/kg	20	ND	103	52-151	0	30	11/13/19	
Trichloroethene (TCE)	23	5.0	ug/kg	20	ND	113	71-148	3	30	11/13/19	
Trichlorofluoromethane	22	5.0	ug/kg	20	ND	110	62-159	2	30	11/13/19	
Vinyl Chloride	22	5.0	ug/kg	20	ND	109	61-169	2	30	11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*50*			*50*		*100*	*70-130*			11/13/19	
Surrogate: Bromofluorobenzene	*52*			*50*		*103*	*70-130*			11/13/19	
Surrogate: Toluene-d8	*47*			*50*		*95*	*70-130*			11/13/19	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Matrix Spike (A917139-MS1), Source: A9K0882-07											
1,1,1,2-Tetrachloroethane	21	5.0	ug/kg	20	ND	105	26-148			11/13/19	
1,1,1-Trichloroethane	25	5.0	ug/kg	20	ND	127	32-163			11/13/19	
1,1,2,2-Tetrachloroethane	20	5.0	ug/kg	20	ND	102	18-154			11/13/19	
1,1,2-Trichloroethane	20	5.0	ug/kg	20	ND	100	38-135			11/13/19	
1,1-Dichloroethane	25	5.0	ug/kg	20	ND	124	43-159			11/13/19	
1,1-Dichloroethene	27	5.0	ug/kg	20	ND	137	39-166			11/13/19	
1,1-Dichloropropene	25	5.0	ug/kg	20	ND	126	28-165			11/13/19	
1,2,3-Trichlorobenzene	12	5.0	ug/kg	20	ND	58	10-148			11/13/19	
1,2,3-Trichloropropane	21	5.0	ug/kg	20	ND	107	14-158			11/13/19	
1,2,4-Trichlorobenzene	12	5.0	ug/kg	20	ND	59	10-149			11/13/19	
1,2,4-Trimethylbenzene	22	5.0	ug/kg	20	ND	101	13-158			11/13/19	
1,2-Dibromoethane (EDB)	21	5.0	ug/kg	20	ND	103	28-138			11/13/19	
1,2-Dichlorobenzene	18	5.0	ug/kg	20	ND	91	25-134			11/13/19	
1,2-Dichloroethane	25	5.0	ug/kg	20	ND	125	34-155			11/13/19	
1,2-Dichloropropane	25	5.0	ug/kg	20	ND	123	30-162			11/13/19	
1,3,5-Trimethylbenzene	21	5.0	ug/kg	20	ND	105	10-157			11/13/19	
1,3-Dichlorobenzene	19	5.0	ug/kg	20	ND	96	27-135			11/13/19	
1,3-Dichloropropane	21	5.0	ug/kg	20	ND	104	32-139			11/13/19	
1,4-Dichlorobenzene	20	5.0	ug/kg	20	ND	98	27-139			11/13/19	
2,2-Dichloropropane	24	5.0	ug/kg	20	ND	122	40-153			11/13/19	
2-Butanone	33	20	ug/kg	20	ND	110	10-155			11/13/19	
2-Chlorotoluene	21	5.0	ug/kg	20	ND	107	21-148			11/13/19	
2-Hexanone	20	20	ug/kg	20	ND	94	10-123			11/13/19	
4-Chlorotoluene	21	5.0	ug/kg	20	ND	105	18-149			11/13/19	
4-Methyl-2-pentanone	22	20	ug/kg	20	ND	108	10-179			11/13/19	
Acetone	52	50	ug/kg	20	ND	85	10-196			11/13/19	
Benzene	24	5.0	ug/kg	20	ND	121	27-162			11/13/19	
Bromobenzene	21	5.0	ug/kg	20	ND	103	16-154			11/13/19	
Bromochloromethane	24	5.0	ug/kg	20	ND	120	38-156			11/13/19	
Bromodichloromethane	25	5.0	ug/kg	20	ND	124	21-164			11/13/19	
Bromoform	22	5.0	ug/kg	20	ND	109	22-146			11/13/19	
Bromomethane	32	5.0	ug/kg	20	ND	159	11-190			11/13/19	
Carbon disulfide	24	5.0	ug/kg	20	ND	120	31-157			11/13/19	
Carbon Tetrachloride	26	5.0	ug/kg	20	ND	130	22-169			11/13/19	
Chlorobenzene	21	5.0	ug/kg	20	ND	106	16-147			11/13/19	
Chloroethane	29	5.0	ug/kg	20	ND	144	30-192			11/13/19	
Chloroform	25	5.0	ug/kg	20	ND	127	36-164			11/13/19	
Chloromethane	25	5.0	ug/kg	20	ND	125	31-179			11/13/19	
cis-1,2-Dichloroethene	25	5.0	ug/kg	20	ND	127	36-159			11/13/19	
cis-1,3-Dichloropropene	23	5.0	ug/kg	20	ND	115	12-163			11/13/19	
Dibromochloromethane	21	5.0	ug/kg	20	ND	106	31-136			11/13/19	
Dibromochloropropane (DBCP)	22	5.0	ug/kg	20	ND	111	22-148			11/13/19	
Dibromomethane	22	5.0	ug/kg	20	ND	109	29-156			11/13/19	

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BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8260B - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Matrix Spike (A917139-MS1), Source: A9K0882-07											
Dichlorodifluoromethane	15	5.0	ug/kg	20	ND	77	45-161			11/13/19	
Dichloromethane	27	5.0	ug/kg	20	ND	135	45-153			11/13/19	
Ethylbenzene	21	5.0	ug/kg	20	ND	106	14-156			11/13/19	
Hexachlorobutadiene	9.9	5.0	ug/kg	20	ND	49	18-134			11/13/19	
Hexachloroethane	21	50	ug/kg	20	ND	103	10-148			11/13/19	
Iodomethane	33	50	ug/kg	20	ND	164	10-192			11/13/19	
Isopropylbenzene	21	5.0	ug/kg	20	ND	106	15-160			11/13/19	
m,p-Xylenes	42	5.0	ug/kg	40	ND	105	18-156			11/13/19	
Methyl-t-butyl ether	45	5.0	ug/kg	40	ND	112	48-149			11/13/19	
Naphthalene	13	5.0	ug/kg	20	ND	54	10-148			11/13/19	
n-Butylbenzene	17	5.0	ug/kg	20	ND	86	12-147			11/13/19	
n-Propylbenzene	21	5.0	ug/kg	20	ND	104	21-150			11/13/19	
o-Xylene	21	5.0	ug/kg	20	ND	98	22-147			11/13/19	
p-Isopropyltoluene	19	5.0	ug/kg	20	ND	95	19-145			11/13/19	
sec-Butylbenzene	19	5.0	ug/kg	20	ND	94	19-147			11/13/19	
Styrene	21	5.0	ug/kg	20	ND	103	14-149			11/13/19	
tert-Butylbenzene	19	5.0	ug/kg	20	ND	96	16-147			11/13/19	
Tetrachloroethene (PCE)	22	5.0	ug/kg	20	ND	112	10-198			11/13/19	
Toluene	22	5.0	ug/kg	20	ND	111	11-172			11/13/19	
trans-1,2-Dichloroethene	26	5.0	ug/kg	20	ND	128	39-162			11/13/19	
trans-1,3-Dichloropropene	21	5.0	ug/kg	20	ND	105	26-137			11/13/19	
Trichloroethene (TCE)	21	5.0	ug/kg	20	ND	104	17-172			11/13/19	
Trichlorofluoromethane	28	5.0	ug/kg	20	ND	139	36-170			11/13/19	
Vinyl Chloride	27	5.0	ug/kg	20	ND	137	43-164			11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*53*			*50*		*106*	*70-130*			11/13/19	
Surrogate: Bromofluorobenzene	*55*			*50*		*110*	*70-130*			11/13/19	
Surrogate: Toluene-d8	*49*			*50*		*98*	*70-130*			11/13/19	
EPA 8270C - Quality Control											
Batch: A917128										Prepared: 11/13/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank (A917128-BLK1)											
Acenaphthene	ND	1.0	ug/kg							11/14/19	
Acenaphthylene	ND	1.0	ug/kg							11/14/19	
Anthracene	ND	1.0	ug/kg							11/14/19	
Benzo(a)anthracene	ND	1.0	ug/kg							11/14/19	
Benzo(a)pyrene	ND	1.0	ug/kg							11/14/19	
Benzo(b)fluoranthene	ND	1.0	ug/kg							11/14/19	
Benzo(g,h,i)perylene	ND	1.0	ug/kg							11/14/19	
Benzo(k)fluoranthene	ND	1.0	ug/kg							11/14/19	
Chrysene	ND	1.0	ug/kg							11/14/19	
Dibenzo(a,h)anthracene	ND	1.0	ug/kg							11/14/19	

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BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A917128										Prepared: 11/13/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank (A917128-BLK1)											
Fluoranthene	ND	1.0	ug/kg							11/14/19	
Fluorene	ND	1.0	ug/kg							11/14/19	
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/kg							11/14/19	
Naphthalene	ND	1.0	ug/kg							11/14/19	
Phenanthrene	ND	1.0	ug/kg							11/14/19	
Pyrene	ND	1.0	ug/kg							11/14/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*82*	*46-144*			11/14/19	
Surrogate: Nitrobenzene-d5	*420*			*500*		*83*	*30-149*			11/14/19	
Surrogate: p-Terphenyl-d14	*450*			*500*		*90*	*45-161*			11/14/19	
Blank Spike (A917128-BS1)											
Acenaphthene	8.3	1.0	ug/kg	10	ND	83	57-115			11/14/19	
Acenaphthylene	8.5	1.0	ug/kg	10	ND	85	38-119			11/14/19	
Anthracene	8.9	1.0	ug/kg	10	ND	89	31-129			11/14/19	
Benzo(a)anthracene	8.9	1.0	ug/kg	10	ND	89	68-143			11/14/19	
Benzo(a)pyrene	9.2	1.0	ug/kg	10	ND	92	29-150			11/14/19	
Benzo(b)fluoranthene	8.4	1.0	ug/kg	10	ND	84	62-144			11/14/19	
Benzo(g,h,i)perylene	12	1.0	ug/kg	10	ND	123	18-193			11/14/19	
Benzo(k)fluoranthene	8.7	1.0	ug/kg	10	ND	87	62-133			11/14/19	
Chrysene	11	1.0	ug/kg	10	ND	110	61-117			11/14/19	
Dibenzo(a,h)anthracene	13	1.0	ug/kg	10	ND	126	22-200			11/14/19	
Fluoranthene	8.7	1.0	ug/kg	10	ND	87	62-126			11/14/19	
Fluorene	8.4	1.0	ug/kg	10	ND	84	60-117			11/14/19	
Indeno(1,2,3-cd)pyrene	12	1.0	ug/kg	10	ND	118	28-185			11/14/19	
Naphthalene	8.4	1.0	ug/kg	10	ND	84	56-112			11/14/19	
Phenanthrene	8.7	1.0	ug/kg	10	ND	87	39-143			11/14/19	
Pyrene	9.5	1.0	ug/kg	10	ND	95	50-127			11/14/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*83*	*46-144*			11/14/19	
Surrogate: Nitrobenzene-d5	*430*			*500*		*86*	*30-149*			11/14/19	
Surrogate: p-Terphenyl-d14	*430*			*500*		*86*	*45-161*			11/14/19	
Blank Spike Dup (A917128-BSD1)											
Acenaphthene	8.3	1.0	ug/kg	10	ND	83	57-115	1	30	11/14/19	
Acenaphthylene	8.5	1.0	ug/kg	10	ND	85	38-119	1	30	11/14/19	
Anthracene	9.0	1.0	ug/kg	10	ND	90	31-129	0	30	11/14/19	
Benzo(a)anthracene	8.9	1.0	ug/kg	10	ND	89	68-143	0	30	11/14/19	
Benzo(a)pyrene	9.3	1.0	ug/kg	10	ND	93	29-150	1	30	11/14/19	
Benzo(b)fluoranthene	8.5	1.0	ug/kg	10	ND	85	62-144	1	30	11/14/19	
Benzo(g,h,i)perylene	12	1.0	ug/kg	10	ND	121	18-193	2	30	11/14/19	
Benzo(k)fluoranthene	8.7	1.0	ug/kg	10	ND	87	62-133	0	30	11/14/19	
Chrysene	11	1.0	ug/kg	10	ND	111	61-117	1	30	11/14/19	
Dibenzo(a,h)anthracene	12	1.0	ug/kg	10	ND	124	22-200	2	30	11/14/19	
Fluoranthene	8.7	1.0	ug/kg	10	ND	87	62-126	1	30	11/14/19	
Fluorene	8.5	1.0	ug/kg	10	ND	85	60-117	2	30	11/14/19	

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BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 8270C - Quality Control											
Batch: A917128										Prepared: 11/13/2019	
Prep Method: EPA 3540C										Analyst: YNV	
Blank Spike Dup (A917128-BSD1)											
Indeno(1,2,3-cd)pyrene	12	1.0	ug/kg	10	ND	116	28-185	2	30	11/14/19	
Naphthalene	8.4	1.0	ug/kg	10	ND	84	56-112	0	30	11/14/19	
Phenanthrene	8.7	1.0	ug/kg	10	ND	87	39-143	0	30	11/14/19	
Pyrene	9.4	1.0	ug/kg	10	ND	94	50-127	1	30	11/14/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*82*	*46-144*			11/14/19	
Surrogate: Nitrobenzene-d5	*430*			*500*		*86*	*30-149*			11/14/19	
Surrogate: p-Terphenyl-d14	*420*			*500*		*85*	*45-161*			11/14/19	
Matrix Spike (A917128-MS1), Source: A9K0882-01											
Acenaphthene	8.7	1.0	ug/kg	9.9	ND	88	57-115			11/15/19	
Acenaphthylene	8.6	1.0	ug/kg	9.9	ND	87	38-119			11/15/19	
Anthracene	9.5	1.0	ug/kg	9.9	ND	96	31-129			11/15/19	
Benzo(a)anthracene	9.7	1.0	ug/kg	9.9	ND	92	68-143			11/15/19	
Benzo(a)pyrene	11	1.0	ug/kg	9.9	ND	108	29-150			11/15/19	
Benzo(b)fluoranthene	12	1.0	ug/kg	9.9	ND	114	62-144			11/15/19	
Benzo(g,h,i)perylene	4.0	1.0	ug/kg	9.9	ND	37	18-193			11/15/19	
Benzo(k)fluoranthene	11	1.0	ug/kg	9.9	ND	102	62-133			11/15/19	
Chrysene	12	1.0	ug/kg	9.9	ND	111	61-117			11/15/19	
Dibenzo(a,h)anthracene	5.1	1.0	ug/kg	9.9	ND	49	22-200			11/15/19	
Fluoranthene	9.8	1.0	ug/kg	9.9	ND	98	62-126			11/15/19	
Fluorene	8.7	1.0	ug/kg	9.9	ND	88	60-117			11/15/19	
Indeno(1,2,3-cd)pyrene	5.0	1.0	ug/kg	9.9	ND	50	28-185			11/15/19	
Naphthalene	8.5	1.0	ug/kg	9.9	ND	86	56-112			11/15/19	
Phenanthrene	9.0	1.0	ug/kg	9.9	ND	91	39-143			11/15/19	
Pyrene	9.4	1.0	ug/kg	9.9	ND	92	50-127			11/15/19	
Surrogate: 2-Fluorobiphenyl	*410*			*500*		*84*	*46-144*			11/15/19	
Surrogate: Nitrobenzene-d5	*430*			*500*		*86*	*30-149*			11/15/19	
Surrogate: p-Terphenyl-d14	*400*			*500*		*81*	*45-161*			11/15/19	
LUFT GC/MS - Quality Control											
Batch: A917139										Prepared: 11/13/2019	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (A917139-BLK1)											
Gasoline Range Organics (C6-10)	ND	1000	ug/kg							11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*58*			*50*		*115*	*50-150*			11/13/19	
Blank Spike (A917139-BS1)											
Gasoline Range Organics (C6-10)	5900	1000	ug/kg	5000	ND	118	50-150			11/13/19	
Surrogate: 1,2-Dichloroethane-d4	*49*			*50*		*97*	*50-150*			11/13/19	

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Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certificate of Analysis

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-012
State of Nevada	CA000792020-2	State of Oregon - NELAP	4021-012
EPA - UCMR4	CA00079	State of Washington	C997-19c

Sacramento

State of California - ELAP	2435

San Bernardino

State of California - ELAP	2993	Los Angeles CSD	9254478
NELAP certified	4119-004	State of Oregon - NELAP	4119-004

Vancouver

NELAP certified	WA100008-012	State of Oregon - NELAP	WA100008-012
State of Washington	C824-19		

BSK Associates SR-FL-0002-20

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Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info					
Is temperature within range? Chemistry ≤ 6°C Micro < 8°C	(Yes) No NA	Are correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Bubbles Present in VOA (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No (NA) Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Is sufficient amount of sample received?	(Yes) No
Do all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Has PM been notified of discrepancies? PM: By/Time:	Yes (No) NA

Bottles Received — "—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks	Passed?	1-4	5-6	7		
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1							
Other: 5011 tube			1*		1*		
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					
Bottled Water	—	—					
Clear Glass 125mL / 250mL / 500mL / 1 Liter	—	—		1			
Solids: Brass / Steel / Plastic Bag	—	—					

Split		Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
	S P				S P			
	S P				S P			

Comments

✓ **Indicates Blanks Received**

504 __ 524.2 __ TCP __ TTHM __ 537 __

8260/624 __

Scanned: _____

A9K0882BSKAs2880 11/12/2019

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BSK ASSOCIATES
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893
www.bskassociates.com

Turnaround Time Request
- [X] Standard - 10 business days
- [X] Rush (Surcharge may apply)
  Date needed: 1 week

*Required Fields

Temp: 0.2 #54

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax:
BSK	Lynne Baumgras Additional cc's: Kyle Wright	PO#:	(559)497-2880 E-mail*: kwright@bskassociates.com, lbaumgras@bskassociates.com	

Address*:	City*:	State*:	Zip*:
550 W Locust Ave	Fresno	Ca	93650

Project: KCCCD - Arvin Limited Subsurface Soil Investigation

Project #: E19-041-01F

How would you like to receive your completed results?* [X] E-Mail [ ] Fax [ ] Mail

Reporting Options: [ ] Trace (J-Flag) [ ] Swamp [ ] EDD Type: _____

Regulatory Carbon Copies: [ ] SWRCB (Drinking Water) [ ] Merced Co [ ] Fresno Co [ ] Madera Co [ ] Tulare Co [ ] Other: _____

Regulatory Compliance: [ ] EDT to California SWRCB (Drinking Water) System Number*: _____ [ ] Geotracker #: _____

Sampler Name (Printed/Signature)*: Kyle Wright / [redacted]

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Organochlorine Pesticides EPA 8081	Organophosphate Pesticides EPA 8270	Total Arsenic & Lead EPA 6020	VOCs / BTEX / MTBE 8260B	SVOCs / PAHs / 8100 List 8270C	CAM-17 metals ICP/ICPMS	TPH-g LUFT gc-FID	TPH-d / Motor OIL GC-FID
1	B-1 @ 10'	11/11/19	09:59	SO		[redacted]	[redacted]	[redacted]	X	X	X	X	X
2	B-1 @ 15'		10:15										
3	B-2 @ 10'		10:47										
4	B-2 @ 15'		10:54										
5	B-3 @ 5'		11:00										
6	B-3 @ 10'		11:15										
7	B-3 @ 15'	11/11/19	11:45	SO					X	X	X	X	X

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Kyle Wright / [redacted]	BSK	11/12/19	1130		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery	Check / Cash
[redacted]		11/12/19	1130	Date: Amount: PIA#:	Init.

Shipping Method: ONTRAC UPS GSO (WALK-IN) FED EX Courier: _____

Custody Seal: Y (N)

Cooling Method: (Wet) Blue None

Chilling Process Begun: (Y) N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

External

A9K0882

CASTLE ANALYTICAL LABORATORY

Analytical Report

Laboratory WorkOrder: 1911050

Project ID: A9K0882

Reported Created for: BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

Project Contact: Heather S. White

Received Date: 11/11/2019

Report Approved and Released: 11/19/2019

Report Release Authorization:

Clari Cone - Laboratory Director or
Cassandra Nanney - Chemist

Glossary of Terms

ND indicates analyte values below the Practical Quanitation Limit PQL for the matrix.
* indicates a footnote is present.
LCS- Laboratory Control Sample
MS / MSD - Matrix Spike / Matix Spike Duplicate

The results are summarized on the following pages.
Please feel free to call if you have any questions concerning these results.

Castle Analytical Laboratory - 2333 Shuttle Drive, Atwater, CA 95301
Phone: 209-384-2930 Fax: 209-384-1507
www.Castle-Lab.com E-mail: main@castle-lab.com
ELAP Certification #2480

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate No. 2480

2333 Shuttle Drive, Atwater, CA 95301

Phone: (209) 384-2930
Fax: (209) 384-1507

BSK Analytical Laboratories	Client Project ID: A9K0882	Sampled: 11-11-19
1414 Stanislaus St.	Lab Reference Number: 1911050	Received: 11-14-19
Fresno, CA 93706	Sample Description: Soil	Extracted: 11-18-19
Attn: Heather S. White	Sample Prep/Analysis Method: EPA 3550/8015B	Analyzed: 11-18-19
	Lab Numbers: 1911050 - 01, 02, 03, 04, 05	Reported: 11-19-19

TOTAL PETROLEUM HYDROCARBONS - DIESEL & MOTOR OIL RANGE

ANALYTE	REPORTING LIMIT (mg/kg)	SAMPLE ID B-1 @ 10' A9K0882-01 (mg/kg)	SAMPLE ID B-1 @ 15' A9K0882-02 (mg/kg)	SAMPLE ID B-2 @ 10' A9K0882-03 (mg/kg)	SAMPLE ID B-2 @ 15' A9K0882-04 (mg/kg)	SAMPLE ID B-3 @ 5' A9K0882-05 (mg/kg)
DIESEL RANGE HYDROCARBONS C10-C24	1.0	5.8	2.0	3.2	ND	1.5
MOTOR OIL RANGE HYDROCARBONS C24-C40	2.0	ND	ND	4.3	ND	4.1
Report Limit Multiplication Factor:		1	1	1	1	1
				non-diesel pattern*		non-diesel pattern*

**non-diesel pattern; heavier hydrocarbons overlap into diesel range.*

o-Terphenyl Surrogate Recovery:	101%	101%	101%	98.8%	101%
Instrument ID:	HP-Diesel	HP-Diesel	HP-Diesel	HP-Diesel	HP-Diesel

Analytes reported as ND were not detected or below the Practical Quantitation Limit
Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
Extraction Solvent - Methylene Chloride

APPROVED BY: _____

Clari J. Cone / Laboratory Director or
Cassandra J.A. Nanney / Chemist

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate No. 2480
2333 Shuttle Drive, Atwater, CA 95301
Phone: (209) 384-2930
Fax: (209) 384-1507

BSK Analytical Laboratories	Client Project ID: A9K0882	Sampled: 11-11-19
1414 Stanislaus St.	Lab Reference Number: 1911050	Received: 11-14-19
Fresno, CA 93706	Sample Description: Soil	Extracted: 11-18-19
Attn: Heather S. White	Sample Prep/Analysis Method: EPA 3550/8015B	Analyzed: 11-18-19
	Lab Numbers: 1911050 - 06, 07	Reported: 11-19-19

TOTAL PETROLEUM HYDROCARBONS - DIESEL & MOTOR OIL RANGE

ANALYTE	REPORTING LIMIT (mg/kg)	SAMPLE ID B-3 @ 10' A9K0882-06 (mg/kg)	SAMPLE ID B-3 @ 15' A9K0882-07 (mg/kg)
DIESEL RANGE HYDROCARBONS C10-C24	1.0	2.4	3.8
MOTOR OIL RANGE HYDROCARBONS C24-C40	2.0	2.7	16
Report Limit Multiplication Factor:		1	1
		non-diesel pattern*	non-diesel pattern*

**non-diesel pattern; heavier hydrocarbons overlap into diesel range.*

o-Terphenyl Surrogate Recovery:	100%	103%
Instrument ID:	HP-Diesel	HP-Diesel

Analytes reported as ND were not detected or below the Practical Quantitation Limit
Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
Extraction Solvent - Methylene Chloride

APPROVED BY: _____
Clari J. Cone / Laboratory Director or
Cassandra J.A. Nanney / Chemist

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate No. 2480
2333 Shuttle Drive, Atwater, CA 95301
Phone: (209) 384-2930
Fax: (209) 384-1507

BSK Analytical Laboratories	Client Project ID: A9K0882	Method: EPA 8015B
1414 Stanislaus St.	Lab Reference Number: 1911050	Instrument ID: HP-Diesel
Fresno, CA 93706	Sample Description: Soil	Extracted: 11-18-19
Attn: Heather S. White		Analyzed: 11-18-19
		Reported: 11-19-19

QUALITY CONTROL DATA REPORT

ANALYTE	TPH-Diesel
Spike Concentration:	5.00
Units:	mg/kg
Batch #:	TPHDS-N189
Method Blank:	ND
Surrogate % Recovery:	118%
LCS % Recovery:	92.0%
Surrogate % Recovery:	111%
Control Limits:	60-130 %
MS/MSD Batch #:	TPHDS-N189
MS % Recovery:	79.9%
Surrogate % Recovery:	99.8%
MSD % Recovery:	84.2%
Surrogate % Recovery:	97.7%
Relative % Difference:	4.5%

Please Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.

APPROVED BY: Clari J. Cone

Clari J. Cone / Laboratory Director or
Cassandra J.A. Nanney / Chemist

BSK ASSOCIATES

SUBCONTRACT ORDER

A9K0882

Castle ID: 1911050

SENDING LABORATORY:

BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Heather S. White
E-mail: hwhite@bskassociates.com

RECEIVING LABORATORY:

Castle Analytical Laboratory
2333 Shuttle Drive
Atwater, CA 95301
Phone :(209) 384-2930
Fax: (209) 384-1507
Turnaround (Days): 5
QC Deliverables: I Std III IV

Rush Due 11/19 HW

Sample ID	Samp Desc			Sample Date
A9K0882-01	B-1 @ 10'	Client Matrix	Solid	11/11/2019 09:59
Lab Matrix:	Solid			
1911050-01	Analysis: EXT-TPH DRO/MRO			
A9K0882-02	B-1 @ 15'	Client Matrix	Solid	11/11/2019 10:15
Lab Matrix:	Solid			
-02	Analysis: EXT-TPH DRO/MRO			
A9K0882-03	B-2 @ 10'	Client Matrix	Solid	11/11/2019 10:47
Lab Matrix:	Solid			
-03	Analysis: EXT-TPH DRO/MRO			
A9K0882-04	B-2 @ 15'	Client Matrix	Solid	11/11/2019 10:54
Lab Matrix:	Solid			
-04	Analysis: EXT-TPH DRO/MRO			
A9K0882-05	B-3 @ 5'	Client Matrix	Solid	11/11/2019 11:00
Lab Matrix:	Solid			
-05	Analysis: EXT-TPH DRO/MRO			
A9K0882-06	B-3 @ 10'	Client Matrix	Solid	11/11/2019 11:15
Lab Matrix:	Solid			
-06	Analysis: EXT-TPH DRO/MRO			
A9K0882-07	B-3 @ 15'	Client Matrix	Solid	11/11/2019 11:45
Lab Matrix:	Solid			
-07	Analysis: EXT-TPH DRO/MRO			

Released By	Date	Received By	Date
	11-13-19		11-14-19 11:59 am
Released By	Date	Received By	Date

APPENDIX E
WATER SUPPLY MEMO

MEMO

Date:	June 14, 2019	**Project No.:**	190166 / 01
To:	Conor McKay, Project Manager		
From:	Harry A. Tow		
Subject:	Arvin campus, KCCD, water supply		
cc:	Jaymie Brauer		

The water supply analysis is premised on the following:

Two alternatives:

a) All water supplied by Arvin Community Services District
b) Site irrigation water supplied by the College with a separate well and distribution system

In project water usage, data regarding such usage on a San Joaquin Valley community college is limited. However, recent information regarding actual usage on the Sierra Community College in the Sacramento area can be utilized with some confidence: [x]

Student (and Faculty) Usage

This Arvin campus project proposes 12 student units, each with a 25-student capacity and restrooms, (300 students). Assuming the same student population during project-proposed interim high school usage, and utilizing Sierra College's 9000 students and 11,500,000 annual gallon usage as a base, and assuming similar part-time usage patterns, non-irrigation water usage at the Arvin campus, first phase, would be (300/9000) x 11,500,000 = 500,000 gallons per year, (.5 acre feet) 1,670 gallons per year per student, 1,670/(5/7 x 365), 6.7 gallons per day per student. Total usage per year would thus be 1.5-acre feet.

This usage assumes maximum available water-saving appliances and typical part-time attendance by community college students. It also includes "normal" administration offices and occupancy. The 21,100 square feet "General Office Building" is probably designed for later full campus development, and thus slightly higher usage; no 'student usage' calculation modification is warranted.

[x] Sierra Joint Community College District, Sierra College Rockling Campus Facilities Master Plan, SCH #2014042088, QK, May 2019

Campus Landscaping Irrigation Usage

A more significant potential water usage is the irrigation water required for campus site development.

Landscape irrigation for the approximate 10 acres of site not occupied by administration building, classrooms, and parking may require approximately 2,350,000 gallons per year per acre of turf.[y] Assuming approximately 10 acres of landscaping (site acreage minus student instruction facilities, administration building) this usage will be 10,932,515 gallons per year, 34 acre feet.

A more commonly used, but difficult to document estimate is 3-acre feet per year per area, 30-acre feet.

In comparison, if the project were developed for single family usage it would require approximately, at 150 gallons per capita, 3.5 persons per dwelling unit, 15 acres+ and 4 dwelling units per acre (3.5 x 150 x 15 x 4), 31,500 gallons per day, 15,000,000 gallons, 345 acre feet per year.

These figures are correct for new single-family San Joaquin Valley urban development. They do not, of course, concur with current Arvin Community Services District-reported per capita water usage for existing population usage.

The District has projected 3,718-acre feet of water delivery for 2020[z], with 4,676 service connections. Reported service connections at this juncture are 4,200; 4,200/4,676 x 3,718 is a reasonable estimate for current deliveries, 3,340-acre feet annually.

It has recently received a grant and an interest free loan to construct new wells and will be able to serve the needs of this project including landscape irrigation.

wbe

[y] Model Water Efficient Landscape Ordinance, California Code of Regulations Title 23, Chapter 2.7
[z] Arvin Community Services District, 2010 Urban Water Management Plan

APPENDIX F
TRAFFIC IMPACT STUDY

Project No: 257-48

TRAFFIC STUDY

ARVIN COMMUNITY COLLEGE CAMPUS
SOUTHWEST CORNER OF VARSITY ROAD & CAMPUS DRIVE

Prepared for:

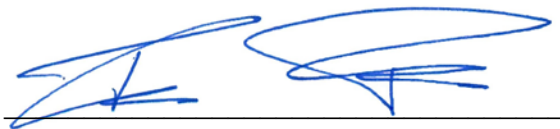
QK

September 2019

Prepared by:

RUETTGERS & SCHULER CIVIL ENGINEERS

1800 30TH STREET, SUITE 260
BAKERSFIELD, CA 93301



Ian J. Parks, RCE 58155



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INTRODUCTION

The purpose of this study is to evaluate the potential traffic impact of a proposed Kern Community College District campus located on the southwest corner of Varsity Road and Campus Drive in Arvin, California.

A. Land Use, Site and Study Area Boundaries

The proposed project consists of a Kern Community College District campus, with a 27,100 square foot general education building which can support up to 500 full-time students and twelve 40-foot by 24-foot modular classrooms which can support up to 30 high school students per modular. Based on the City of Arvin's General Plan, the current land use designation for the project site is partially General Commercial and Medium Density Residential.

Two signalized and four unsignalized intersections are included in this study as follows:

- Comanche Drive & Varsity Road
- Varsity Road & Project Entrance
- Campus Drive & Varsity Road
- Bear Mountain Boulevard (SR 223) & Comanche Drive (Signalized)
- Bear Mountain Boulevard (SR 223) & Walnut Street
- Bear Mountain Boulevard (SR 223) & Campus Drive (Signalized)

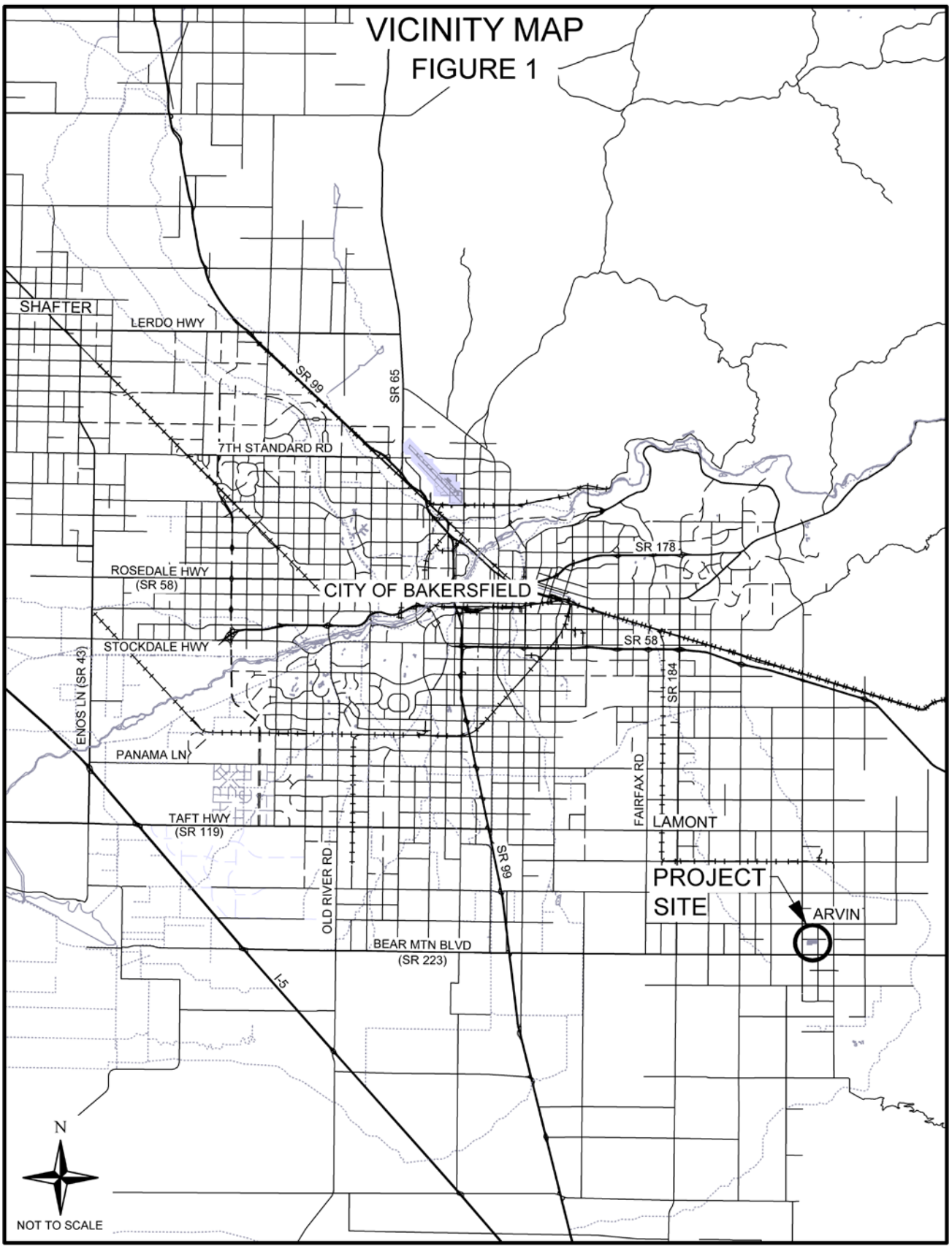
A vicinity map is presented in Figure 1 and a location map is presented in Figure 2.

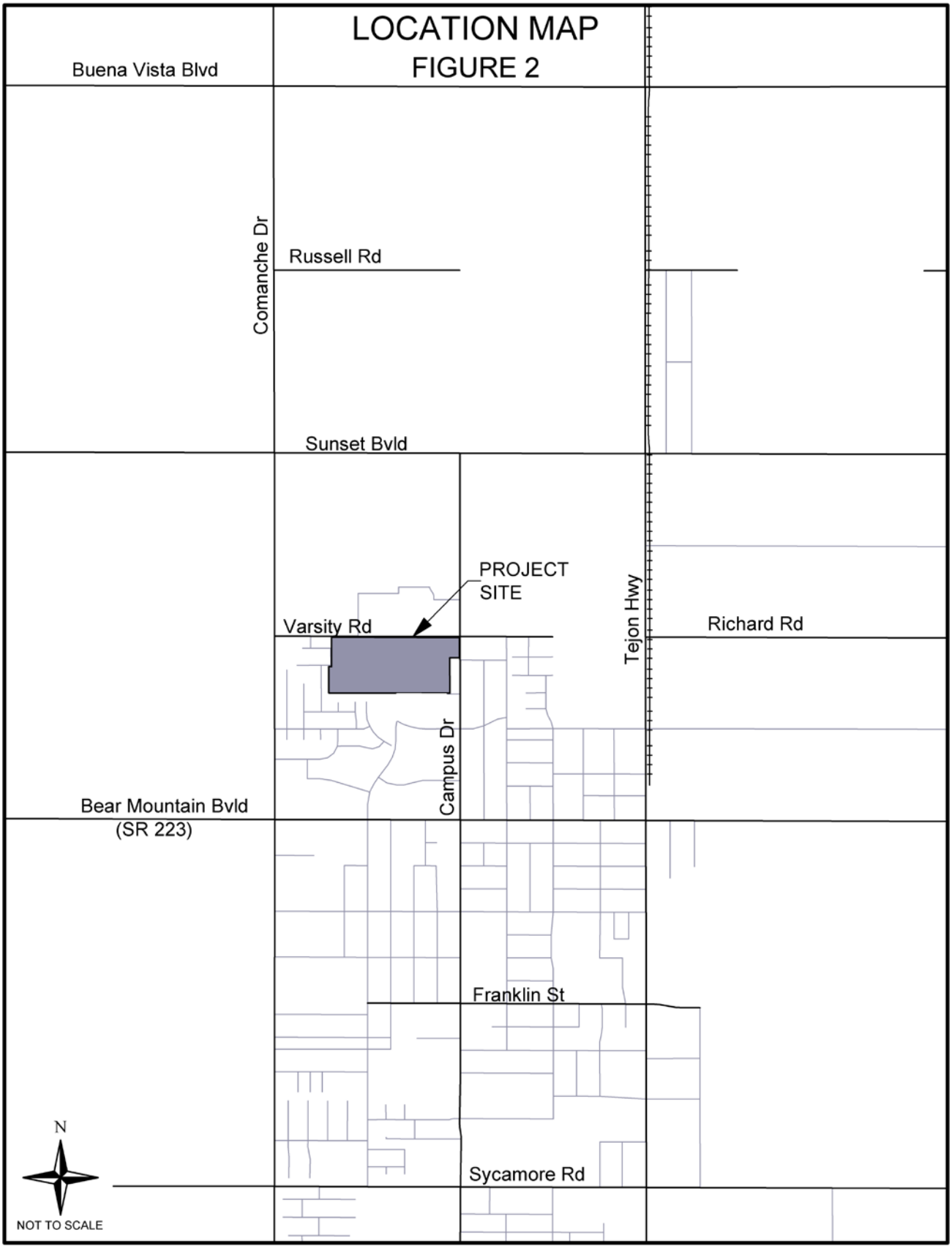
B. Existing Site Uses and Site Access

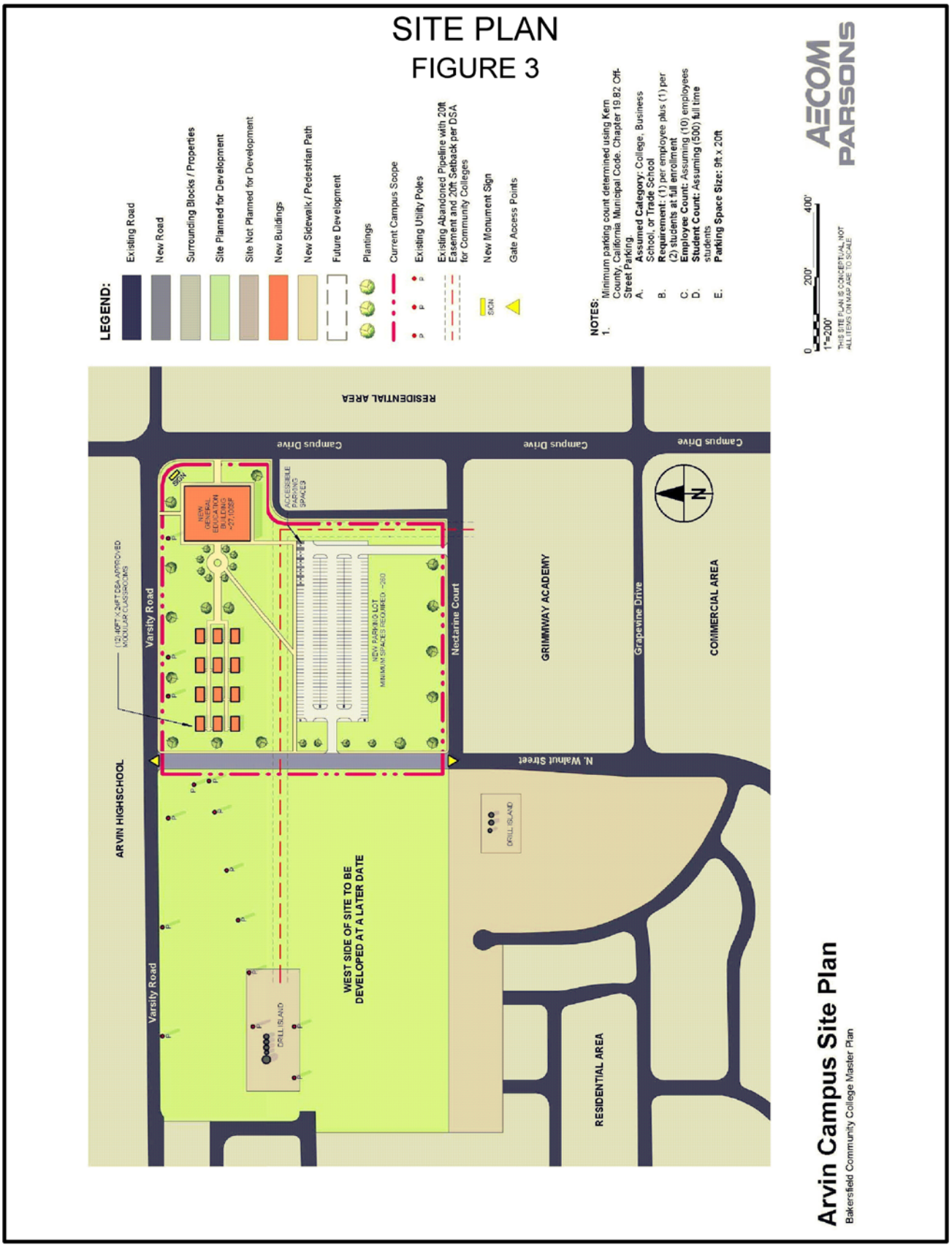
The site currently consists of an unoccupied single residence approximately 600 feet west of Campus Drive along Varsity Road, with two small shed-like structures to the west of the residence and a low concrete structure to the east. The remaining property is open land.

C. Existing Uses in Vicinity of the Site

Existing land uses in the vicinity of the project site include Arvin high school which occupies the northwest corner of Varsity Road and Campus Drive, Grimmway Academy to the south, and multi-family residential land uses to the east and west.


VICINITY MAP
FIGURE 1
SHAFTER
LERDO HWY
SR 99
SR 65
7TH STANDARD RD
ROSEDALE HWY
(SR 58)
CITY OF BAKERSFIELD
SR 178
STOCKDALE HWY
SR 58
ENOS LN (SR 43)
SR 184
PANAMA LN
FAIRFAX RD
TAFT HWY
(SR 119)
LAMONT
OLD RIVER RD
SR 99
PROJECT
SITE
ARVIN
BEAR MTN BLVD
(SR 223)
I-5
N
NOT TO SCALE


LOCATION MAP
FIGURE 2
Buena Vista Blvd
Comanche Dr
Russell Rd
Sunset Bvld
PROJECT
SITE
Varsity Rd
Tejon Hwy
Richard Rd
Campus Dr
Bear Mountain Bvld
(SR 223)
Franklin St
Sycamore Rd
N
NOT TO SCALE


SITE PLAN
FIGURE 3
LEGEND:
Existing Road
New Road
Surrounding Blocks / Properties
Site Planned for Development
Site Not Planned for Development
New Buildings
New Sidewalk / Pedestrian Path
Future Development
Plantings
Current Campus Scope
Existing Utility Poles
Existing Abandoned Pipeline with 20ft Easement and 20ft Setback per DSA for Community Colleges
New Monument Sign
Gate Access Points
NOTES:
1. Minimum parking count determined using Kern County, California Municipal Code. Chapter 19.82 Off-Street Parking.
A. Assumed Category: College, Business School, or Trade School
B. Requirement: (1) per employee plus (1) per (2) students at full enrollment
C. Employee Count: Assuming (10) employees
D. Student Count: Assuming (500) full time students
E. Parking Space Size: 9ft x 20ft
0 200' 400'
1"=200'
THIS SITE PLAN IS CONCEPTUAL; NOT ALL ITEMS ON MAP ARE TO SCALE
AECOM
PARSONS
RESIDENTIAL AREA
Campus Drive
Campus Drive
Campus Drive
ARVIN HIGHSCHOOL
(12) 40FT X 24FT DSA APPROVED MODULAR CLASSROOMS
Varsity Road
Varsity Road
NEW GENERAL EDUCATION BUILDING ~27,100SF
ACCESSIBLE PARKING SPACES
NEW PARKING LOT MINIMUM SPACES REQUIRED - ~260
Nectarine Court
GRIMMWAY ACADEMY
Grapevine Drive
COMMERCIAL AREA
N. Walnut Street
DRILL ISLAND
DRILL ISLAND
WEST SIDE OF SITE TO BE DEVELOPED AT A LATER DATE
RESIDENTIAL AREA
Arvin Campus Site Plan
Bakersfield Community College Master Plan

D. Roadway Descriptions

Bear Mountain Boulevard (State Route 223) is an east-west principal arterial that operates as a four-lane divided facility through the City of Arvin, and narrows to two lanes outside of Arvin. Bear Mountain Boulevard (SR 223) extends east from Interstate 5 to State Route 58 where it terminates. It provides access to agricultural land uses, the City of Arvin, and is a truck route that connects the three primary corridors in the area, Interstate 5, State Route 58 and State Route 99.

Campus Drive/Meyer Street is a fully improved north-south collector that exists as a four-lane facility between Bear Mountain Boulevard and Varsity Road. South of Bear Mountain Boulevard, Campus Drive becomes Meyer Street. North of Varsity Road, Campus Drive narrows to two lanes and terminates at the northern boundary of Arvin High School. Campus Drive provides access to agricultural, residential and commercial land uses in the vicinity of the project.

Comanche Drive is north-south minor arterial that exists as a two-lane facility. It has graded shoulders and is fully improved adjacent to areas of development. Comanche Drive provides access to agricultural, residential and commercial land uses in the vicinity of the project, as well as a connection to State Route 223.

Varsity Avenue is an east-west collector that operates as a two-lane facility west of North Comanche Drive. Varsity Avenue provides access to residential land uses as well as Arvin High School.

Walnut Drive is a two-lane, north-south collector with curb and gutter that exists from Sycamore Road to Campus Drive. Walnut Drive provides access to residential land uses and exists

PROJECT TRIP GENERATION AND DESIGN HOUR VOLUMES

The trip generation and design hour volumes shown in Table 1 were calculated using the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition. The ADT, AM and PM peak hour rates, and peak hour directional splits for ITE Land Use Code 540 (Junior/Community College) were used to estimate the project traffic. A total of 500 full-time college students and 375 high school students was used to determine trip generation.

Table 1
Project Trip Generation

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
540	Junior/Community College	500 Students	eq	1692	eq	81% 149	19% 35	eq	56% 86	44% 68
530	High School	375 Students	eq	1058	0.52	67% 131	33% 64	0.33	32% 40	68% 84
Total				2,751		280	99		126	152

TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution in Table 2 represents the most logically traveled routes for traffic accessing the project. Project traffic distribution was estimated based on a review of the potential draw from anticipated population growth within the region and the type of land use involved, and in cooperation with the County of Kern Roads Department. These assumptions were used to distribute project traffic as shown in Figure 4.

Table 2
Project Trip Distribution

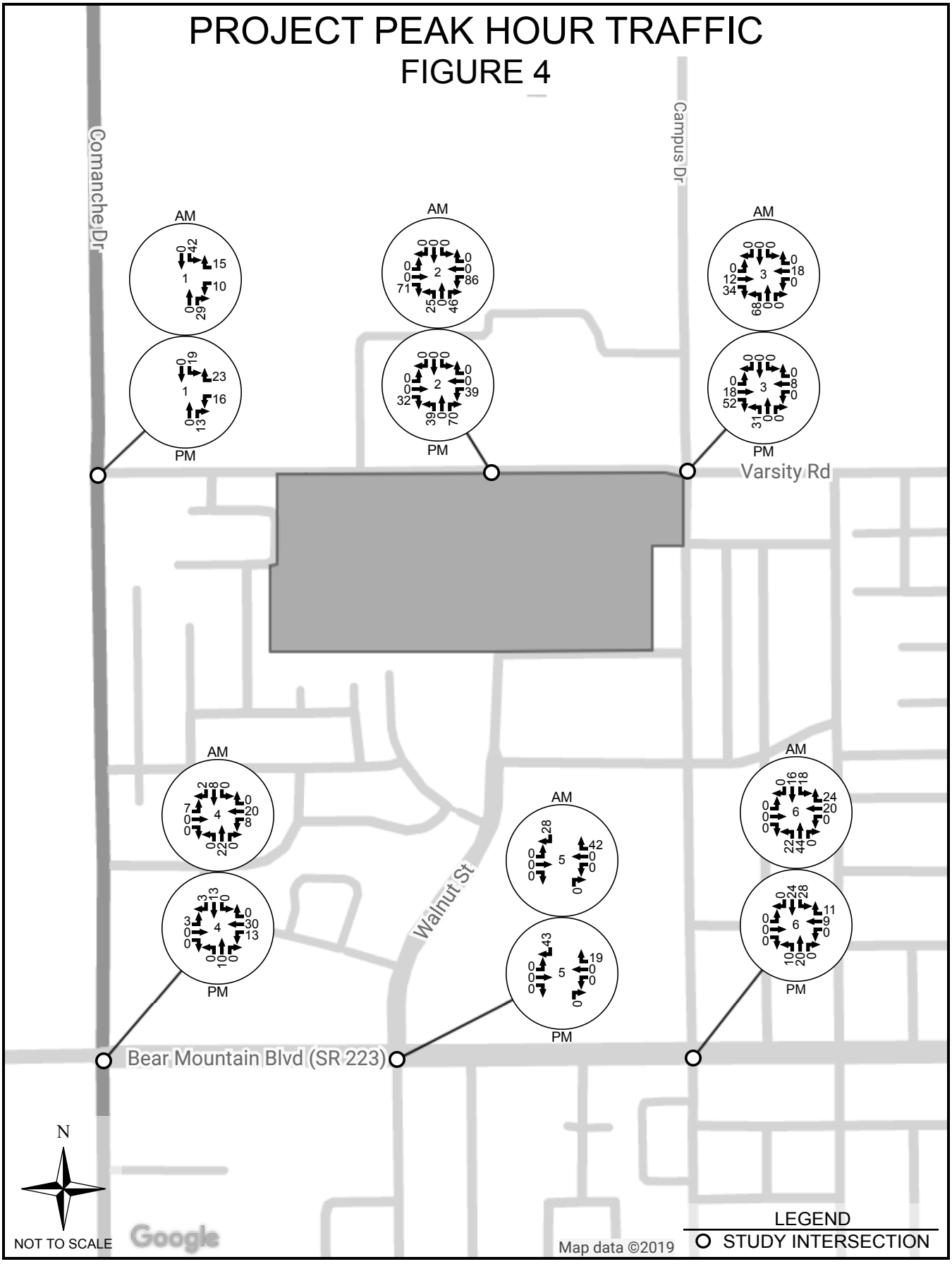
Direction	Percent	Primary Routes
North	15%	Campus Drive
East	30%	Varsity Roade
South	35%	Campus Drive
West	20%	Varsity Road

EXISTING AND FUTURE TRAFFIC

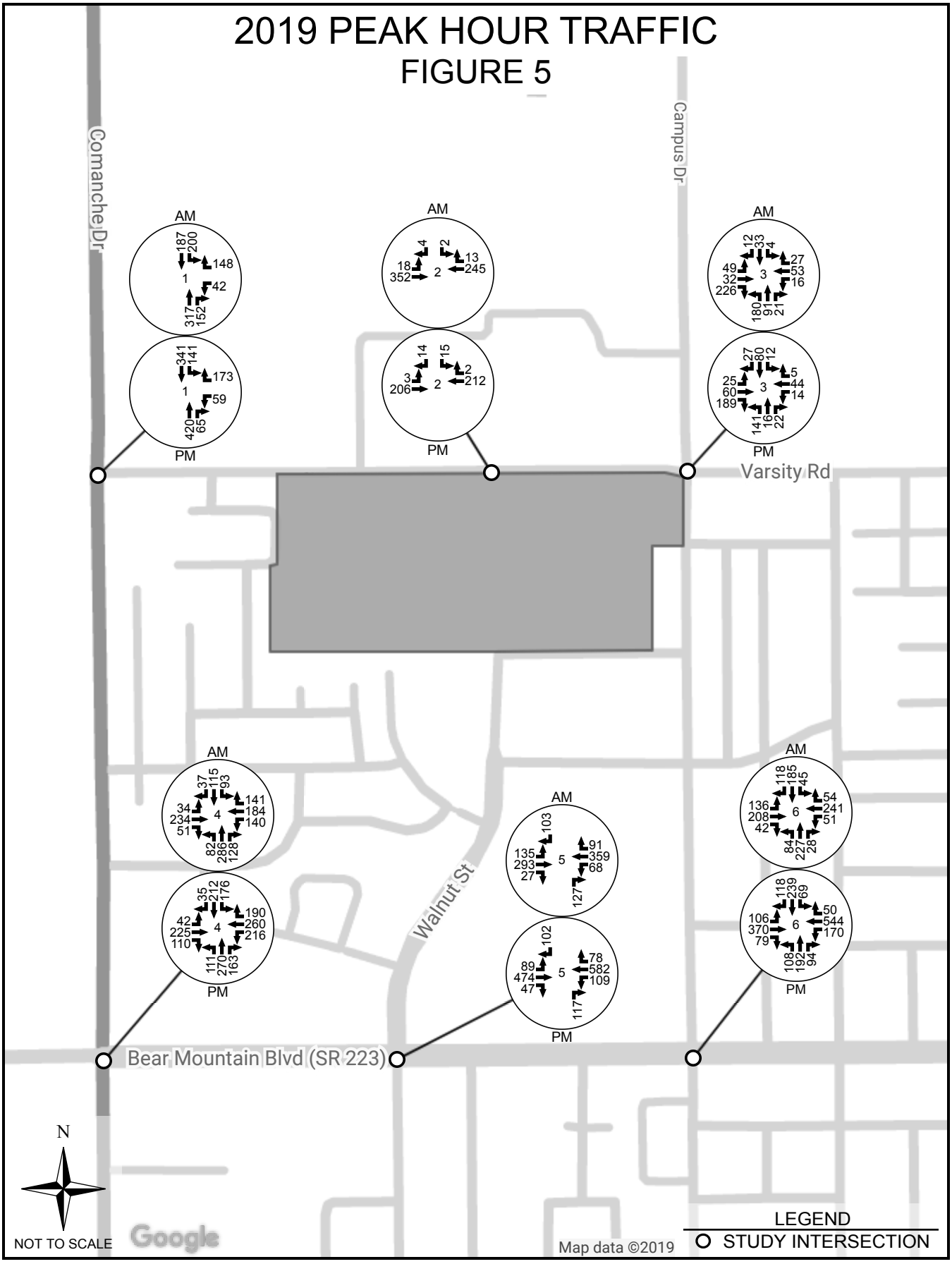
Existing peak hour turn movement volumes were field measured in August 2019 at the study intersections and are shown in Figure 5. Existing plus project peak hour volumes are shown in Figure 6.

Annual growth rates of 0.5% to 6.35% were applied to existing traffic volumes to estimate future traffic volumes for the years 2021 (opening year) and 2040. These growth rates were estimated based on a review of KernCOG traffic model data. Opening year peak hour, opening year plus project, future peak hour and peak hour plus project volumes are shown in Figures 7-10, respectively.

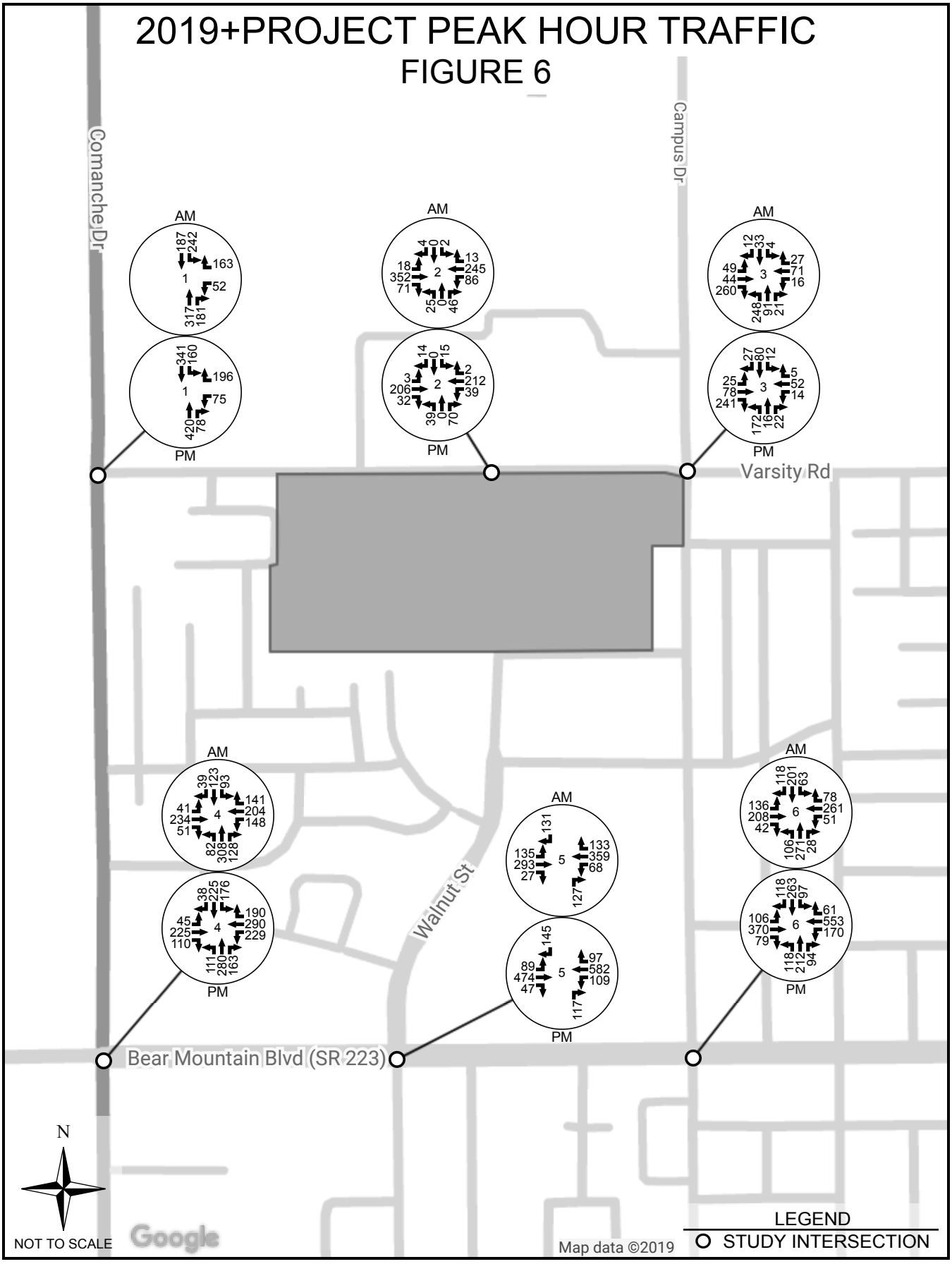
PROJECT PEAK HOUR TRAFFIC
FIGURE 4



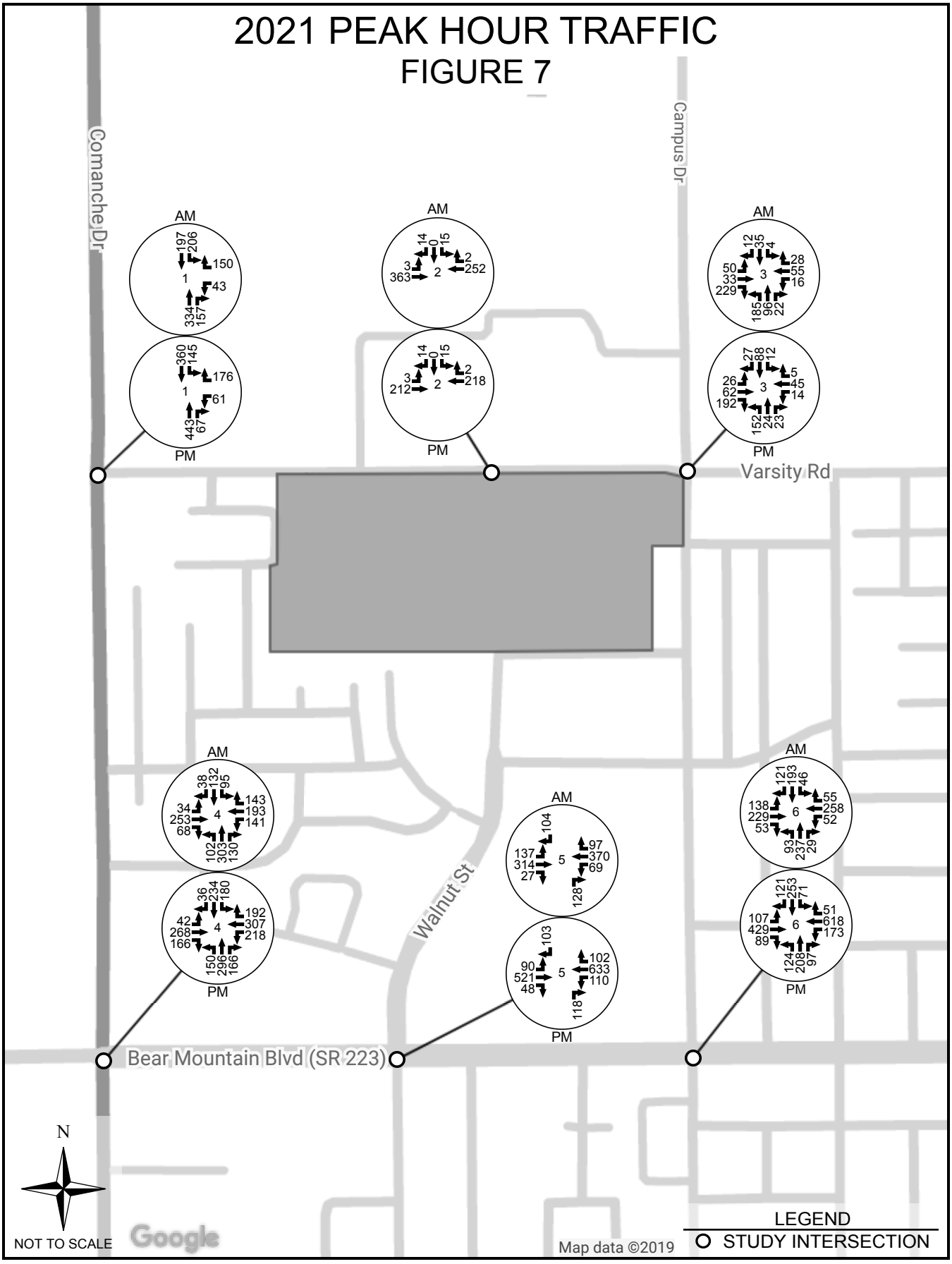
2019 PEAK HOUR TRAFFIC
FIGURE 5



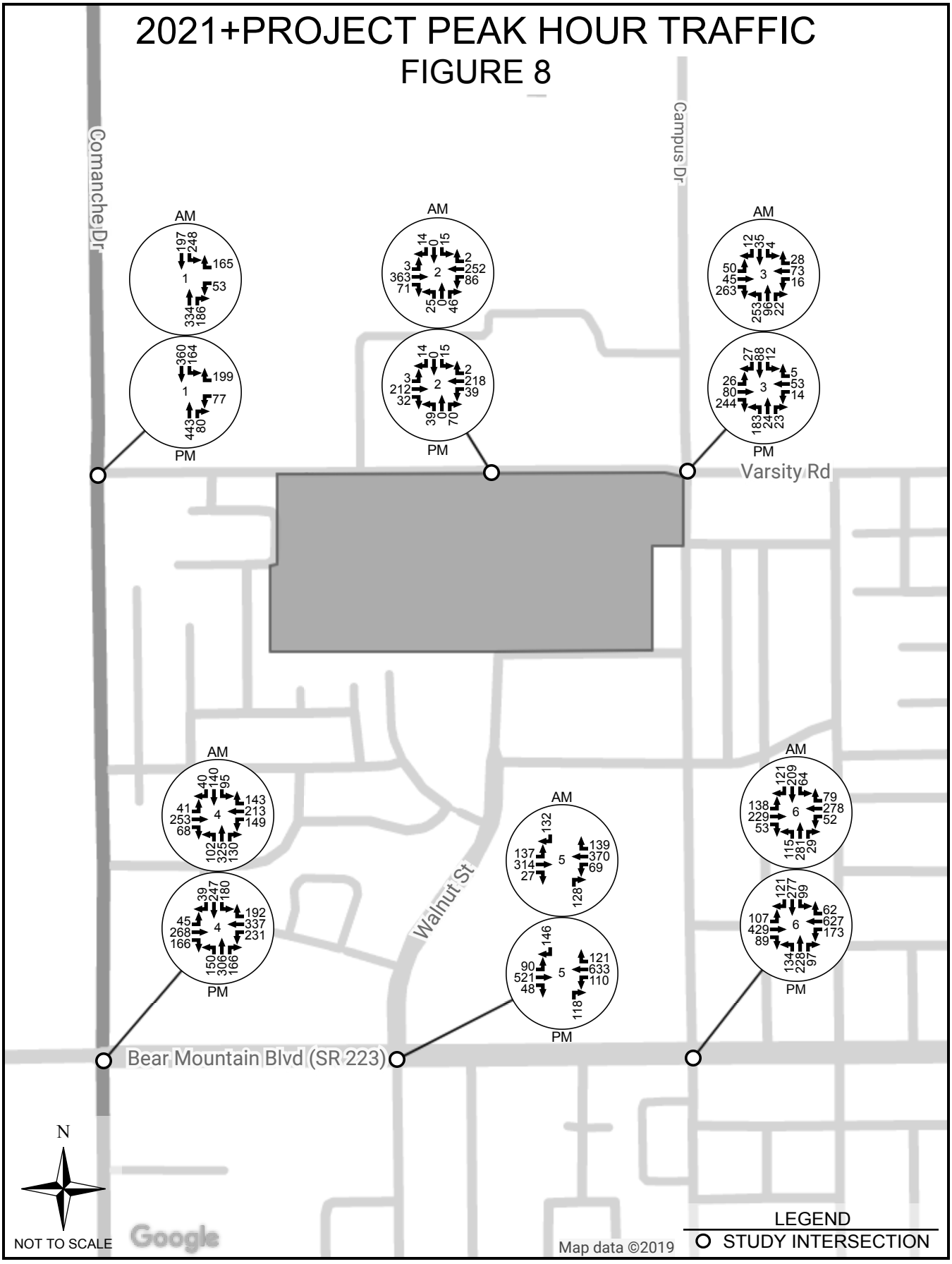
2019+PROJECT PEAK HOUR TRAFFIC
FIGURE 6



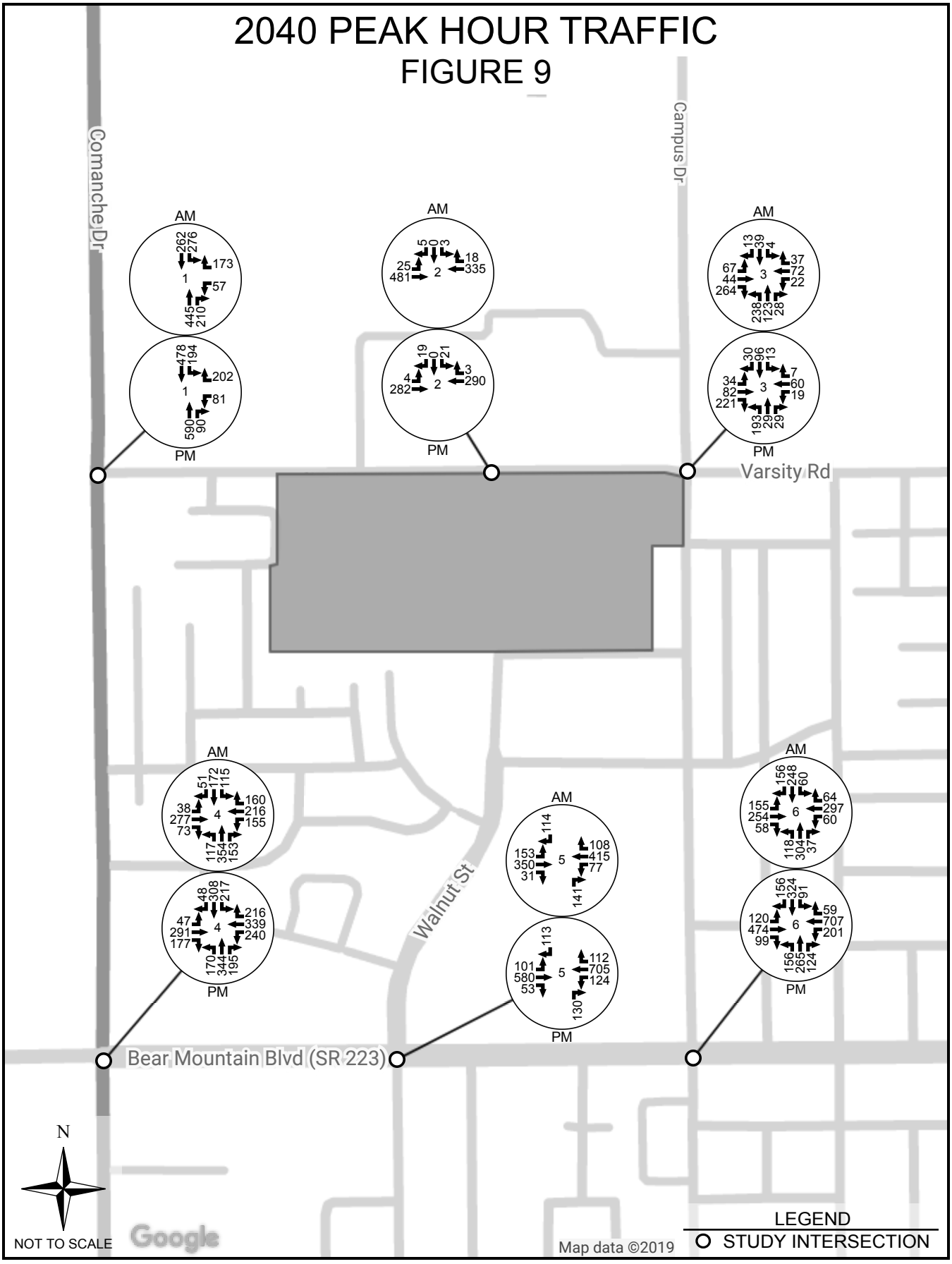
2021 PEAK HOUR TRAFFIC
FIGURE 7



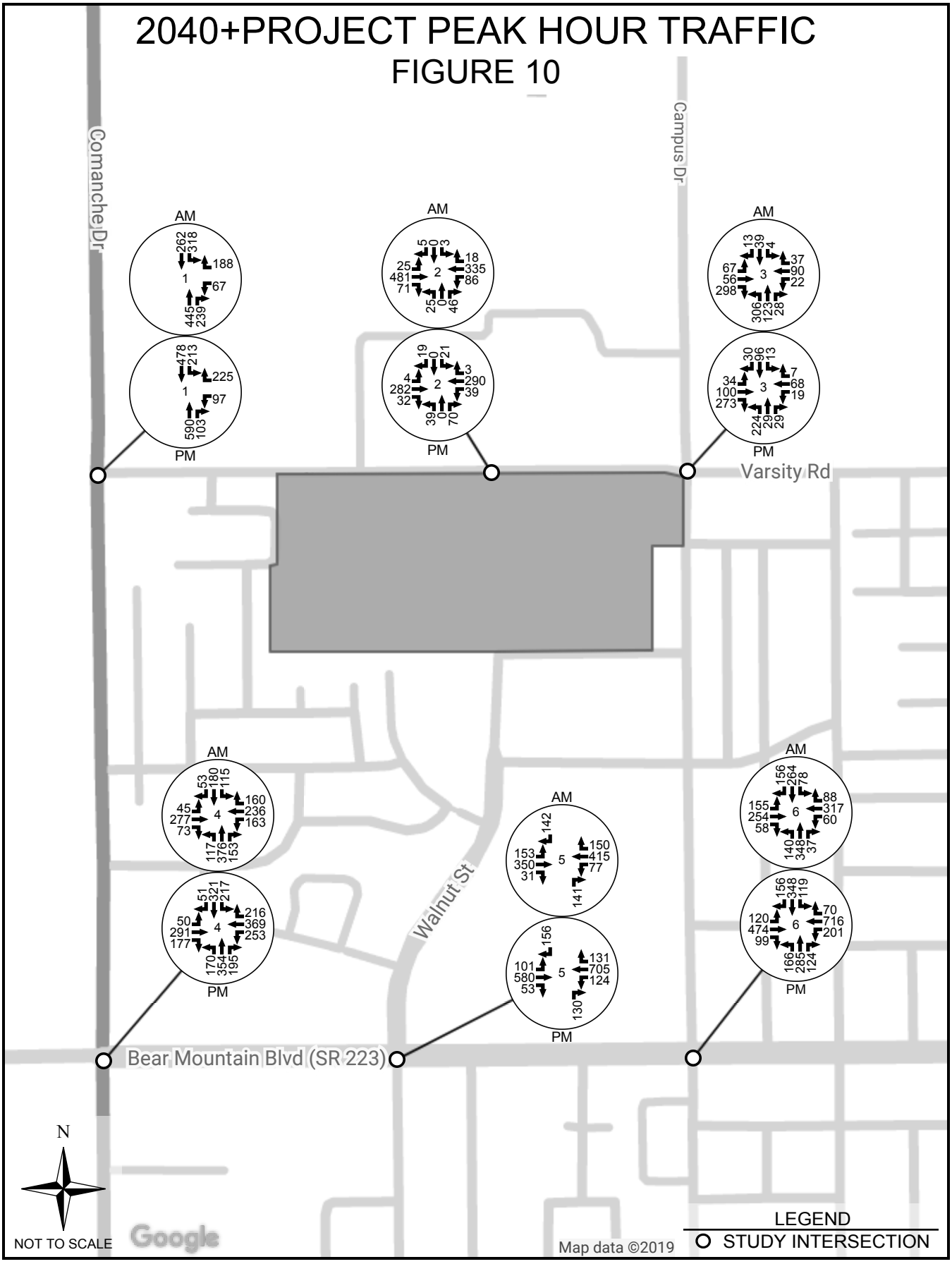
2021+PROJECT PEAK HOUR TRAFFIC
FIGURE 8



2040 PEAK HOUR TRAFFIC
FIGURE 9



2040+PROJECT PEAK HOUR TRAFFIC
FIGURE 10



INTERSECTION ANALYSIS

A capacity analysis of the study intersections was conducted using Synchro 9 software from Trafficware. This software utilizes the 2010 capacity analysis methodology in the Transportation Research Board's Highway Capacity Manual. The analysis was performed for the following traffic scenarios:

- Existing (2019)
- Existing+Project (2019)
- Opening Year (2021)
- Opening Year+Project (2021)
- Future Cumulative (2040)
- Future Cumulative+Project (2040)

Criteria for intersection level of service (LOS) are shown in the tables below.

LEVEL OF SERVICE CRITERIA
UNSIGNALIZED INTERSECTION

Average Control Delay (sec/veh)	Level of Service	Expected Delay to Minor Street Traffic
≤ 10	A	Little or no delay
> 10 and ≤ 15	B	Short traffic delays
> 15 and ≤ 25	C	Average traffic delays
> 25 and ≤ 35	D	Long traffic delays
> 35 and ≤ 50	E	Very long traffic delays
> 50	F	Extreme delays

LEVEL OF SERVICE CRITERIA
SIGNALIZED INTERSECTIONS

Volume/Capacity	Control Delay (sec/veh)	Level of Service
< 0.60	≤ 10	A
0.61 - 0.70	> 10 and ≤ 20	B
0.71 - 0.80	> 20 and ≤ 35	C
0.81 - 0.90	> 35 and ≤ 55	D
0.91 - 1.00	> 55 and ≤ 80	E
> 1.0	> 80	F

Level of service for the study intersections is presented in Tables 3a and 3b. According to the City of Arvin's Circulation Element, the level of service goal for the roadways within the scope of this study is "D".

Table 3a
AM Intersection Level of Service

#	Intersection	Control Type	2019	2019+ Project	2021	2021+ Project	2040	2040+ Project	2040+ Project w/Mitigation[1]
1	Comance Rd & Varsity Rd	WB	C	D	C	E (36.4)	F (118.3)	F (272.4)	C
2	Project Entrance & Varsity Rd	AWSC	B	B	B	B	B	C	-
3	Campus Dr & Varsity Rd	AWSC	B	B	B	B	C	C	-
4	Comanche Rd & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	C	C	-
5	N. Walnut St & Bear Mountain Blvd (SR 223)	NB SB	B B	B B	B B	B B	B B	B B	-
6	Campus Dr/Meyer St & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	C	C	-

[1]See Table 7 for mitigation details.

Table 3b
PM Intersection Level of Service

#	Intersection	Control Type	2019	2019+ Project	2021	2021+ Project	2040	2040+ Project	2040+ Project w/Mitigation[1]
1	Comance Rd & Varsity Rd	WB	D	F (55.9)	E (39.7)	F (74.1)	F (<300)	F (<300)	C
2	Project Entrance & Varsity Rd	AWSC	A	A	A	B	B	B	-
3	Campus Dr & Varsity Rd	AWSC	B	B	B	B	B	C	-
4	Comanche Rd & Bear Mountain Blvd (SR 223)	Signal	C	C	D	D	D	D	-
5	N. Walnut St & Bear Mountain Blvd (SR 223)	NB SB	B B	B B	B B	B B	B B	B B	-
6	Campus Dr/Meyer St & Bear Mountain Blvd (SR 223)	Signal	C	C	C	C	D	D	-

[1]See Table 7 for mitigation details.

TRAFFIC SIGNAL WARRANT ANALYSIS

Peak hour signal warrants were evaluated for each of the unsignalized intersections within the study based on the California Manual on Uniform Traffic Control Devices (MUTCD). Peak hour signal warrants assess delay to traffic on the minor street approaches when entering or crossing a major street. Signal warrant analysis results for AM and PM peak hours are shown in Tables 4a and 4b.

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered in order to determine whether signals are truly justified.

It is also noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service, or operate below an acceptable level of service and not meet signal warrant criteria.

Table 4a
AM Traffic Signal Warrants – Existing Scenario

		2019			2019+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	864	190	YES	935	215	YES
2	Project Entrance at Varsity Rd	628	6	NO	785	71	NO
3	Campus Dr at Varsity Rd	403	292	NO	467	360	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	973	127	YES	1015	131	NO

Table 4b
PM Traffic Signal Warrants – Existing Scenario

		2019			2019+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	968	232	YES	1000	271	YES
2	Project Entrance at Varsity Rd	423	29	NO	494	109	NO
3	Campus Dr at Varsity Rd	337	179	NO	415	210	NO
5	N Walnut St at Bear Mountain Blvd (SR 223)	1379	117	YES	1398	145	YES

Table 4c
AM Traffic Signal Warrants – Future Scenarios

		2021			2021+Project			2040			2040+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	902	193	YES	973	218	YES	1201	230	YES	1272	255	YES
2	Project Entrance at Varsity Rd	620	29	NO	777	71	NO	859	8	NO	1016	71	NO
3	Campus Dr at Varsity Rd	411	303	NO	475	371	YES	506	389	YES	570	457	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	1014	128	YES	1056	132	YES	1134	141	YES	1176	142	YES

Table 4d

PM Traffic Signal Warrants – Future Scenarios

		2021			2021+Project			2040			2040+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Comanche Rd at Varsity Rd	1016	237	YES	1048	276	YES	1353	283	YES	1385	322	YES
2	Project Entrance at Varsity Rd	435	29	NO	506	109	NO	579	40	NO	650	109	NO
3	Campus Dr at Varsity Rd	344	199	NO	422	230	NO	423	251	NO	501	282	YES
5	N Walnut St at Bear Mountain Blvd (SR 223)	1504	118	YES	1523	146	YES	1675	130	YES	1694	156	YES

ROADWAY ANALYSIS

The volume-to-capacity ratios shown in Table 6 were calculated for roadways with published ADT information and future projected traffic as shown in Table 5.

A volume-to-capacity ratio (v/c) of greater than 0.90 corresponds to a LOS of E, as defined in the Highway Capacity Manual and is shown in Table 6. Mitigation is required where project traffic reduces the LOS to below an acceptable level, or where the pre-existing condition of the roadway is below an acceptable level of service and degrades below the pre-existing LOS with the addition of the project.

Table 5
Roadway ADT & Capacity

Street	2019[1]	Project ADT	Cum ADT	2021 ADT[2]	2021+ Project[2]	2040 ADT[2]	2040+ Project[2]	Existing Capacity
Varsity Rd: Comanche Dr to Project Entrance	2571[2]	702	0[3]	2649	3351	3515	4217	20000
Varsity Rd: Project Entrance to Campus Dr	2571[2]	1266	0[3]	2649	3915	3515	4781	20000
Bear Mountain Rd (SR 223): Comanche Dr to Walnut St	12146[2]	425	1013	12294	12719	13791	14216	40000
Bear Mountain Rd (SR 223): Walnut to Campus Dr	12146[2]	188	1681	12294	12482	13791	13979	40000
Comanche Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	8741[2]	287	429	9014	9301	12502	12789	15000
Campus Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	3685[2]	940	227	3784	4724	5100	6040	30000

[1]2019 data not available. Data grown out from previous available year.

[2]Includes cumulative traffic.

[3]Project entrance does not include existing traffic.

Table 6
Roadway Level of Service

Street	v/c(Ex) 2019	v/c 2019+Proj	v/c 2021	v/c 2021+Proj	v/c 2040	v/c 2040+Proj
Varsity Rd: Comanche Dr to Project Entrance	0.13	0.16	0.13	0.17	0.18	0.21
Varsity Rd: Project Entrance to Campus Dr	0.13	0.19	0.13	0.20	0.18	0.24
Bear Mountain Rd (SR 223): Comanche Dr to Walnut St	0.30	0.31	0.31	0.32	0.34	0.36
Bear Mountain Rd (SR 223): Walnut to Campus Dr	0.30	0.31	0.31	0.31	0.34	0.35
Comanche Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	0.58	0.60	0.60	0.62	0.83	0.85
Campus Dr: Varsity Rd to Bear Mountain Blvd (SR 223)	0.12	0.15	0.13	0.16	0.17	0.20

NOTE: Cumulative traffic from other projects included in all future volumes.

VEHICLE MILES TRAVELED (VMT) EVALUATION

In accordance with the California Environmental Quality Act (CEQA), an evaluation of the average vehicle miles traveled (VMT) for the project's traffic was conducted.

VMT data was obtained from the Kern Council of Governments (KernCOG) in order to establish a baseline for daily vehicle miles traveled in the Arvin area. KernCOG's data is estimated based on Select Zone Analysis conducted for the region for establishing traffic models of existing and future land development projects. Based on household and employment populations in the Arvin area, as well as travel patterns throughout the region, KernCOG data has established the regional average VMT per trip to be 29.38 miles.

In order to establish the anticipated VMT profile for the proposed community college, an investigation into the student, faculty and staff trips was conducted. The primary factor involved in this evaluation is the location of the project site in relation to the surrounding population centers.

Based on the information gathered, 70% of the students will be traveling from within Arvin city limits while 30% of students are anticipated to be traveling from surrounding cities. It is anticipated that 30% of faculty and staff will be traveling from within Arvin city limits and 70% of faculty and staff are anticipated to be traveling from the outside of the City of Arvin.

The average trip length for students traveling to the community college was determined to be approximately 3.28 miles. The average trip length for faculty and staff was determined to be approximately 15 miles. The combined average trip length for all students, faculty and staff resulted in an average trip length of 4.03 miles.

Based on CEQA Guideline Section 15064.3 subdivision (b), the project would create a less-than-significant transportation impact, because the project's VMT is less than the regional average. As previously mentioned, the regional average VMT established by KernCOG is 29.38 miles, and the average VMT of the proposed community college is 4.03 miles. The project's average VMT is anticipated to bring down the regional average, and will not cause a significant transportation impact.

PEDESTRIAN EVALUATION

The proposed project entrance that intersects with Varsity Road currently exists as a three-way stop controlled intersection with driveway access to Arvin High School. This intersection will be the primary pedestrian route between the high school and proposed community college. The intersection currently has adequate pedestrian facilities including crosswalk striping and signage. It is recommended that enhanced pedestrian signs and/or striping be reviewed during final project design and applied as necessary.

MITIGATION

Intersection and roadway improvements needed by the year 2040 to maintain or improve the operational level of service of the street system in the vicinity of the project are shown in Table 7.

Table 7
Future Intersection Improvements and Local Mitigation

#	Intersection	Total Improvements Required by 2040	Percent Share
1	Comanche Rd & Varsity Rd	Add Signal	20.3%

SUMMARY AND CONCLUSIONS

This study evaluated the potential traffic impact of a proposed community college located at the southwest corner of Varsity Road and Campus Drive.

Level of Service Analysis

All intersections operate with an acceptable level of service during peak hours in the existing year prior to the addition of project traffic. Comanche Road and Varsity Road is anticipated to operate below an acceptable level of service during the peak hour in the existing year with the addition of project traffic.

The remaining intersections are anticipated to operate at acceptable levels of service during the peak hour in the opening and future years and are expected to continue to do so with the addition of project traffic.

Roadway Capacity

All roadways within the project scope currently operate at acceptable levels of service and are expected to continue to do so with the addition of project traffic through the future year.

Vehicle Miles Traveled Evaluation

The average vehicle miles traveled (VMT) is lower than the regional VMT, therefore there are no impacts.

Conclusion

Based on the City of Arvin's standards for determining whether project traffic has a significant impact on intersections and roadways, the mitigation measures identified in Tables 7 are anticipated to be needed in order to reduce the impacts for the listed facilities to less-than-significant levels in the year 2040.

REFERENCES

1. Annual Traffic Census, Kern COG
2. City of Arvin General Plan, approved 2019
3. Highway Capacity Manual, Special Report 209, Transportation Research Board
4. California Manual on Uniform Traffic Control Devices for Streets and Highways, 2014 Edition, Federal Highway Administration (FHA)
5. Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE)

APPENDIX

Level of Service

Intersection 1
Comanche Rd & Varsity Rd

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	42	148	317	152	200	187
Future Vol, veh/h	42	148	317	152	200	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	161	345	165	217	203

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1065	427	0	0	510	0
Stage 1	427	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	246	628	-	-	1055	-
Stage 1	658	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	195	628	-	-	1055	-
Mov Cap-2 Maneuver	195	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	1055	-
HCM Lane V/C Ratio	-	-	0.491	0.206	-
HCM Control Delay (s)	-	-	21.5	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.6	0.8	-

Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	52	163	317	181	242	187
Future Vol, veh/h	52	163	317	181	242	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	177	345	197	263	203

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1172	443	0	0	541	0
Stage 1	443	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	213	615	-	-	1028	-
Stage 1	647	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	159	615	-	-	1028	-
Mov Cap-2 Maneuver	159	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	355	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.2	0	5.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	1028	-
HCM Lane V/C Ratio	-	-	0.644	0.256	-
HCM Control Delay (s)	-	-	31.2	9.7	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	4.3	1	-

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	43	150	334	157	206	197
Future Vol, veh/h	43	150	334	157	206	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	163	363	171	224	214

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1110	448	0	0	534	0
Stage 1	448	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	611	-	-	1034	-
Stage 1	644	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	182	611	-	-	1034	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.4	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	401	1034	-
HCM Lane V/C Ratio	-	-	0.523	0.217	-
HCM Control Delay (s)	-	-	23.4	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.9	0.8	-

Intersection	
Int Delay, s/veh	8.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	53	165	334	186	248	197
Future Vol, veh/h	53	165	334	186	248	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	179	363	202	270	214

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1217	464	0	0	565	0
Stage 1	464	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	200	598	-	-	1007	-
Stage 1	633	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	598	-	-	1007	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	340	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.4	0	5.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	341	1007	-
HCM Lane V/C Ratio	-	-	0.695	0.268	-
HCM Control Delay (s)	-	-	36.4	9.9	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	4.9	1.1	-

Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	57	173	445	210	276	262
Future Vol, veh/h	57	173	445	210	276	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	188	484	228	300	285

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1483	598	0	0	712	0
Stage 1	598	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	138	502	-	-	888	-
Stage 1	549	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	502	-	-	888	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	267	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	118.3	0	5.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	237	888	-
HCM Lane V/C Ratio	-	-	1.055	0.338	-
HCM Control Delay (s)	-	-	118.3	11.1	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	10.5	1.5	-

Intersection	
Int Delay, s/veh	48.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	67	188	445	239	318	262
Future Vol, veh/h	67	188	445	239	318	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	204	484	260	346	285

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1590	614	0	0	743	0
Stage 1	614	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	118	492	-	-	864	-
Stage 1	540	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 71	492	-	-	864	-
Mov Cap-2 Maneuver	~ 71	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	219	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	272.4	0	6.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	192	864	-
HCM Lane V/C Ratio	-	-	1.444	0.4	-
HCM Control Delay (s)	-	-	272.4	11.9	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	16.8	1.9	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	67	188	445	239	318	262
Future Volume (veh/h)	67	188	445	239	318	262
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1750	1863	1750	1716	1863
Adj Flow Rate, veh/h	73	204	484	260	346	285
Adj No. of Lanes	0	0	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	80	223	824	443	400	1345
Arrive On Green	0.20	0.20	0.72	0.72	0.72	0.72
Sat Flow, veh/h	394	1102	1141	613	657	1863
Grp Volume(v), veh/h	278	0	0	744	346	285
Grp Sat Flow(s),veh/h/ln	1502	0	0	1755	657	1863
Q Serve(g_s), s	21.7	0.0	0.0	24.5	62.1	6.0
Cycle Q Clear(g_c), s	21.7	0.0	0.0	24.5	86.7	6.0
Prop In Lane	0.26	0.73		0.35	1.00	
Lane Grp Cap(c), veh/h	304	0	0	1267	400	1345
V/C Ratio(X)	0.91	0.00	0.00	0.59	0.86	0.21
Avail Cap(c_a), veh/h	384	0	0	1267	400	1345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.64	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	0.0	8.0	29.5	5.5
Incr Delay (d2), s/veh	22.4	0.0	0.0	1.3	21.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	0.0	12.2	13.8	3.2
LnGrp Delay(d),s/veh	69.2	0.0	0.0	9.3	50.7	5.8
LnGrp LOS	E			A	D	A
Approach Vol, veh/h	278		744			631
Approach Delay, s/veh	69.2		9.3			30.5
Approach LOS	E		A			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		91.2				91.2		28.8
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		80.3				80.3		30.7
Max Q Clear Time (g_c+I1), s		26.5				88.7		23.7
Green Ext Time (p_c), s		10.3				0.0		0.6

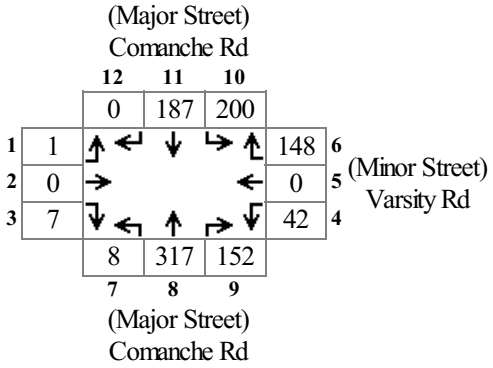
Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Notes

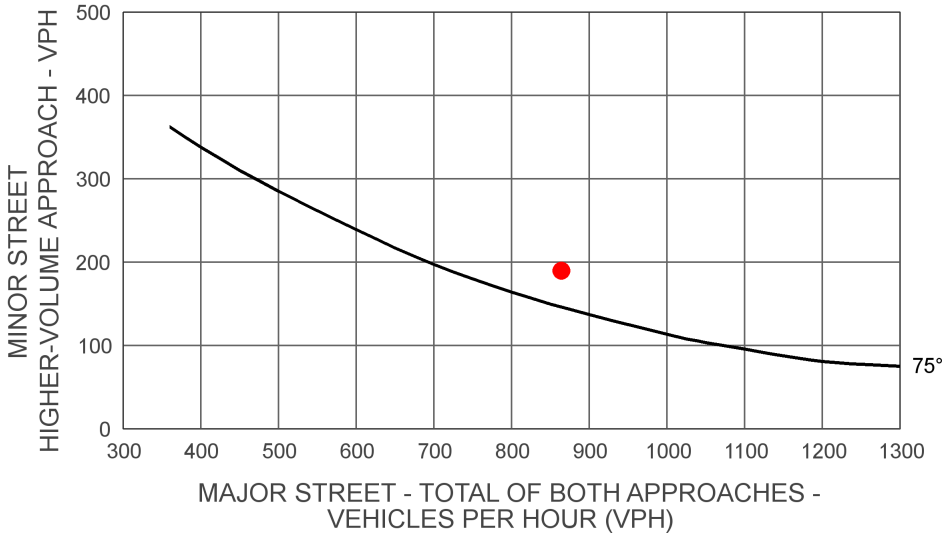
User approved volume balancing among the lanes for turning movement.

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing
Intersection #: 1

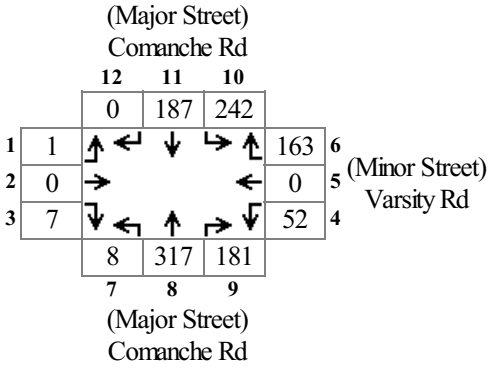


Major Total: 864
Minor High Volume: 190

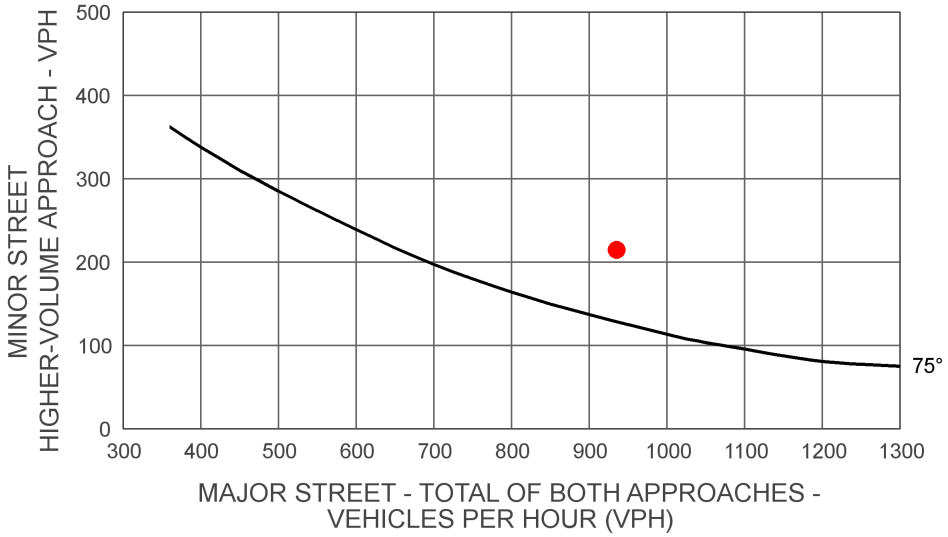


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing+Project
Intersection #: 1

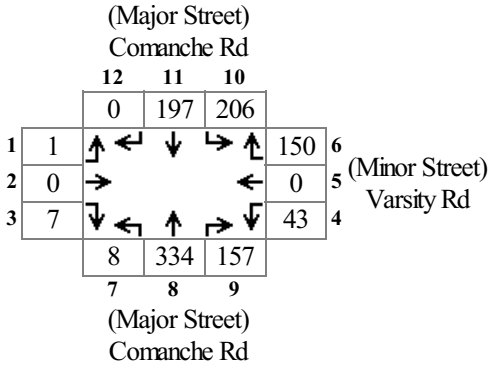


Major Total: 935
Minor High Volume: 215

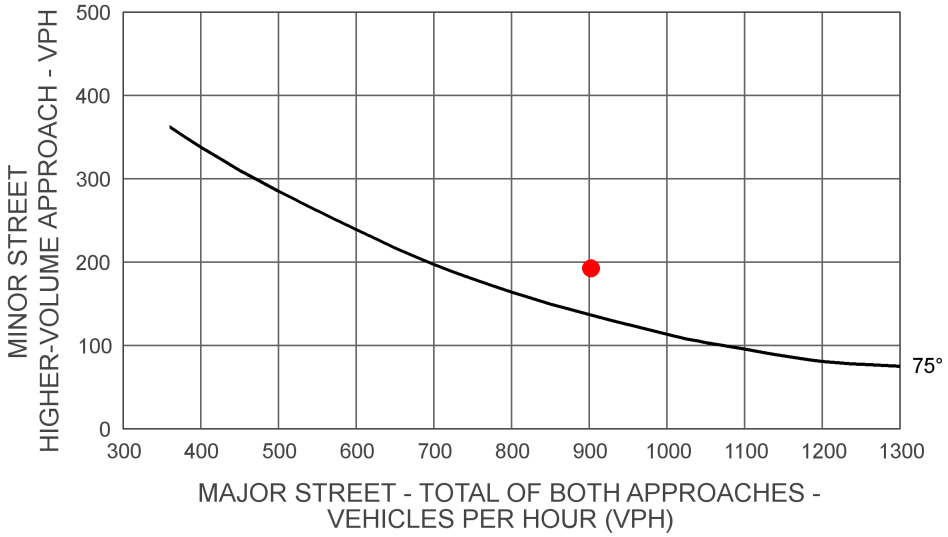


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 1

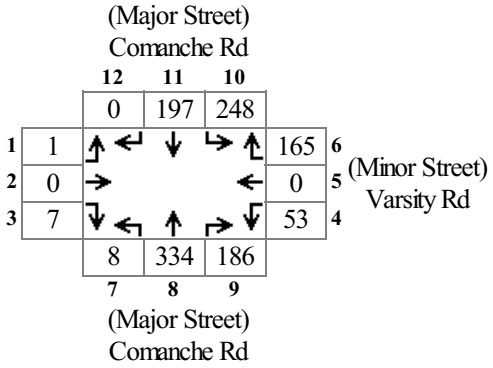


Major Total: 902
Minor High Volume: 193

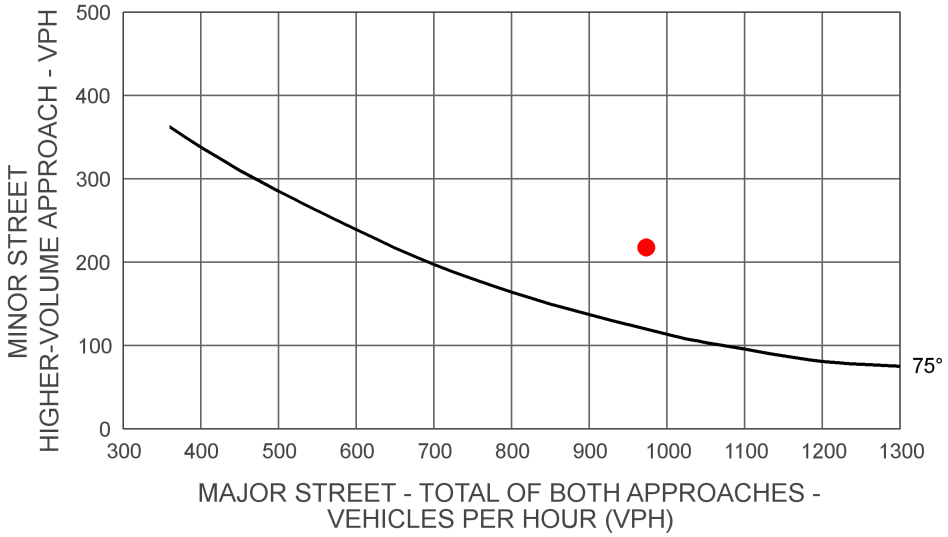


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 1

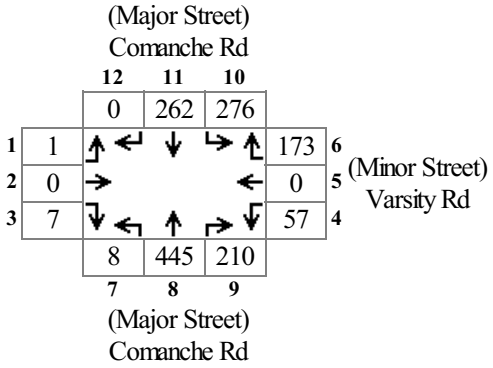


Major Total: 973
Minor High Volume: 218

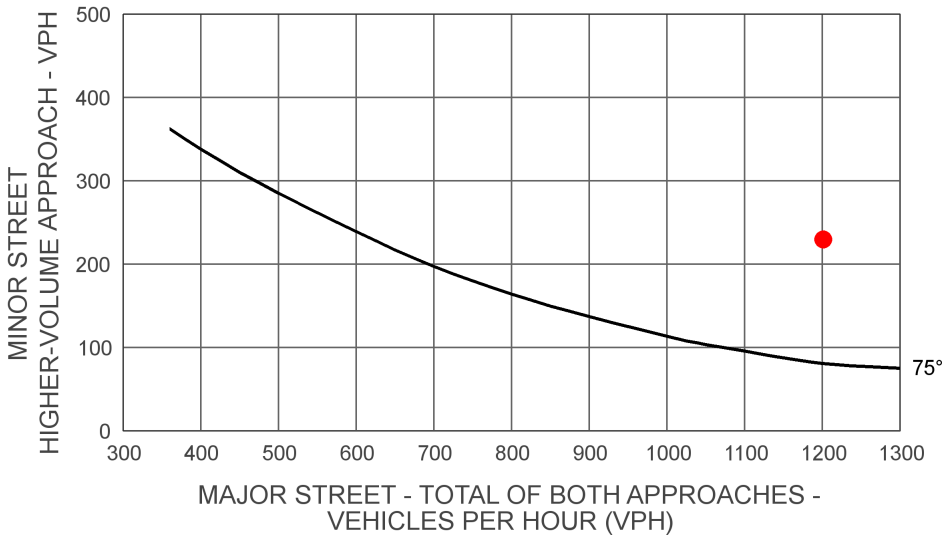


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 1

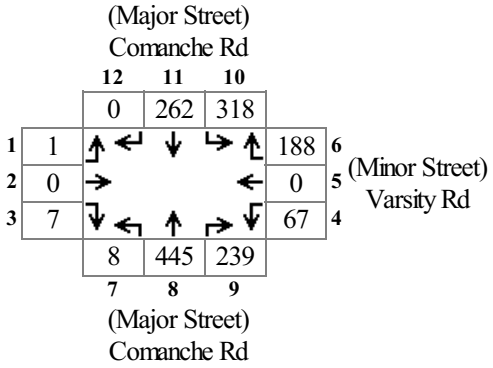


Major Total: 1201
Minor High Volume: 230

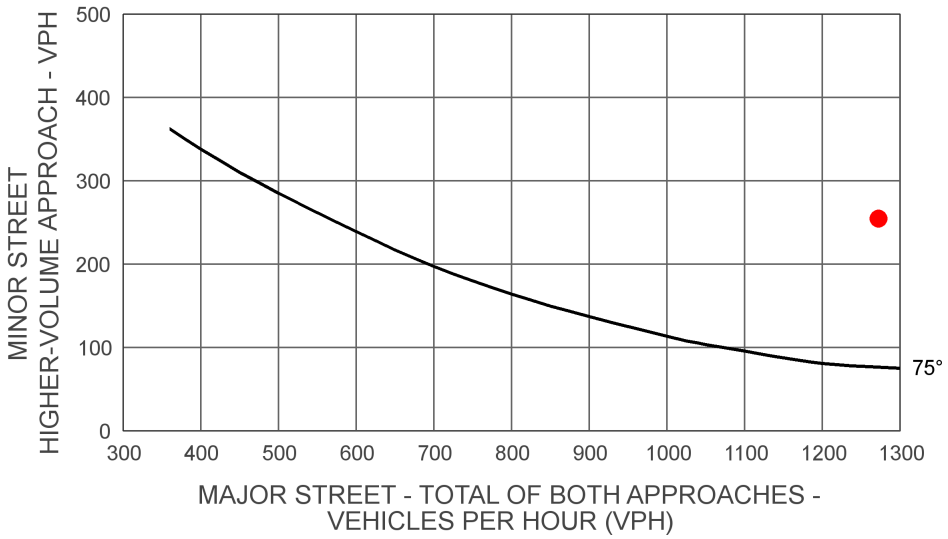


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 1



Major Total: 1272
Minor High Volume: 255



Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	59	173	420	65	141	341
Future Vol, veh/h	59	173	420	65	141	341
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	188	457	71	153	371

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1169	492	0	0	527	0
Stage 1	492	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	213	577	-	-	1040	-
Stage 1	615	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	182	577	-	-	1040	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.8	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	372	1040	-
HCM Lane V/C Ratio	-	-	0.678	0.147	-
HCM Control Delay (s)	-	-	32.8	9.1	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	4.8	0.5	-

Intersection	
Int Delay, s/veh	13.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	75	196	420	78	160	341
Future Vol, veh/h	75	196	420	78	160	341
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	213	457	85	174	371

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1217	499	0	0	541	0
Stage 1	499	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	200	572	-	-	1028	-
Stage 1	610	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	572	-	-	1028	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	401	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.9	0	2.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	341	1028	-
HCM Lane V/C Ratio	-	-	0.864	0.169	-
HCM Control Delay (s)	-	-	55.9	9.2	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	8	0.6	-

Intersection	
Int Delay, s/veh	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	61	176	443	67	145	360
Future Vol, veh/h	61	176	443	67	145	360
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	191	482	73	158	391

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1225	518	0	0	554	0
Stage 1	518	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	198	558	-	-	1016	-
Stage 1	598	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	167	558	-	-	1016	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.7	0	2.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	348	1016	-
HCM Lane V/C Ratio	-	-	0.74	0.155	-
HCM Control Delay (s)	-	-	39.7	9.2	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	5.7	0.5	-

Intersection	
Int Delay, s/veh	16.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	77	199	443	80	164	360
Future Vol, veh/h	77	199	443	80	164	360
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	216	482	87	178	391

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1273	525	0	0	568	0
Stage 1	525	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	185	552	-	-	1004	-
Stage 1	593	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	552	-	-	1004	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	74.1	0	2.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	1004	-
HCM Lane V/C Ratio	-	-	0.943	0.178	-
HCM Control Delay (s)	-	-	74.1	9.4	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	9.5	0.6	-

Intersection	
Int Delay, s/veh	54.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	81	202	590	90	194	478
Future Vol, veh/h	81	202	590	90	194	478
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	220	641	98	211	520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1631	690	0	0	739	0
Stage 1	690	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	112	445	-	-	867	-
Stage 1	498	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 85	445	-	-	867	-
Mov Cap-2 Maneuver	~ 85	-	-	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	288	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 305.3	0	3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	201	867	-
HCM Lane V/C Ratio	-	-	1.53	0.243	-
HCM Control Delay (s)	-	-	$ 305.3	10.5	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	19.3	1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	93.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	97	225	590	103	213	478
Future Vol, veh/h	97	225	590	103	213	478
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	170	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	245	641	112	232	520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1680	697	0	0	753	0
Stage 1	697	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 104	441	-	-	857	-
Stage 1	494	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 76	441	-	-	857	-
Mov Cap-2 Maneuver	~ 76	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	264	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 487.8	0	3.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	180	857	-
HCM Lane V/C Ratio	-	-	1.944	0.27	-
HCM Control Delay (s)	-	-	$ 487.8	10.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	26.2	1.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	97	225	590	103	213	478
Future Volume (veh/h)	97	225	590	103	213	478
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1750	1863	1750	1716	1863
Adj Flow Rate, veh/h	105	245	641	112	232	520
Adj No. of Lanes	0	0	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	2	2
Cap, veh/h	111	260	1048	183	353	1263
Arrive On Green	0.25	0.25	0.68	0.68	0.68	0.68
Sat Flow, veh/h	451	1052	1545	270	651	1863
Grp Volume(v), veh/h	351	0	0	753	232	520
Grp Sat Flow(s),veh/h/ln	1507	0	0	1815	651	1863
Q Serve(g_s), s	27.4	0.0	0.0	27.4	36.5	15.0
Cycle Q Clear(g_c), s	27.4	0.0	0.0	27.4	63.9	15.0
Prop In Lane	0.30	0.70		0.15	1.00	
Lane Grp Cap(c), veh/h	372	0	0	1231	353	1263
V/C Ratio(X)	0.94	0.00	0.00	0.61	0.66	0.41
Avail Cap(c_a), veh/h	386	0	0	1231	353	1263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.69	1.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	0.0	10.6	28.2	8.6
Incr Delay (d2), s/veh	31.1	0.0	0.0	1.6	9.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	0.0	0.0	14.1	7.5	8.0
LnGrp Delay(d),s/veh	75.5	0.0	0.0	12.2	37.4	9.6
LnGrp LOS	E			B	D	A
Approach Vol, veh/h	351		753			752
Approach Delay, s/veh	75.5		12.2			18.2
Approach LOS	E		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		85.9				85.9		34.1
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		80.3				80.3		30.7
Max Q Clear Time (g_c+I1), s		29.4				65.9		29.4
Green Ext Time (p_c), s		9.8				6.6		0.2

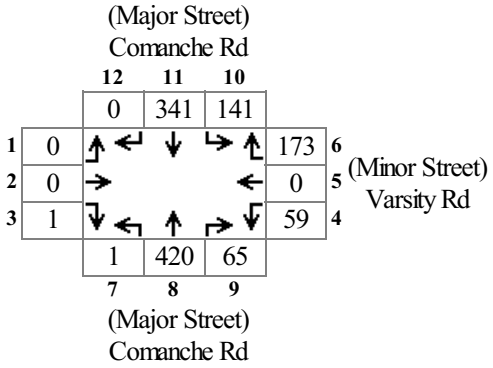
Intersection Summary	
HCM 2010 Ctrl Delay	26.6
HCM 2010 LOS	C

Notes

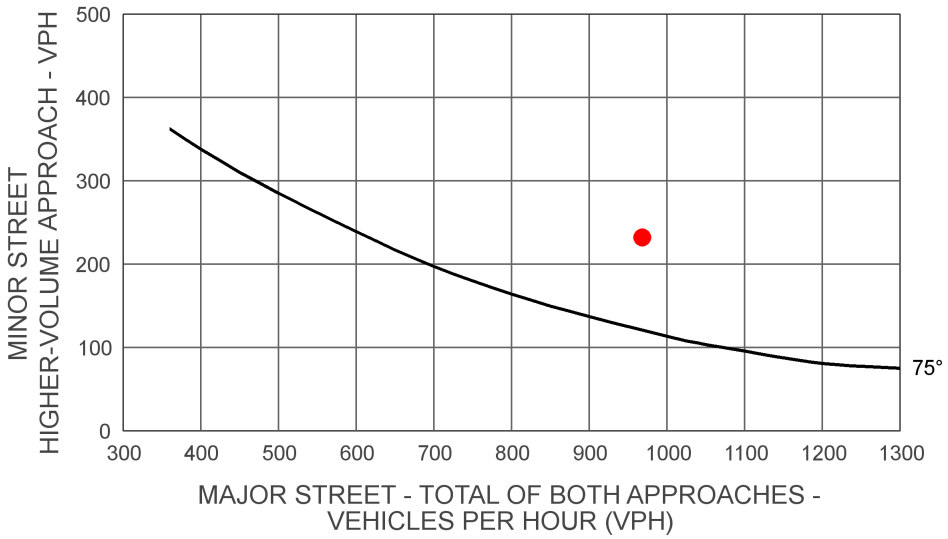
User approved volume balancing among the lanes for turning movement.

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing
Intersection #: 1

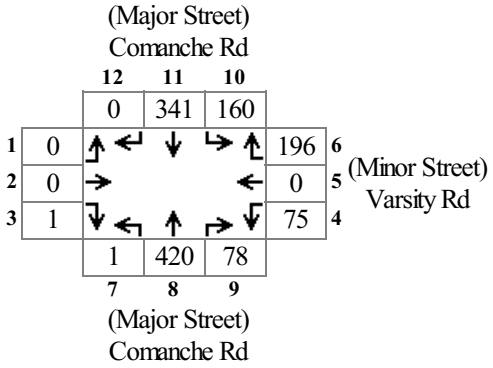


Major Total: 968
Minor High Volume: 232

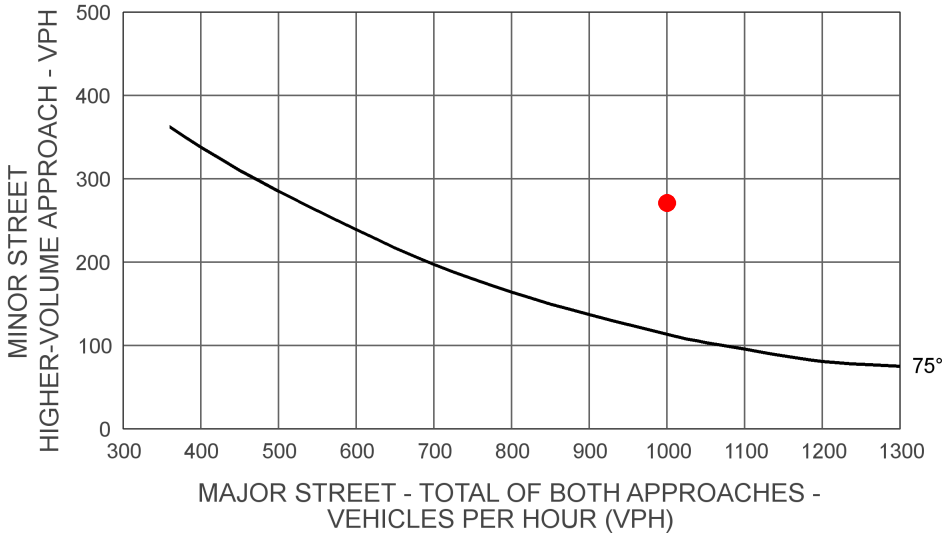


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing+Project
Intersection #: 1

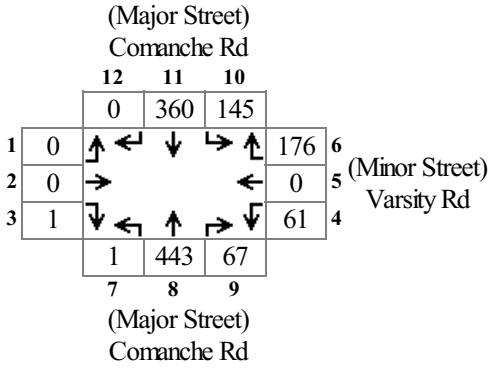


Major Total: 1000
Minor High Volume: 271

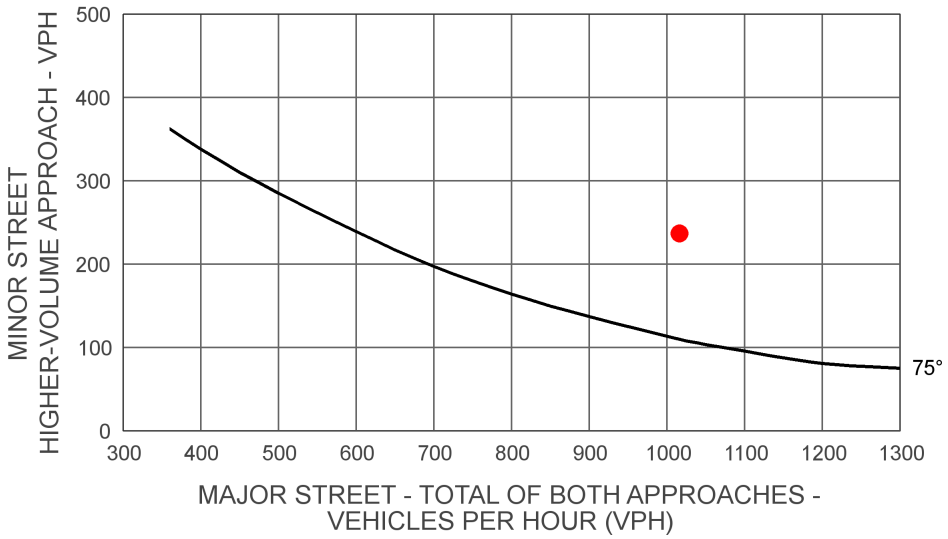


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 1

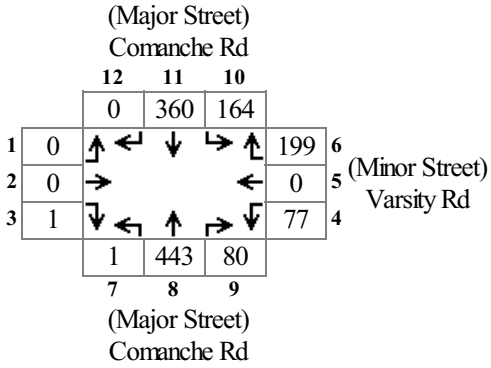


Major Total: 1016
Minor High Volume: 237

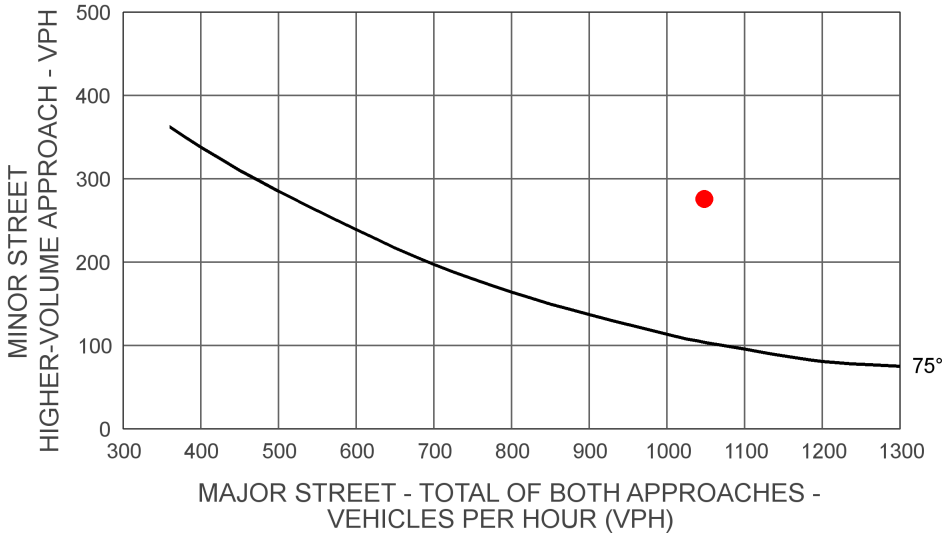


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 1

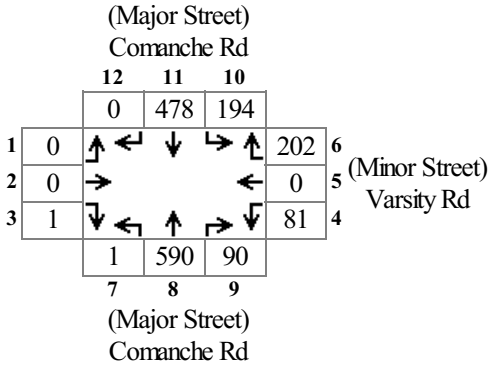


Major Total: 1048
Minor High Volume: 276

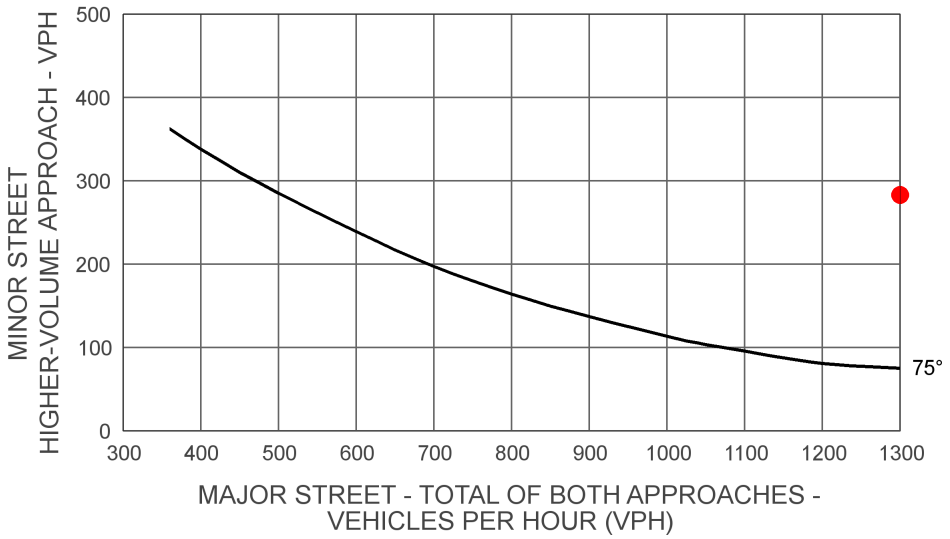


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 1

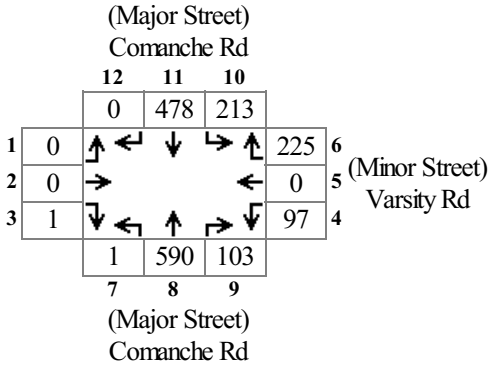


Major Total: 1353
Minor High Volume: 283

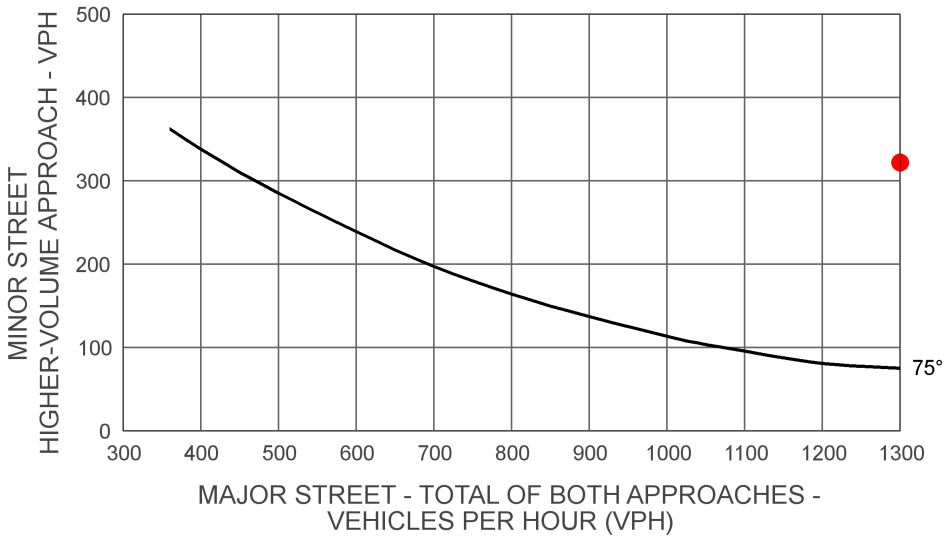


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 1



Major Total: 1385
Minor High Volume: 322



Intersection 2
Project Entrance & Varsity Rd

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	18	352	0	245	13	0	2	4
Future Vol, veh/h	0	18	352	0	245	13	0	2	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	383	0	266	14	0	2	4
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	11.8	9.8	8.2
HCM LOS	B	A	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	33%
Vol Thru, %	0%	100%	95%	0%
Vol Right, %	0%	0%	5%	67%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	352	258	6
LT Vol	18	0	0	2
Through Vol	0	352	245	0
RT Vol	0	0	13	4
Lane Flow Rate	20	383	280	7
Geometry Grp	7	7	5	2
Degree of Util (X)	0.028	0.497	0.346	0.009
Departure Headway (Hd)	5.182	4.681	4.443	5.121
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	765	813	701
Service Time	2.942	2.44	2.443	3.138
HCM Lane V/C Ratio	0.029	0.501	0.344	0.01
HCM Control Delay	8.1	12	9.8	8.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	2.8	1.6	0

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	18	352	0	0	0	245	13	0	0	0	0	0	2	0	4
Future Vol, veh/h	0	18	352	0	0	0	245	13	0	0	0	0	0	2	0	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	383	0	0	0	266	14	0	0	0	0	0	2	0	4
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11.8	9.8	0	8.2
HCM LOS	B	A	-	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	0%	33%
Vol Thru, %	100%	0%	100%	95%	0%
Vol Right, %	0%	0%	0%	5%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	18	352	258	6
LT Vol	0	18	0	0	2
Through Vol	0	0	352	245	0
RT Vol	0	0	0	13	4
Lane Flow Rate	0	20	383	280	7
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0	0.028	0.497	0.346	0.009
Departure Headway (Hd)	5.474	5.182	4.681	4.443	5.121
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	687	765	813	701
Service Time	3.492	2.942	2.44	2.443	3.138
HCM Lane V/C Ratio	0	0.029	0.501	0.344	0.01
HCM Control Delay	8.5	8.1	12	9.8	8.2
HCM Lane LOS	N	A	B	A	A
HCM 95th-tile Q	0	0.1	2.8	1.6	0

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	3	363	0	252	2	0	15	14
Future Vol, veh/h	0	3	363	0	252	2	0	15	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	395	0	274	2	0	16	15
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	12.6	10	8.6
HCM LOS	B	A	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	52%
Vol Thru, %	0%	100%	99%	0%
Vol Right, %	0%	0%	1%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	363	254	29
LT Vol	3	0	0	15
Through Vol	0	363	252	0
RT Vol	0	0	2	14
Lane Flow Rate	3	395	276	32
Geometry Grp	7	7	5	2
Degree of Util (X)	0.005	0.518	0.349	0.046
Departure Headway (Hd)	5.228	4.726	4.549	5.287
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	754	795	679
Service Time	3.027	2.525	2.558	3.308
HCM Lane V/C Ratio	0.004	0.524	0.347	0.047
HCM Control Delay	8.1	12.6	10	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0	3	1.6	0.1

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	363	71	0	86	252	2	0	25	0	46	0	15	0	14
Future Vol, veh/h	0	3	363	71	0	86	252	2	0	25	0	46	0	15	0	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	395	77	0	93	274	2	0	27	0	50	0	16	0	15
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	17	13.1	9.5	9.3
HCM LOS	C	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	35%	100%	0%	25%	52%
Vol Thru, %	0%	0%	84%	74%	0%
Vol Right, %	65%	0%	16%	1%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	3	434	340	29
LT Vol	25	3	0	86	15
Through Vol	0	0	363	252	0
RT Vol	46	0	71	2	14
Lane Flow Rate	77	3	472	370	32
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.123	0.005	0.659	0.508	0.052
Departure Headway (Hd)	5.742	5.646	5.027	4.945	5.994
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	628	630	712	724	601
Service Time	3.743	3.418	2.799	3.021	3.997
HCM Lane V/C Ratio	0.123	0.005	0.663	0.511	0.053
HCM Control Delay	9.5	8.4	17.1	13.1	9.3
HCM Lane LOS	A	A	C	B	A
HCM 95th-tile Q	0.4	0	5	2.9	0.2

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	25	481	0	335	18	0	3	5
Future Vol, veh/h	0	25	481	0	335	18	0	3	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	523	0	364	20	0	3	5
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	17	12	8.8
HCM LOS	C	B	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	38%
Vol Thru, %	0%	100%	95%	0%
Vol Right, %	0%	0%	5%	62%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	481	353	8
LT Vol	25	0	0	3
Through Vol	0	481	335	0
RT Vol	0	0	18	5
Lane Flow Rate	27	523	384	9
Geometry Grp	7	7	5	2
Degree of Util (X)	0.04	0.688	0.491	0.014
Departure Headway (Hd)	5.237	4.735	4.605	5.679
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	753	787	631
Service Time	3.033	2.531	2.61	3.71
HCM Lane V/C Ratio	0.04	0.695	0.488	0.014
HCM Control Delay	8.3	17.5	12	8.8
HCM Lane LOS	A	C	B	A
HCM 95th-tile Q	0.1	5.6	2.7	0

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

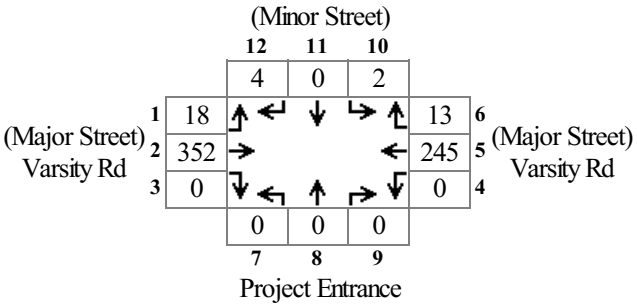
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	25	481	71	0	86	335	18	0	25	0	46	0	3	0	5
Future Vol, veh/h	0	25	481	71	0	86	335	18	0	25	0	46	0	3	0	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	523	77	0	93	364	20	0	27	0	50	0	3	0	5
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	28.8	17.6	10.2	9.6
HCM LOS	D	C	B	A

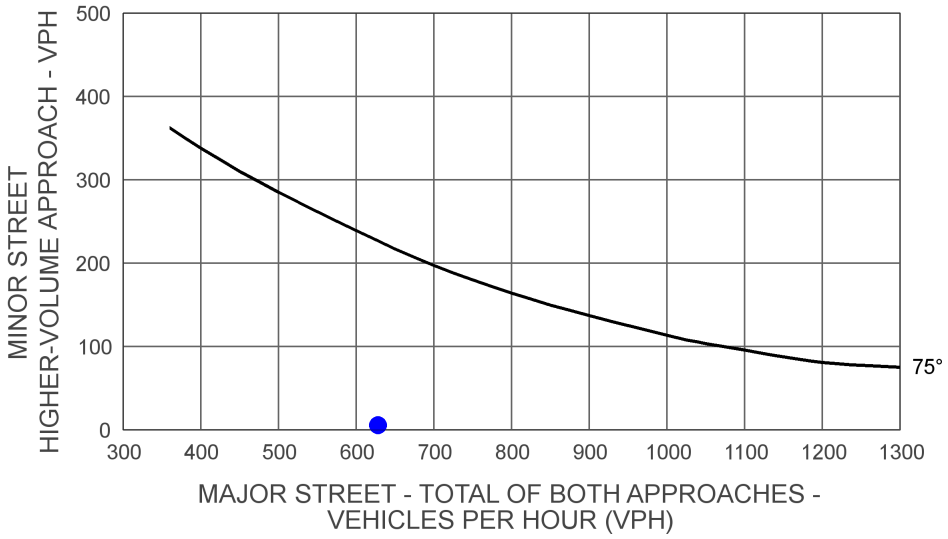
Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	35%	100%	0%	20%	38%
Vol Thru, %	0%	0%	87%	76%	0%
Vol Right, %	65%	0%	13%	4%	62%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	25	552	439	8
LT Vol	25	25	0	86	3
Through Vol	0	0	481	335	0
RT Vol	46	0	71	18	5
Lane Flow Rate	77	27	600	477	9
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.133	0.043	0.848	0.665	0.016
Departure Headway (Hd)	6.215	5.681	5.086	5.018	6.469
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	580	625	708	711	556
Service Time	4.217	3.462	2.867	3.102	4.476
HCM Lane V/C Ratio	0.133	0.043	0.847	0.671	0.016
HCM Control Delay	10.2	8.7	29.7	17.6	9.6
HCM Lane LOS	B	A	D	C	A
HCM 95th-tile Q	0.5	0.1	9.7	5.1	0

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 2

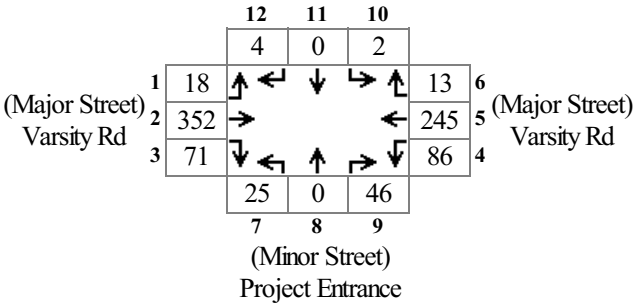


Major Total: 628
Minor High Volume: 6

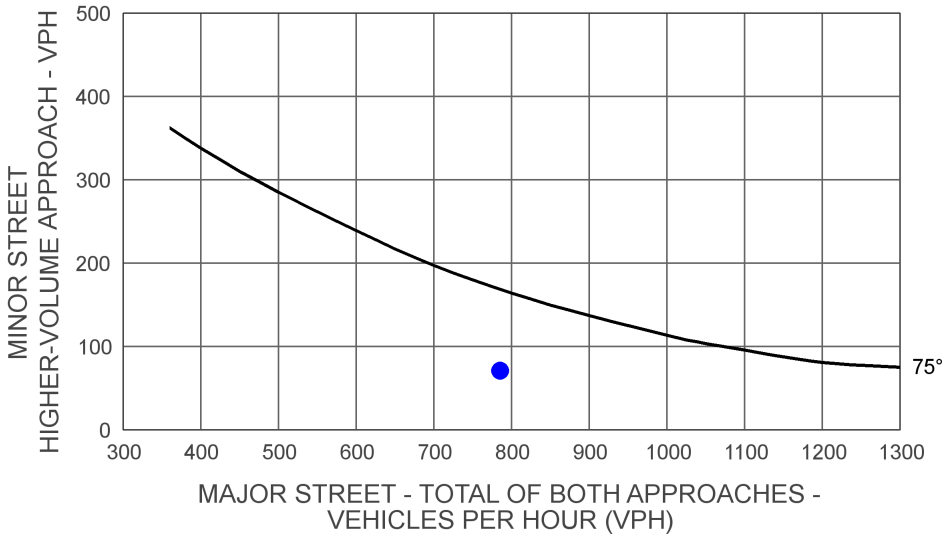


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 2

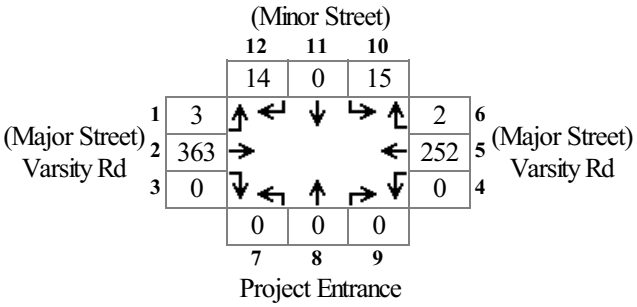


Major Total: 785
Minor High Volume: 71

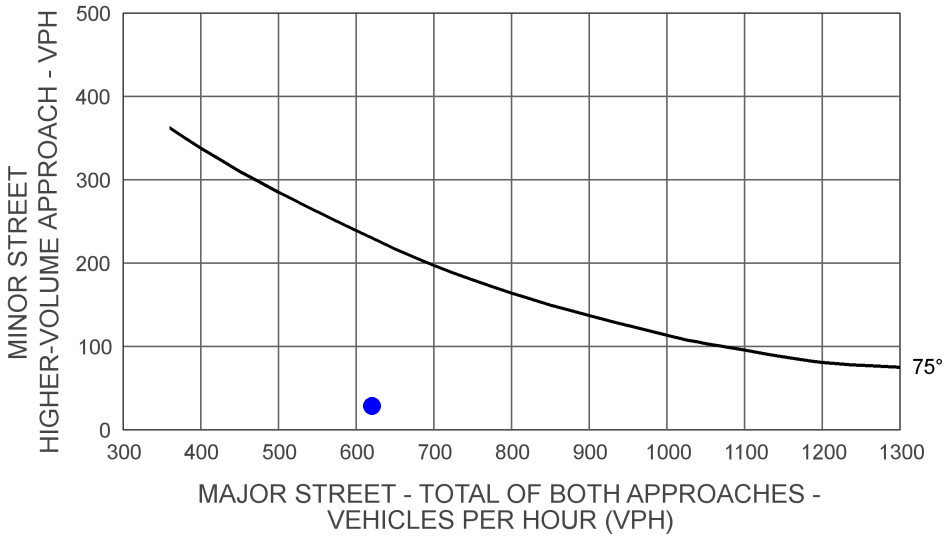


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 2

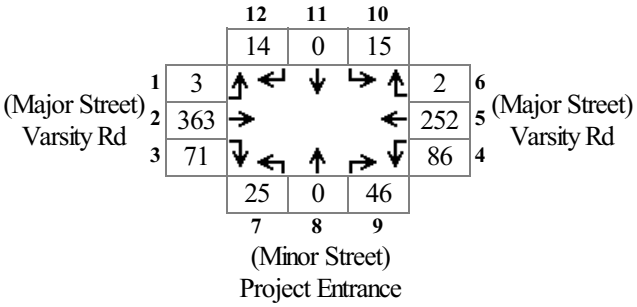


Major Total: 620
Minor High Volume: 29

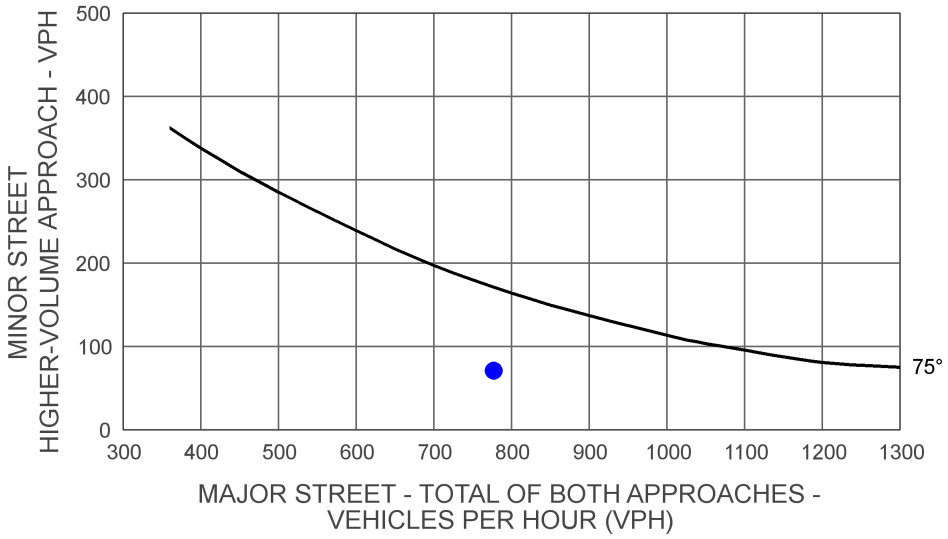


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 2

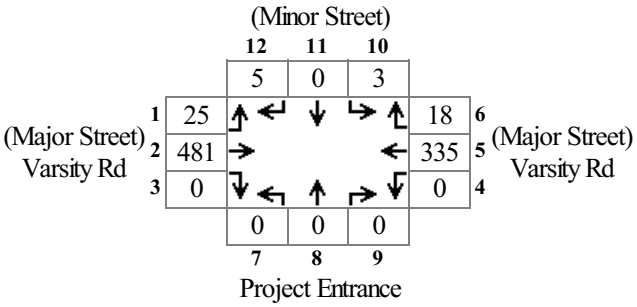


Major Total: 777
Minor High Volume: 71

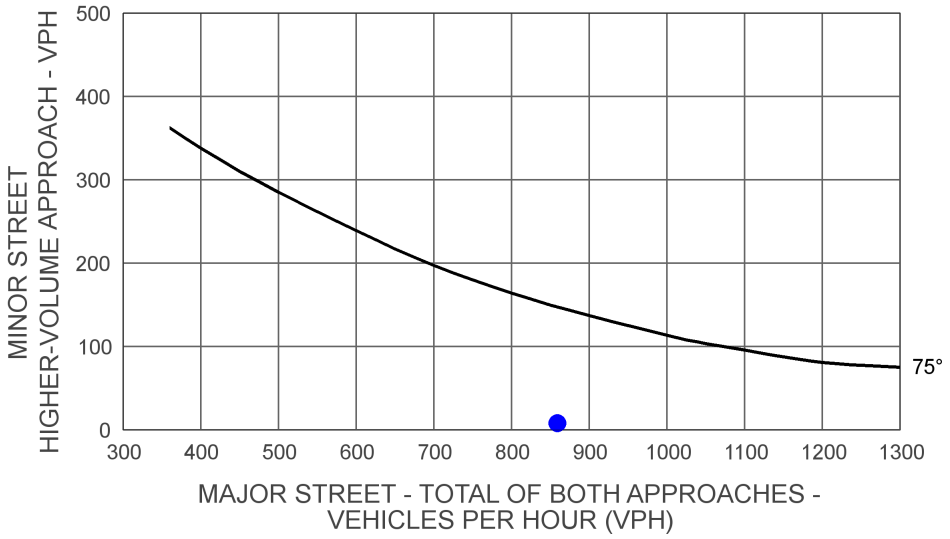


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 2

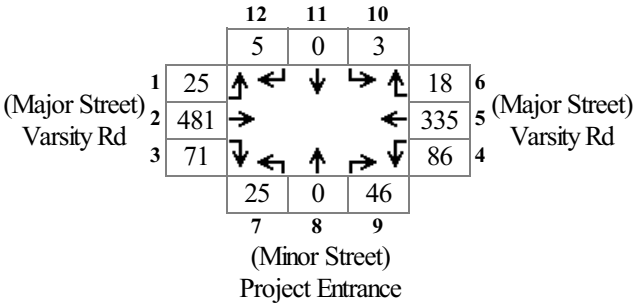


Major Total: 859
Minor High Volume: 8

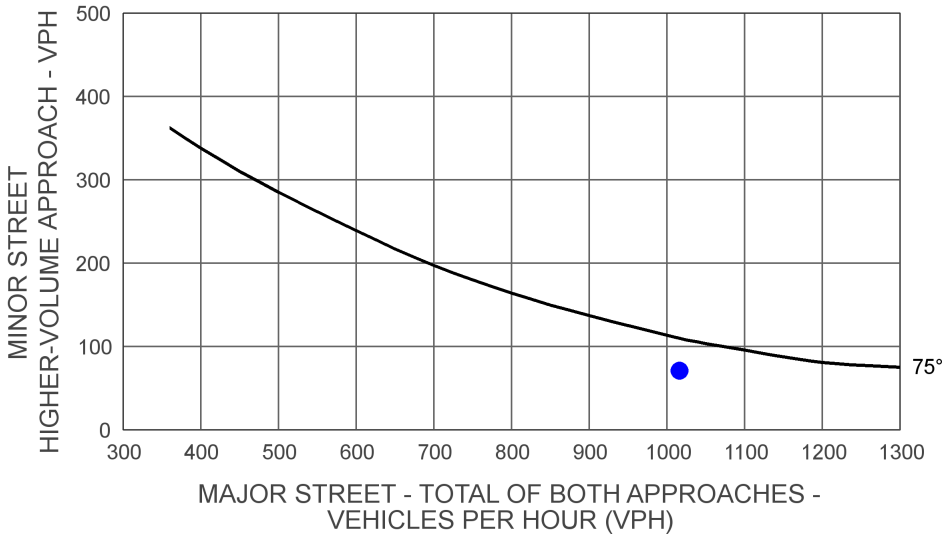


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 2



Major Total: 1016
Minor High Volume: 71



Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	3	206	0	212	2	0	15	14
Future Vol, veh/h	0	3	206	0	212	2	0	15	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	224	0	230	2	0	16	15
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	9.4	9.1	8
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	52%
Vol Thru, %	0%	100%	99%	0%
Vol Right, %	0%	0%	1%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	206	214	29
LT Vol	3	0	0	15
Through Vol	0	206	212	0
RT Vol	0	0	2	14
Lane Flow Rate	3	224	233	32
Geometry Grp	7	7	5	2
Degree of Util (X)	0.005	0.293	0.281	0.042
Departure Headway (Hd)	5.206	4.705	4.354	4.797
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	682	757	828	749
Service Time	2.979	2.477	2.361	2.808
HCM Lane V/C Ratio	0.004	0.296	0.281	0.043
HCM Control Delay	8	9.4	9.1	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	1.2	1.2	0.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	206	0	0	0	212	2	0	0	0	0	0	15	0	14
Future Vol, veh/h	0	3	206	0	0	0	212	2	0	0	0	0	0	15	0	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	224	0	0	0	230	2	0	0	0	0	0	16	0	15
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	9.4	9.1	0	8
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	0%	52%
Vol Thru, %	100%	0%	100%	99%	0%
Vol Right, %	0%	0%	0%	1%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	3	206	214	29
LT Vol	0	3	0	0	15
Through Vol	0	0	206	212	0
RT Vol	0	0	0	2	14
Lane Flow Rate	0	3	224	233	32
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0	0.005	0.293	0.281	0.042
Departure Headway (Hd)	5.033	5.206	4.705	4.354	4.797
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	682	757	828	749
Service Time	3.048	2.979	2.477	2.361	2.808
HCM Lane V/C Ratio	0	0.004	0.296	0.281	0.043
HCM Control Delay	8	8	9.4	9.1	8
HCM Lane LOS	N	A	A	A	A
HCM 95th-tile Q	0	0	1.2	1.2	0.1

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	3	212	0	218	2	0	15	14
Future Vol, veh/h	0	3	212	0	218	2	0	15	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	230	0	237	2	0	16	15
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	9.5	9.1	8
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	52%
Vol Thru, %	0%	100%	99%	0%
Vol Right, %	0%	0%	1%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	212	220	29
LT Vol	3	0	0	15
Through Vol	0	212	218	0
RT Vol	0	0	2	14
Lane Flow Rate	3	230	239	32
Geometry Grp	7	7	5	2
Degree of Util (X)	0.005	0.301	0.29	0.042
Departure Headway (Hd)	5.21	4.709	4.363	4.825
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	756	827	745
Service Time	2.984	2.482	2.367	2.837
HCM Lane V/C Ratio	0.004	0.304	0.289	0.043
HCM Control Delay	8	9.5	9.1	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	1.3	1.2	0.1

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	212	32	0	39	218	2	0	39	0	70	0	15	0	14
Future Vol, veh/h	0	3	212	32	0	39	218	2	0	39	0	70	0	15	0	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	230	35	0	42	237	2	0	42	0	76	0	16	0	15
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	10.8	10.7	9	8.6
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	36%	100%	0%	15%	52%
Vol Thru, %	0%	0%	87%	84%	0%
Vol Right, %	64%	0%	13%	1%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	3	244	259	29
LT Vol	39	3	0	39	15
Through Vol	0	0	212	218	0
RT Vol	70	0	32	2	14
Lane Flow Rate	118	3	265	282	32
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.164	0.005	0.373	0.373	0.046
Departure Headway (Hd)	4.973	5.653	5.057	4.764	5.24
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	717	631	708	752	677
Service Time	3.037	3.405	2.809	2.816	3.319
HCM Lane V/C Ratio	0.165	0.005	0.374	0.375	0.047
HCM Control Delay	9	8.4	10.8	10.7	8.6
HCM Lane LOS	A	A	B	B	A
HCM 95th-tile Q	0.6	0	1.7	1.7	0.1

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	4	282	0	290	3	0	21	19
Future Vol, veh/h	0	4	282	0	290	3	0	21	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	307	0	315	3	0	23	21
Number of Lanes	0	1	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	10.9	10.4	8.6
HCM LOS	B	B	A

Lane	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	53%
Vol Thru, %	0%	100%	99%	0%
Vol Right, %	0%	0%	1%	47%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	282	293	40
LT Vol	4	0	0	21
Through Vol	0	282	290	0
RT Vol	0	0	3	19
Lane Flow Rate	4	307	318	43
Geometry Grp	7	7	5	2
Degree of Util (X)	0.006	0.406	0.397	0.063
Departure Headway (Hd)	5.374	4.891	4.49	5.183
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	668	742	806	692
Service Time	3.093	2.591	2.5	3.205
HCM Lane V/C Ratio	0.006	0.414	0.395	0.062
HCM Control Delay	8.1	10.9	10.4	8.6
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0	2	1.9	0.2

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

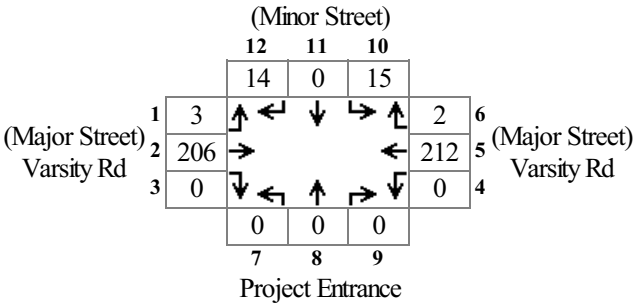
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	4	282	32	0	39	290	3	0	39	0	70	0	21	0	19
Future Vol, veh/h	0	4	282	32	0	39	290	3	0	39	0	70	0	21	0	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	307	35	0	42	315	3	0	42	0	76	0	23	0	21
Number of Lanes	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13	12.8	9.7	9.2
HCM LOS	B	B	A	A

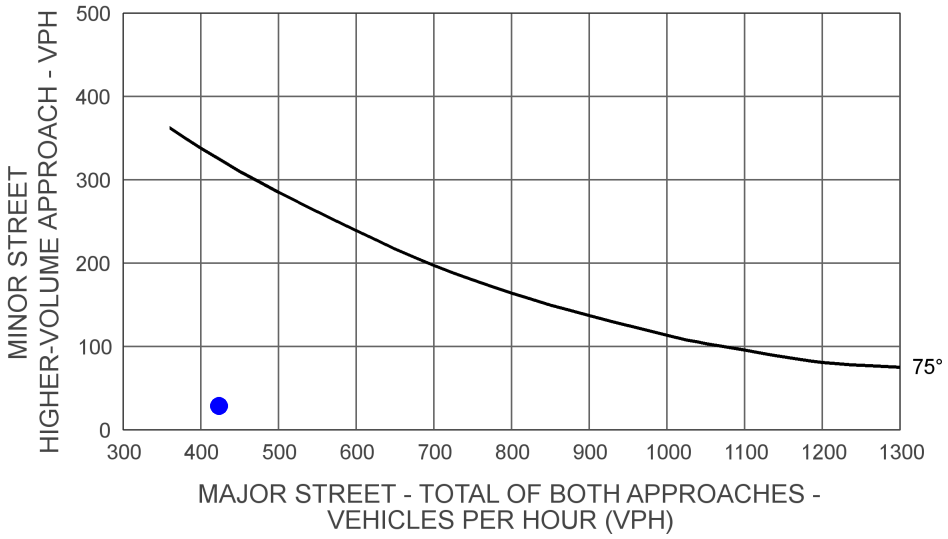
Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	36%	100%	0%	12%	53%
Vol Thru, %	0%	0%	90%	87%	0%
Vol Right, %	64%	0%	10%	1%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	4	314	332	40
LT Vol	39	4	0	39	21
Through Vol	0	0	282	290	0
RT Vol	70	0	32	3	19
Lane Flow Rate	118	4	341	361	43
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.18	0.007	0.494	0.493	0.07
Departure Headway (Hd)	5.478	5.787	5.211	4.917	5.779
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	659	612	683	725	623
Service Time	3.481	3.58	3.004	3.008	3.783
HCM Lane V/C Ratio	0.179	0.007	0.499	0.498	0.069
HCM Control Delay	9.7	8.6	13.1	12.8	9.2
HCM Lane LOS	A	A	B	B	A
HCM 95th-tile Q	0.7	0	2.8	2.8	0.2

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 2

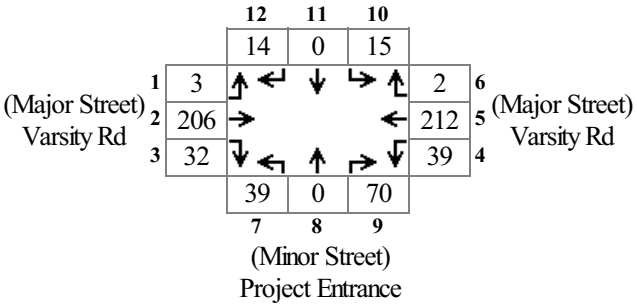


Major Total: 423
Minor High Volume: 29

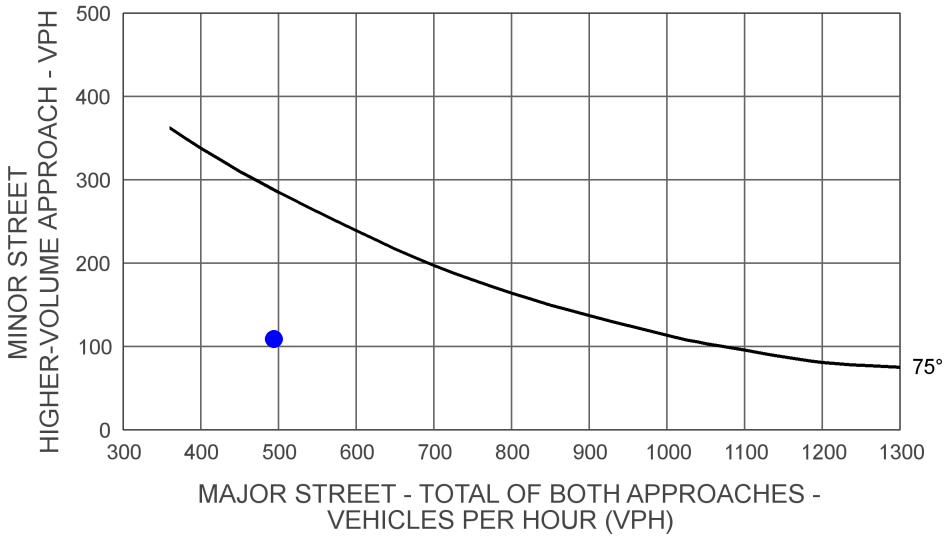


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 2

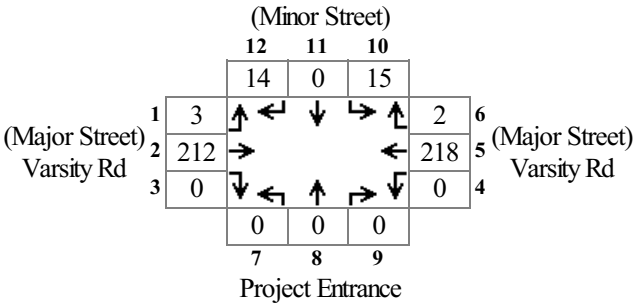


Major Total: 494
Minor High Volume: 109

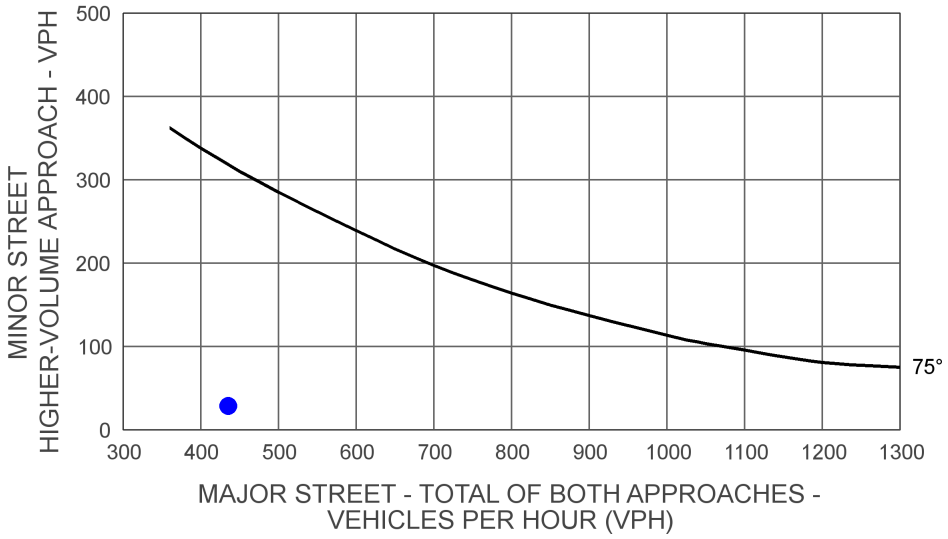


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 2

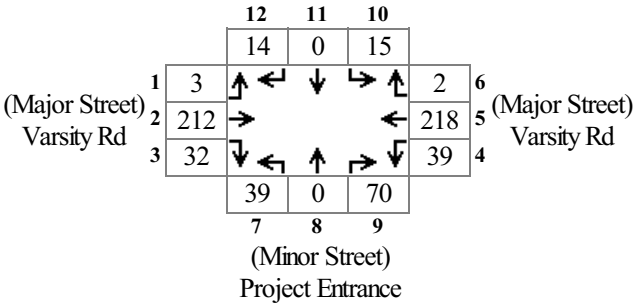


Major Total: 435
Minor High Volume: 29

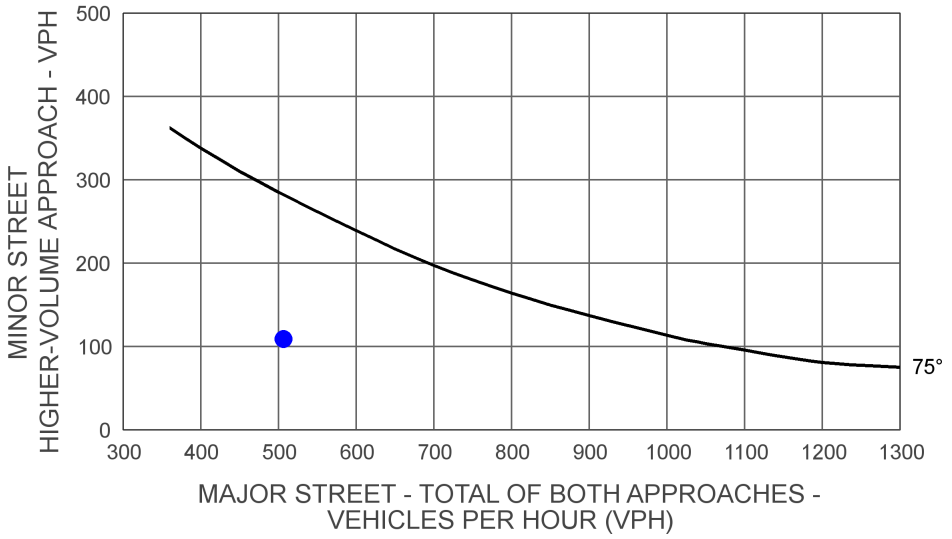


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 2

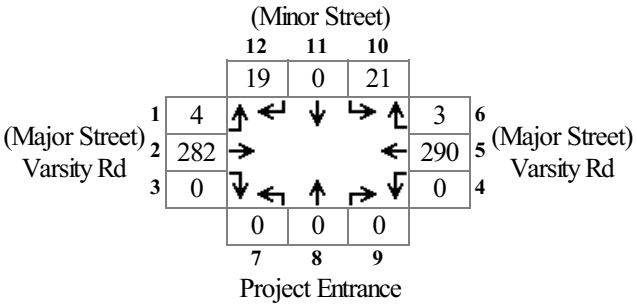


Major Total: 506
Minor High Volume: 109

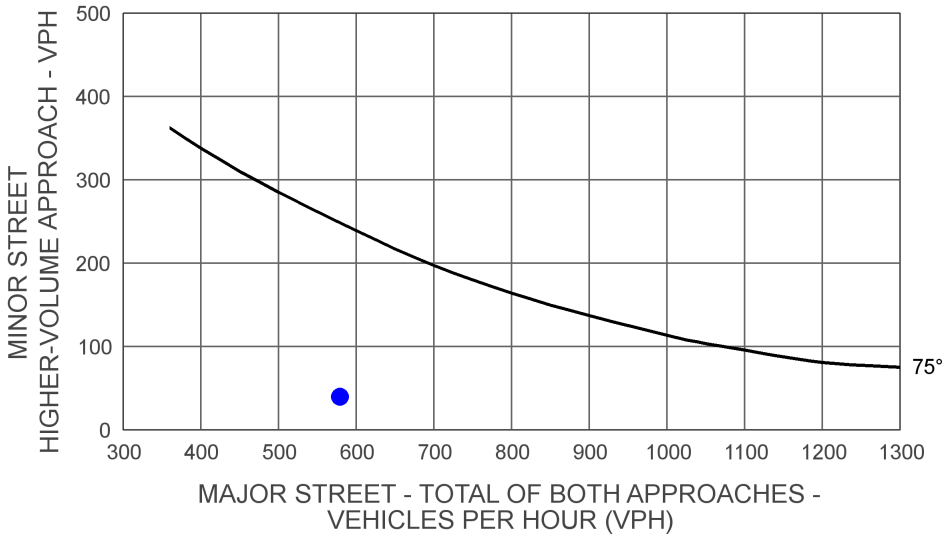


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 2

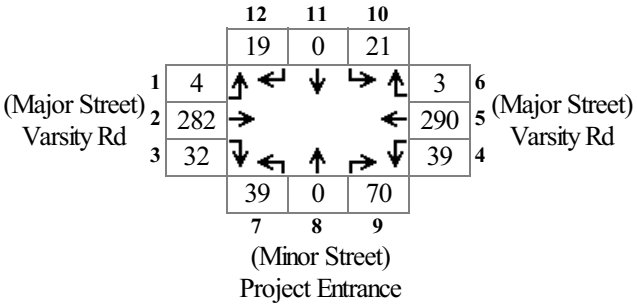


Major Total: 579
Minor High Volume: 40

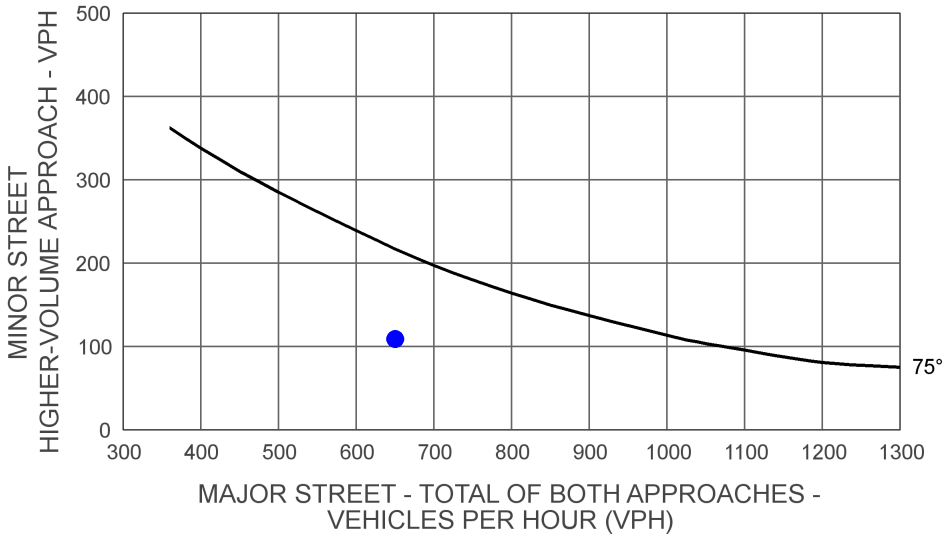


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 2



Major Total: 650
Minor High Volume: 109



Intersection 3
Campus Dr & Varsity Rd

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	49	32	226	0	16	53	27	0	180	91	21	0	4	33	12
Future Vol, veh/h	0	49	32	226	0	16	53	27	0	180	91	21	0	4	33	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	53	35	246	0	17	58	29	0	196	99	23	0	4	36	13
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	13	9.9	11.2	9.5
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	16%	17%	8%
Vol Thru, %	0%	100%	0%	10%	55%	67%
Vol Right, %	0%	0%	100%	74%	28%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	91	21	307	96	49
LT Vol	180	0	0	49	16	4
Through Vol	0	91	0	32	53	33
RT Vol	0	0	21	226	27	12
Lane Flow Rate	196	99	23	334	104	53
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.346	0.161	0.033	0.485	0.172	0.091
Departure Headway (Hd)	6.364	5.858	5.15	5.345	5.946	6.177
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	615	698	677	604	582
Service Time	4.071	3.565	2.857	3.045	3.67	3.893
HCM Lane V/C Ratio	0.346	0.161	0.033	0.493	0.172	0.091
HCM Control Delay	12.4	9.7	8	13	9.9	9.5
HCM Lane LOS	B	A	A	B	A	A
HCM 95th-tile Q	1.5	0.6	0.1	2.7	0.6	0.3

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	49	44	260	0	16	71	27	0	248	91	21	0	4	33	12
Future Vol, veh/h	0	49	44	260	0	16	71	27	0	248	91	21	0	4	33	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	53	48	283	0	17	77	29	0	270	99	23	0	4	36	13
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	16.5	10.9	13.9	10.1
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	14%	14%	8%
Vol Thru, %	0%	100%	0%	12%	62%	67%
Vol Right, %	0%	0%	100%	74%	24%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	248	91	21	353	114	49
LT Vol	248	0	0	49	16	4
Through Vol	0	91	0	44	71	33
RT Vol	0	0	21	260	27	12
Lane Flow Rate	270	99	23	384	124	53
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.497	0.168	0.034	0.599	0.219	0.098
Departure Headway (Hd)	6.636	6.128	5.418	5.62	6.361	6.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	545	585	660	641	563	538
Service Time	4.377	3.869	3.159	3.365	4.119	4.402
HCM Lane V/C Ratio	0.495	0.169	0.035	0.599	0.22	0.099
HCM Control Delay	15.8	10.1	8.4	16.5	10.9	10.1
HCM Lane LOS	C	B	A	C	B	B
HCM 95th-tile Q	2.7	0.6	0.1	4	0.8	0.3

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	50	33	229	0	16	55	28	0	185	96	22	0	4	35	12
Future Vol, veh/h	0	50	33	229	0	16	55	28	0	185	96	22	0	4	35	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	36	249	0	17	60	30	0	201	104	24	0	4	38	13
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	13.3	10	11.4	9.6
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	16%	16%	8%
Vol Thru, %	0%	100%	0%	11%	56%	69%
Vol Right, %	0%	0%	100%	73%	28%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	96	22	312	99	51
LT Vol	185	0	0	50	16	4
Through Vol	0	96	0	33	55	35
RT Vol	0	0	22	229	28	12
Lane Flow Rate	201	104	24	339	108	55
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.358	0.171	0.034	0.497	0.179	0.096
Departure Headway (Hd)	6.402	5.896	5.187	5.399	6	6.241
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	565	611	693	671	598	576
Service Time	4.112	3.606	2.897	3.099	3.728	3.96
HCM Lane V/C Ratio	0.356	0.17	0.035	0.505	0.181	0.095
HCM Control Delay	12.6	9.8	8.1	13.3	10	9.6
HCM Lane LOS	B	A	A	B	A	A
HCM 95th-tile Q	1.6	0.6	0.1	2.8	0.6	0.3

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	50	45	263	0	16	73	28	0	253	96	22	0	4	35	12
Future Vol, veh/h	0	50	45	263	0	16	73	28	0	253	96	22	0	4	35	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	49	286	0	17	79	30	0	275	104	24	0	4	38	13
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	17.1	11.1	14.2	10.3
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	14%	14%	8%
Vol Thru, %	0%	100%	0%	13%	62%	69%
Vol Right, %	0%	0%	100%	73%	24%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	253	96	22	358	117	51
LT Vol	253	0	0	50	16	4
Through Vol	0	96	0	45	73	35
RT Vol	0	0	22	263	28	12
Lane Flow Rate	275	104	24	389	127	55
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.51	0.179	0.036	0.613	0.227	0.103
Departure Headway (Hd)	6.678	6.17	5.46	5.675	6.423	6.71
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	581	655	634	557	532
Service Time	4.423	3.915	3.204	3.422	4.183	4.479
HCM Lane V/C Ratio	0.51	0.179	0.037	0.614	0.228	0.103
HCM Control Delay	16.2	10.3	8.4	17.1	11.1	10.3
HCM Lane LOS	C	B	A	C	B	B
HCM 95th-tile Q	2.9	0.6	0.1	4.2	0.9	0.3

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	67	44	264	0	22	72	37	0	238	123	28	0	4	39	13
Future Vol, veh/h	0	67	44	264	0	22	72	37	0	238	123	28	0	4	39	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	73	48	287	0	24	78	40	0	259	134	30	0	4	42	14
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	19.2	11.6	13.9	10.6
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	18%	17%	7%
Vol Thru, %	0%	100%	0%	12%	55%	70%
Vol Right, %	0%	0%	100%	70%	28%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	123	28	375	131	56
LT Vol	238	0	0	67	22	4
Through Vol	0	123	0	44	72	39
RT Vol	0	0	28	264	37	13
Lane Flow Rate	259	134	30	408	142	61
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.49	0.234	0.047	0.659	0.258	0.117
Departure Headway (Hd)	6.821	6.312	5.601	5.816	6.526	6.895
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	528	567	637	620	548	517
Service Time	4.577	4.069	3.357	3.569	4.295	4.678
HCM Lane V/C Ratio	0.491	0.236	0.047	0.658	0.259	0.118
HCM Control Delay	16	11	8.6	19.2	11.6	10.6
HCM Lane LOS	C	B	A	C	B	B
HCM 95th-tile Q	2.7	0.9	0.1	4.9	1	0.4

Intersection	
Intersection Delay, s/veh	21.1
Intersection LOS	C

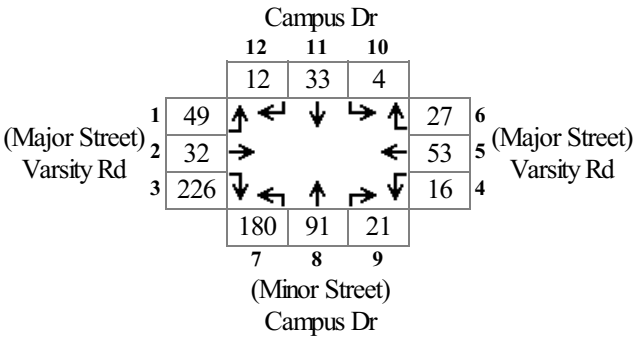
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	67	56	298	0	22	90	37	0	306	123	28	0	4	39	13
Future Vol, veh/h	0	67	56	298	0	22	90	37	0	306	123	28	0	4	39	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	73	61	324	0	24	98	40	0	333	134	30	0	4	42	14
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	27.5	13.1	18.9	11.4
HCM LOS	D	B	C	B

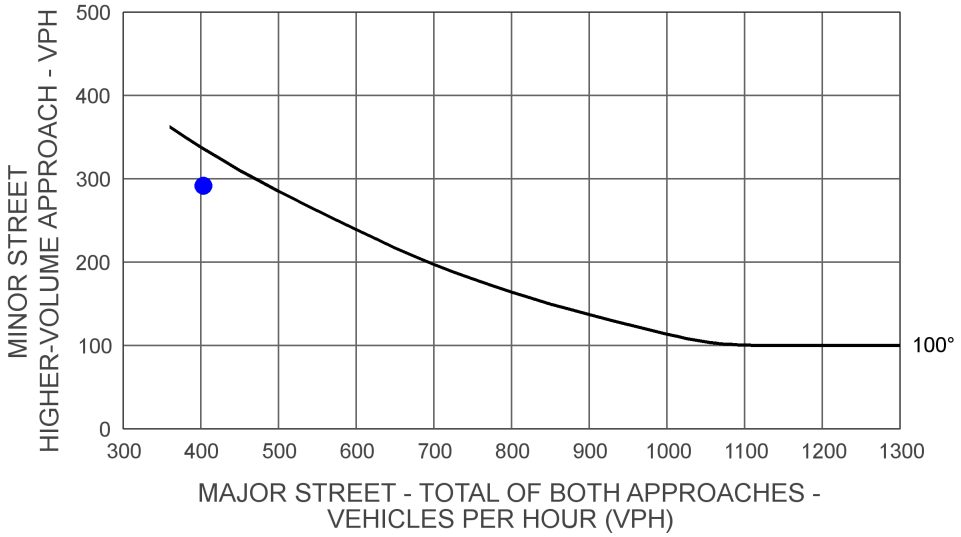
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	16%	15%	7%
Vol Thru, %	0%	100%	0%	13%	60%	70%
Vol Right, %	0%	0%	100%	71%	25%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	306	123	28	421	149	56
LT Vol	306	0	0	67	22	4
Through Vol	0	123	0	56	90	39
RT Vol	0	0	28	298	37	13
Lane Flow Rate	333	134	30	458	162	61
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.658	0.246	0.05	0.78	0.319	0.128
Departure Headway (Hd)	7.12	6.611	5.897	6.138	7.091	7.558
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	539	601	586	510	477
Service Time	4.916	4.406	3.691	3.936	4.795	5.268
HCM Lane V/C Ratio	0.663	0.249	0.05	0.782	0.318	0.128
HCM Control Delay	22.7	11.6	9	27.5	13.1	11.4
HCM Lane LOS	C	B	A	D	B	B
HCM 95th-tile Q	4.7	1	0.2	7.3	1.4	0.4

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 3

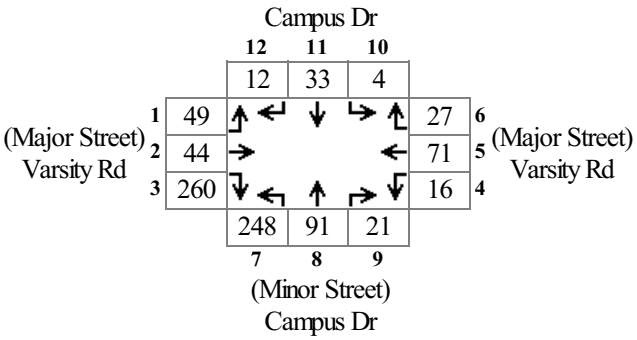


Major Total: 403
Minor High Volume: 292

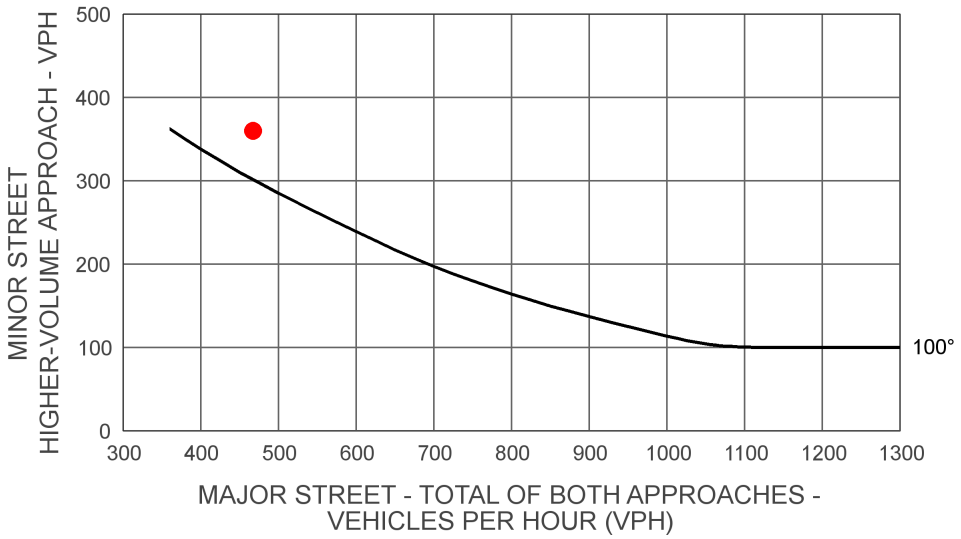


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing+Project
Intersection #: 3

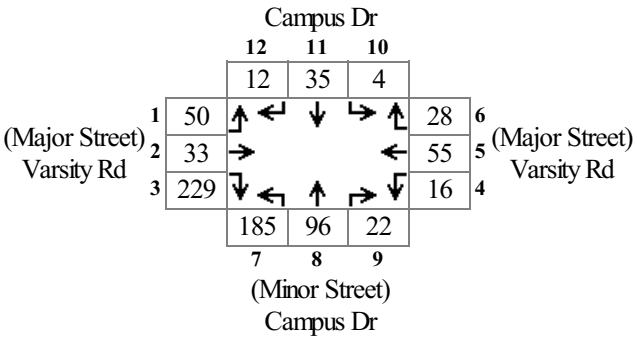


Major Total: 467
Minor High Volume: 360

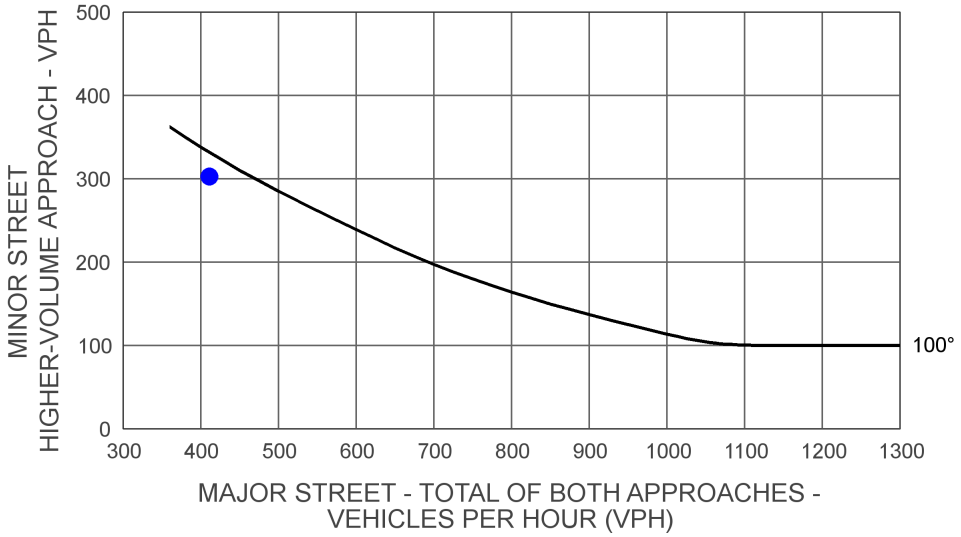


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 3

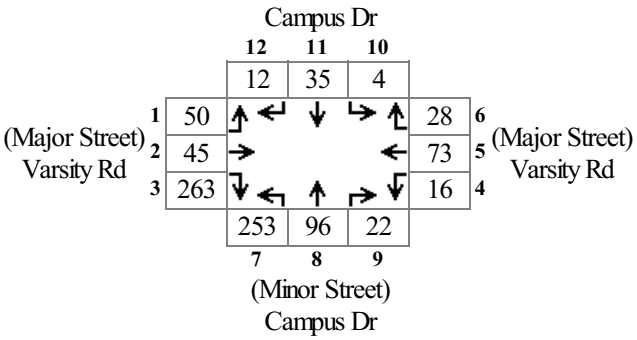


Major Total: 411
Minor High Volume: 303

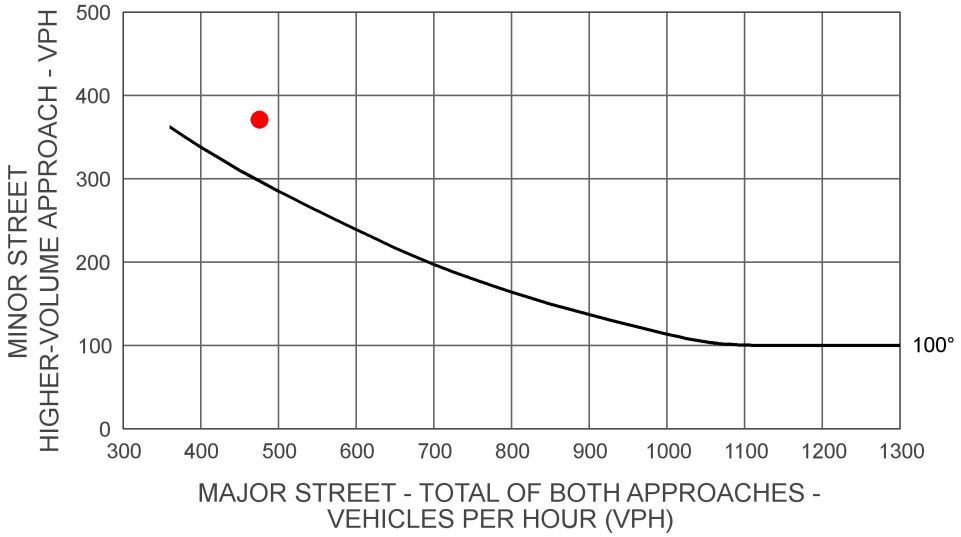


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 3

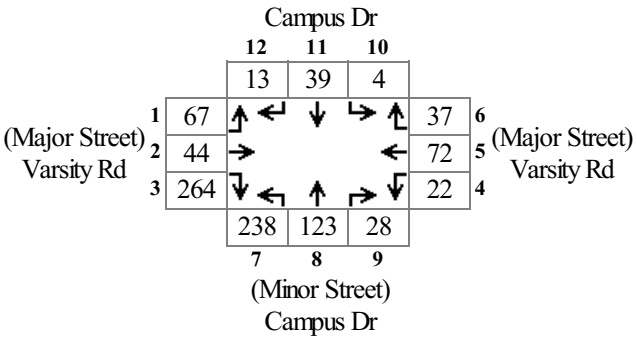


Major Total: 475
Minor High Volume: 371

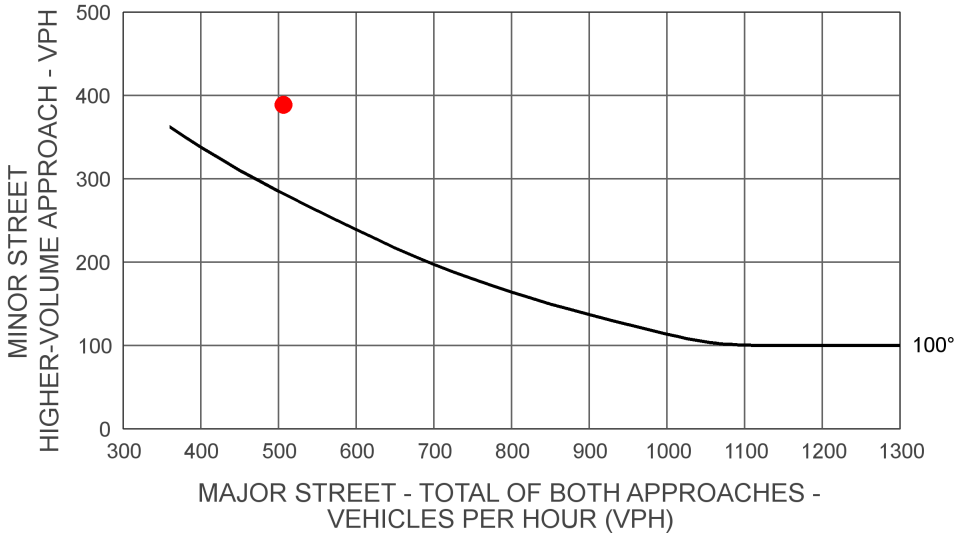


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 3

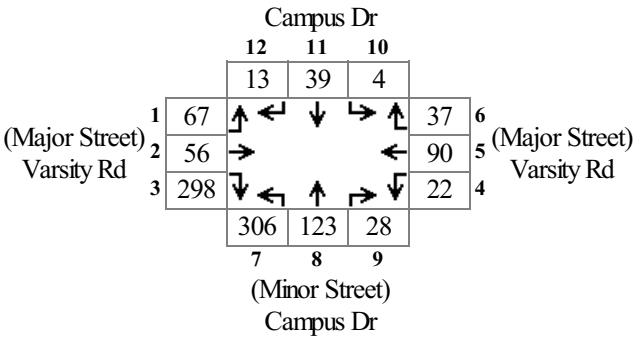


Major Total: 506
Minor High Volume: 389

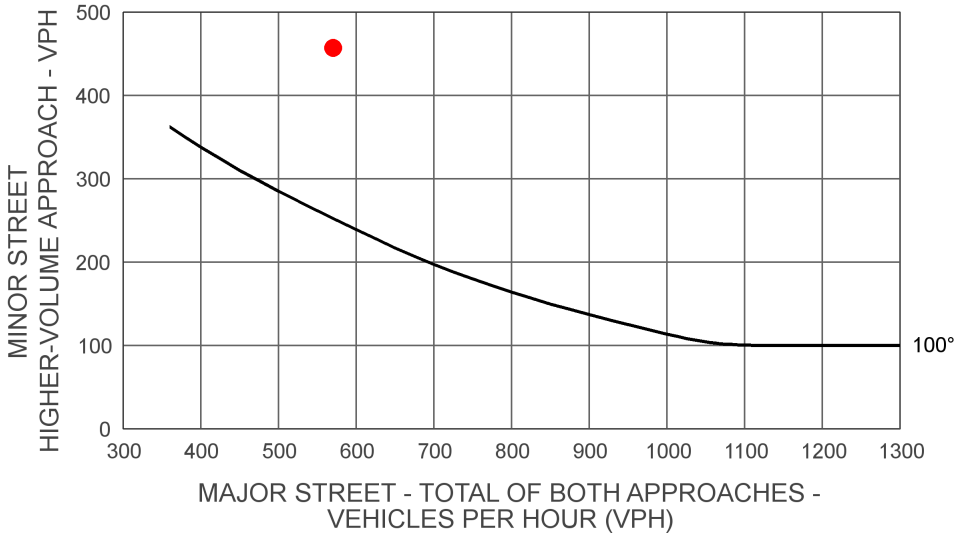


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 3



Major Total: 570
Minor High Volume: 457



Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	25	60	189	0	14	44	5	0	141	16	22	0	12	80	27
Future Vol, veh/h	0	25	60	189	0	14	44	5	0	141	16	22	0	12	80	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	65	205	0	15	48	5	0	153	17	24	0	13	87	29
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	11.5	9.4	10.6	10
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	9%	22%	10%
Vol Thru, %	0%	100%	0%	22%	70%	67%
Vol Right, %	0%	0%	100%	69%	8%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	16	22	274	63	119
LT Vol	141	0	0	25	14	12
Through Vol	0	16	0	60	44	80
RT Vol	0	0	22	189	5	27
Lane Flow Rate	153	17	24	298	68	129
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.266	0.028	0.033	0.419	0.113	0.207
Departure Headway (Hd)	6.242	5.737	5.036	5.059	5.922	5.753
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	578	627	715	703	607	627
Service Time	3.95	3.444	2.736	2.853	3.642	3.462
HCM Lane V/C Ratio	0.265	0.027	0.034	0.424	0.112	0.206
HCM Control Delay	11.2	8.6	7.9	11.5	9.4	10
HCM Lane LOS	B	A	A	B	A	A
HCM 95th-tile Q	1.1	0.1	0.1	2.1	0.4	0.8

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	25	78	241	0	14	52	5	0	172	16	22	0	12	80	27
Future Vol, veh/h	0	25	78	241	0	14	52	5	0	172	16	22	0	12	80	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	85	262	0	15	57	5	0	187	17	24	0	13	87	29
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	14.3	9.9	11.9	10.6
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	7%	20%	10%
Vol Thru, %	0%	100%	0%	23%	73%	67%
Vol Right, %	0%	0%	100%	70%	7%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	16	22	344	71	119
LT Vol	172	0	0	25	14	12
Through Vol	0	16	0	78	52	80
RT Vol	0	0	22	241	5	27
Lane Flow Rate	187	17	24	374	77	129
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.339	0.029	0.035	0.549	0.133	0.22
Departure Headway (Hd)	6.532	6.025	5.315	5.285	6.206	6.12
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	594	673	684	577	586
Service Time	4.267	3.759	3.049	3.014	3.947	3.859
HCM Lane V/C Ratio	0.339	0.029	0.036	0.547	0.133	0.22
HCM Control Delay	12.6	8.9	8.2	14.3	9.9	10.6
HCM Lane LOS	B	A	A	B	A	B
HCM 95th-tile Q	1.5	0.1	0.1	3.4	0.5	0.8

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	26	62	192	0	14	45	5	0	152	24	23	0	12	88	27
Future Vol, veh/h	0	26	62	192	0	14	45	5	0	152	24	23	0	12	88	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	28	67	209	0	15	49	5	0	165	26	25	0	13	96	29
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	11.9	9.6	10.8	10.2
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	9%	22%	9%
Vol Thru, %	0%	100%	0%	22%	70%	69%
Vol Right, %	0%	0%	100%	69%	8%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	24	23	280	64	127
LT Vol	152	0	0	26	14	12
Through Vol	0	24	0	62	45	88
RT Vol	0	0	23	192	5	27
Lane Flow Rate	165	26	25	304	70	138
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.289	0.042	0.035	0.435	0.117	0.224
Departure Headway (Hd)	6.296	5.79	5.082	5.255	6.042	5.835
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	573	621	707	691	595	618
Service Time	4.006	3.5	2.792	2.955	3.764	3.547
HCM Lane V/C Ratio	0.288	0.042	0.035	0.44	0.118	0.223
HCM Control Delay	11.5	8.8	8	11.9	9.6	10.2
HCM Lane LOS	B	A	A	B	A	B
HCM 95th-tile Q	1.2	0.1	0.1	2.2	0.4	0.9

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	26	80	244	0	14	53	5	0	183	24	23	0	12	88	27
Future Vol, veh/h	0	26	80	244	0	14	53	5	0	183	24	23	0	12	88	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	28	87	265	0	15	58	5	0	199	26	25	0	13	96	29
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	15	10.1	12.2	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	7%	19%	9%
Vol Thru, %	0%	100%	0%	23%	74%	69%
Vol Right, %	0%	0%	100%	70%	7%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	24	23	350	72	127
LT Vol	183	0	0	26	14	12
Through Vol	0	24	0	80	53	88
RT Vol	0	0	23	244	5	27
Lane Flow Rate	199	26	25	380	78	138
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.365	0.044	0.037	0.569	0.138	0.238
Departure Headway (Hd)	6.597	6.089	5.379	5.389	6.337	6.216
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	545	588	665	670	565	577
Service Time	4.336	3.828	3.118	3.124	4.087	3.962
HCM Lane V/C Ratio	0.365	0.044	0.038	0.567	0.138	0.239
HCM Control Delay	13.1	9.1	8.3	15	10.1	10.9
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	1.7	0.1	0.1	3.6	0.5	0.9

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	34	82	221	0	19	60	7	0	193	29	29	0	13	96	30
Future Vol, veh/h	0	34	82	221	0	19	60	7	0	193	29	29	0	13	96	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	89	240	0	21	65	8	0	210	32	32	0	14	104	33
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	15.4	10.5	12.5	11.3
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	10%	22%	9%
Vol Thru, %	0%	100%	0%	24%	70%	69%
Vol Right, %	0%	0%	100%	66%	8%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	29	29	337	86	139
LT Vol	193	0	0	34	19	13
Through Vol	0	29	0	82	60	96
RT Vol	0	0	29	221	7	30
Lane Flow Rate	210	32	32	366	93	151
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.389	0.054	0.048	0.567	0.168	0.264
Departure Headway (Hd)	6.667	6.16	5.449	5.571	6.465	6.301
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	581	656	648	553	568
Service Time	4.414	3.906	3.195	3.315	4.225	4.057
HCM Lane V/C Ratio	0.39	0.055	0.049	0.565	0.168	0.266
HCM Control Delay	13.6	9.3	8.5	15.4	10.5	11.3
HCM Lane LOS	B	A	A	C	B	B
HCM 95th-tile Q	1.8	0.2	0.2	3.6	0.6	1.1

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

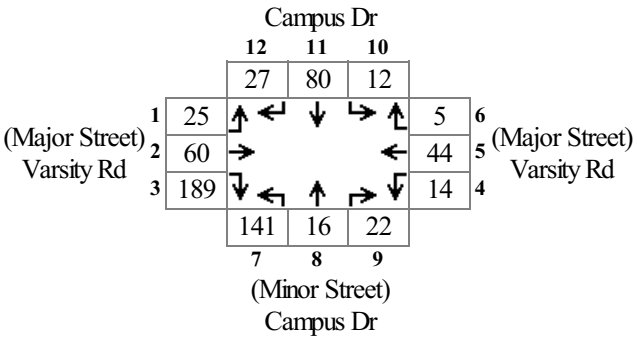
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	34	100	273	0	19	68	7	0	224	29	29	0	13	96	30
Future Vol, veh/h	0	34	100	273	0	19	68	7	0	224	29	29	0	13	96	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	37	109	297	0	21	74	8	0	243	32	32	0	14	104	33
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	1	1
HCM Control Delay	21.2	11.2	14.5	12.2
HCM LOS	C	B	B	B

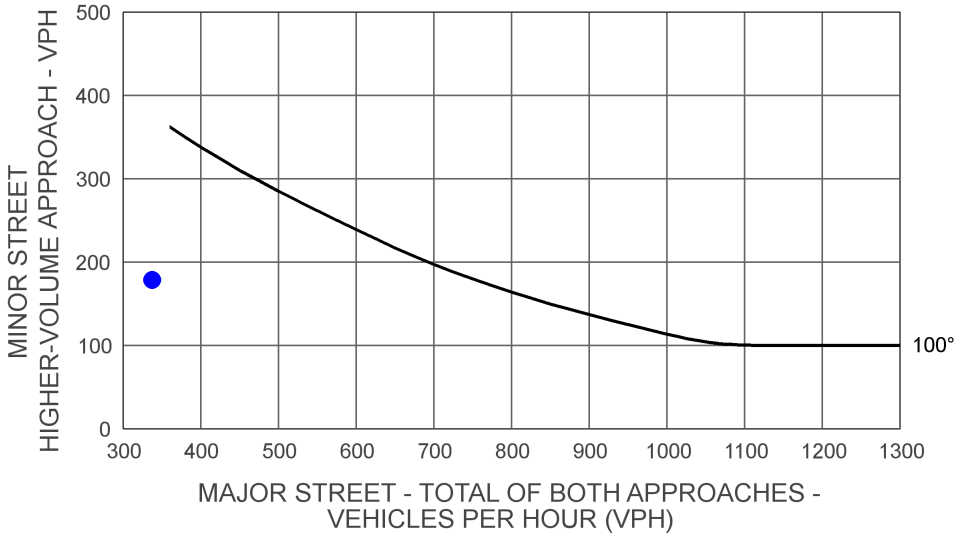
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	8%	20%	9%
Vol Thru, %	0%	100%	0%	25%	72%	69%
Vol Right, %	0%	0%	100%	67%	7%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	224	29	29	407	94	139
LT Vol	224	0	0	34	19	13
Through Vol	0	29	0	100	68	96
RT Vol	0	0	29	273	7	30
Lane Flow Rate	243	32	32	442	102	151
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.473	0.057	0.051	0.706	0.193	0.282
Departure Headway (Hd)	6.992	6.483	5.77	5.744	6.807	6.727
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	549	617	628	523	530
Service Time	4.766	4.257	3.543	3.51	4.601	4.516
HCM Lane V/C Ratio	0.473	0.058	0.052	0.704	0.195	0.285
HCM Control Delay	15.9	9.7	8.9	21.2	11.2	12.2
HCM Lane LOS	C	A	A	C	B	B
HCM 95th-tile Q	2.5	0.2	0.2	5.8	0.7	1.2

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 3

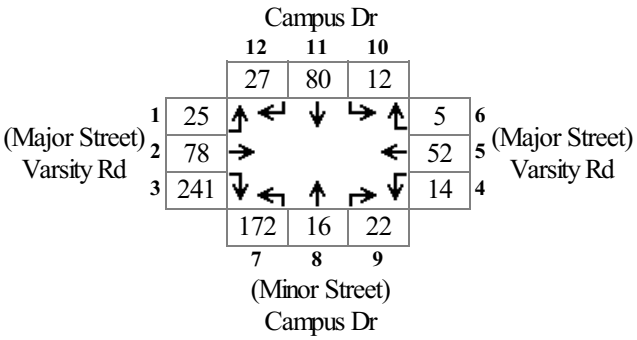


Major Total: 337
Minor High Volume: 179

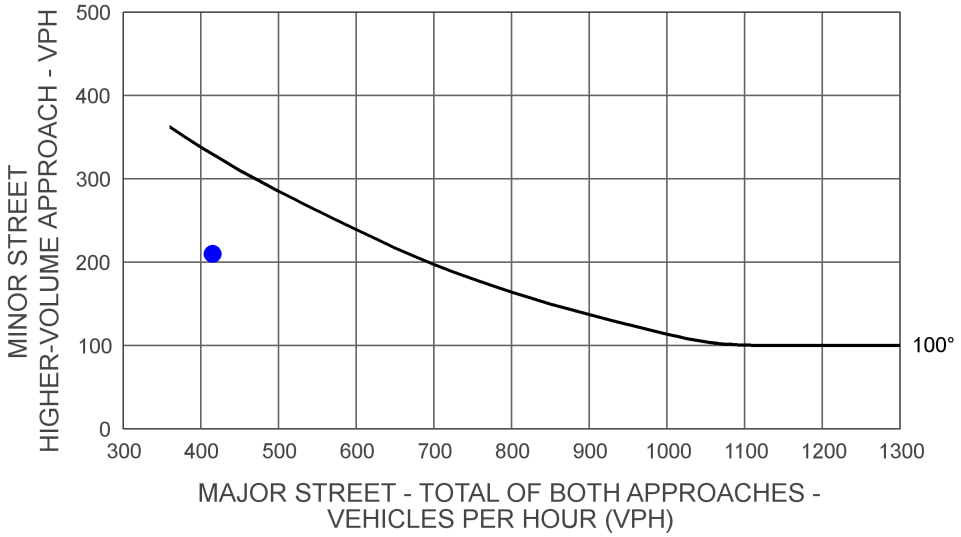


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 3

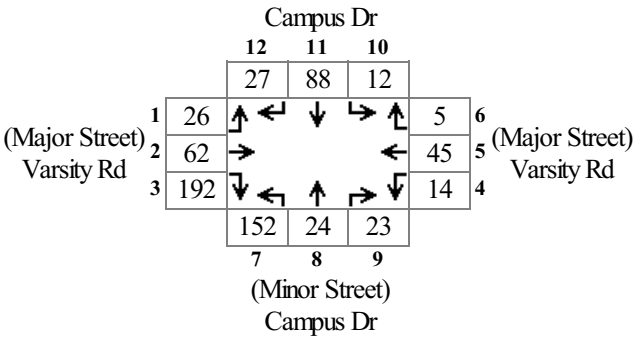


Major Total: 415
Minor High Volume: 210

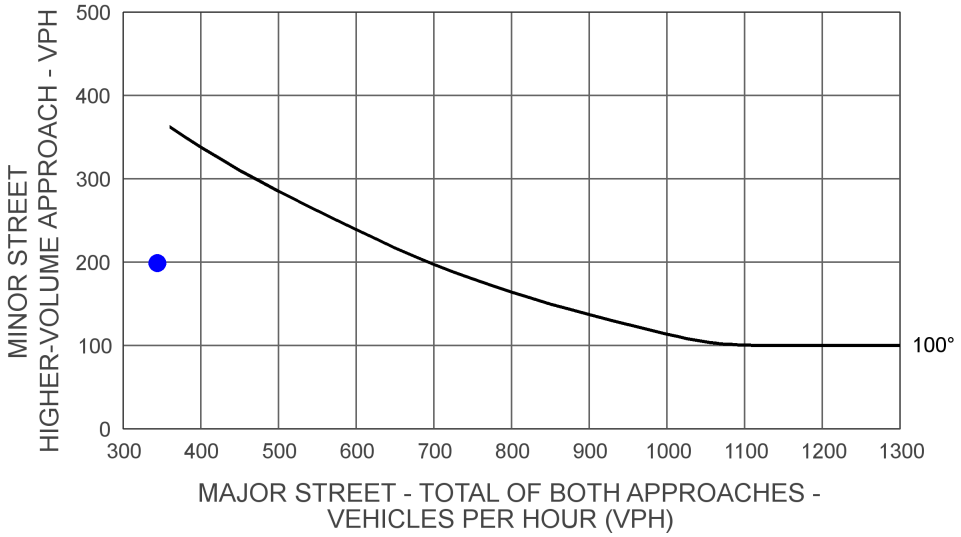


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 3

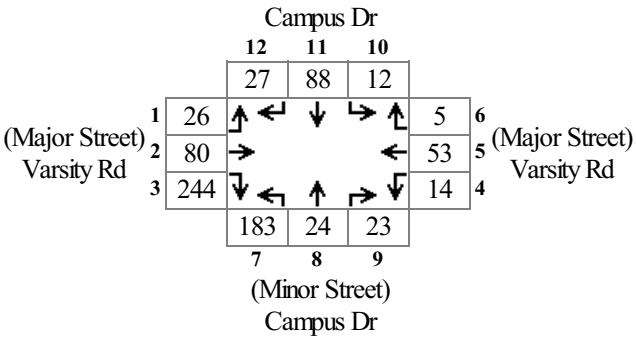


Major Total: 344
Minor High Volume: 199

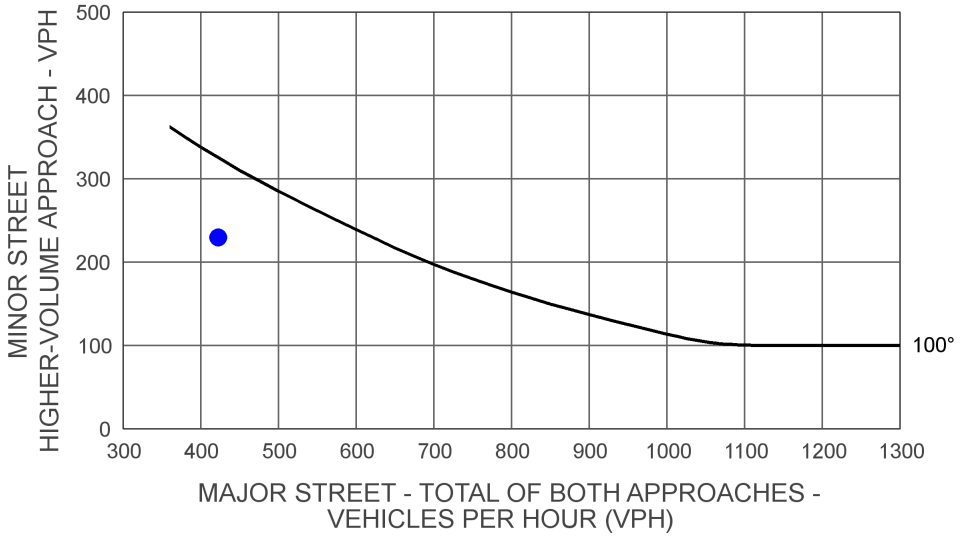


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 3

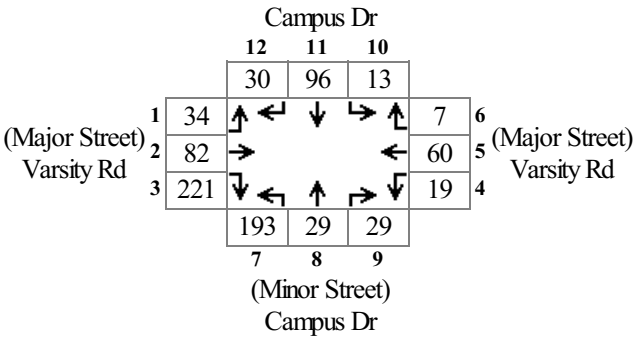


Major Total: 422
Minor High Volume: 230

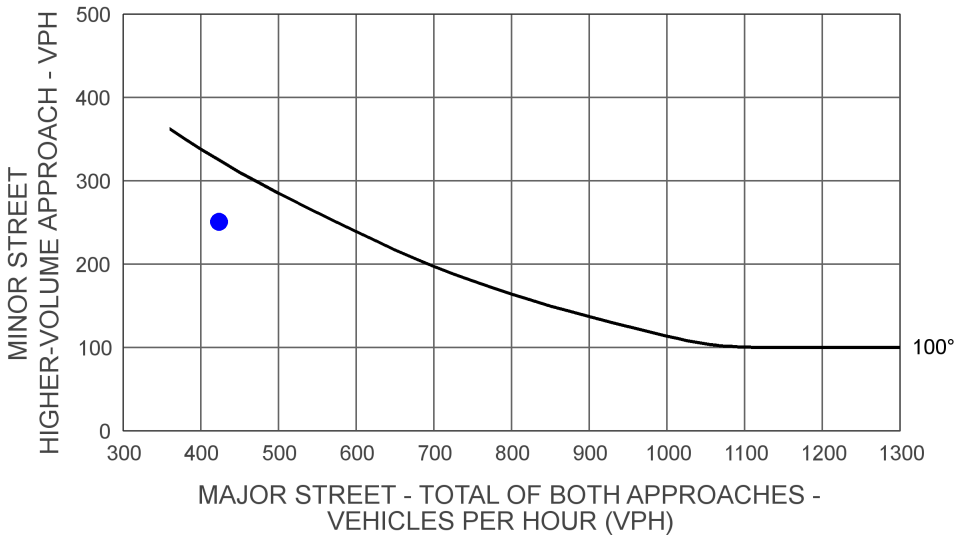


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 3

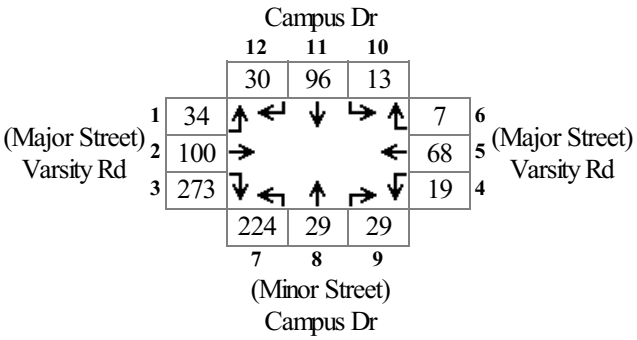


Major Total: 423
Minor High Volume: 251

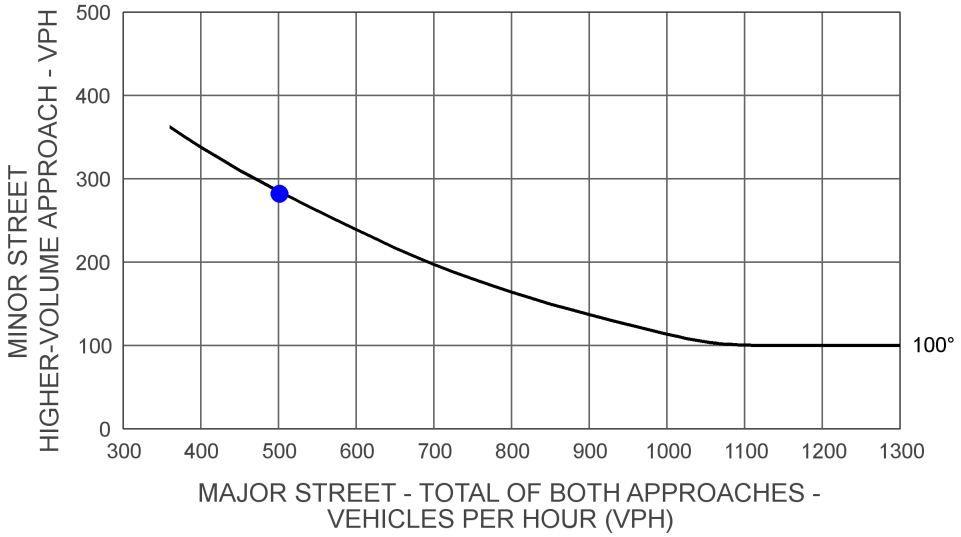


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 3



Major Total: 501
Minor High Volume: 282



Intersection 4
Comanche Rd & Bear Mountain Blvd (SR 223)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	234	51	140	184	141	82	286	128	93	115	37
Future Volume (veh/h)	34	234	51	140	184	141	82	286	128	93	115	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	37	254	55	152	200	153	89	311	139	101	125	40
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	412	89	379	900	653	146	400	311	160	416	324
Arrive On Green	0.05	0.28	0.26	0.08	0.15	0.14	0.09	0.21	0.21	0.10	0.22	0.22
Sat Flow, veh/h	1634	1482	321	1634	1954	1418	1634	1863	1448	1634	1863	1449
Grp Volume(v), veh/h	37	0	309	152	180	173	89	311	139	101	125	40
Grp Sat Flow(s),veh/h/ln	1634	0	1802	1634	1770	1603	1634	1863	1448	1634	1863	1449
Q Serve(g_s), s	2.0	0.0	13.5	8.0	8.0	8.6	4.7	14.2	4.0	5.4	5.0	2.0
Cycle Q Clear(g_c), s	2.0	0.0	13.5	8.0	8.0	8.6	4.7	14.2	4.0	5.4	5.0	2.0
Prop In Lane	1.00		0.18	1.00		0.88	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	0	501	379	815	738	146	400	311	160	416	324
V/C Ratio(X)	0.46	0.00	0.62	0.40	0.22	0.23	0.61	0.78	0.45	0.63	0.30	0.12
Avail Cap(c_a), veh/h	109	0	501	379	815	738	182	476	370	200	497	386
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	28.5	35.6	24.0	24.4	39.5	33.3	8.8	39.0	29.1	27.9
Incr Delay (d2), s/veh	4.1	0.0	5.6	0.7	0.6	0.7	4.1	6.7	1.0	4.3	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	7.5	3.7	4.1	4.0	2.3	8.0	1.7	2.6	2.6	0.8
LnGrp Delay(d),s/veh	45.7	0.0	34.1	36.3	24.6	25.2	43.6	40.0	9.8	43.3	29.5	28.1
LnGrp LOS	D		C	D	C	C	D	D	A	D	C	C
Approach Vol, veh/h		346			505			539			266	
Approach Delay, s/veh		35.4			28.3			32.8			34.5	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	23.3	24.9	29.0	12.0	24.1	8.4	45.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	21.0	13.0	23.0	8.0	22.0	4.0	32.0
Max Q Clear Time (g_c+I1), s	7.4	16.2	10.0	15.5	6.7	7.0	4.0	10.6
Green Ext Time (p_c), s	0.0	1.1	0.6	0.6	0.0	2.0	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	32.2
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	234	51	148	204	141	82	308	128	93	123	39
Future Volume (veh/h)	41	234	51	148	204	141	82	308	128	93	123	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	45	254	55	161	222	153	89	335	139	101	134	42
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	541	117	221	771	508	146	419	326	159	435	338
Arrive On Green	0.12	0.36	0.34	0.23	0.63	0.59	0.09	0.22	0.22	0.10	0.23	0.23
Sat Flow, veh/h	1634	1482	321	1634	2040	1344	1634	1863	1449	1634	1863	1449
Grp Volume(v), veh/h	45	0	309	161	191	184	89	335	139	101	134	42
Grp Sat Flow(s),veh/h/ln	1634	0	1803	1634	1770	1614	1634	1863	1449	1634	1863	1449
Q Serve(g_s), s	2.2	0.0	11.9	8.2	4.4	5.0	4.7	15.3	7.4	5.4	5.3	1.4
Cycle Q Clear(g_c), s	2.2	0.0	11.9	8.2	4.4	5.0	4.7	15.3	7.4	5.4	5.3	1.4
Prop In Lane	1.00		0.18	1.00		0.83	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	0	658	221	669	610	146	419	326	159	435	338
V/C Ratio(X)	0.23	0.00	0.47	0.73	0.29	0.30	0.61	0.80	0.43	0.63	0.31	0.12
Avail Cap(c_a), veh/h	199	0	658	272	669	610	182	476	370	182	476	370
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	22.1	33.3	11.1	12.2	39.5	33.0	29.9	39.1	28.5	12.1
Incr Delay (d2), s/veh	0.6	0.0	2.4	7.4	1.1	1.3	4.1	8.4	0.9	5.8	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	6.3	4.1	2.3	2.4	2.3	8.8	3.0	2.7	2.8	0.6
LnGrp Delay(d),s/veh	36.2	0.0	24.5	40.8	12.2	13.5	43.6	41.4	30.8	44.8	28.9	12.3
LnGrp LOS	D		C	D	B	B	D	D	C	D	C	B
Approach Vol, veh/h		354			536			563			277	
Approach Delay, s/veh		26.0			21.2			39.1			32.2	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	24.2	16.2	36.8	12.0	25.0	15.0	38.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	21.0	13.0	24.0	8.0	21.0	5.0	32.0
Max Q Clear Time (g_c+I1), s	7.4	17.3	10.2	13.9	6.7	7.3	4.2	7.0
Green Ext Time (p_c), s	0.0	0.9	0.1	0.9	0.0	2.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	253	68	141	193	143	102	303	130	95	132	38
Future Volume (veh/h)	34	253	68	141	193	143	102	303	130	95	132	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	37	275	74	153	210	155	111	329	141	103	143	41
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	424	114	328	896	630	171	414	322	162	403	314
Arrive On Green	0.05	0.30	0.28	0.34	0.75	0.72	0.10	0.22	0.22	0.10	0.22	0.22
Sat Flow, veh/h	1634	1412	380	1634	1983	1394	1634	1863	1448	1634	1863	1448
Grp Volume(v), veh/h	37	0	349	153	186	179	111	329	141	103	143	41
Grp Sat Flow(s),veh/h/ln	1634	0	1792	1634	1770	1607	1634	1863	1448	1634	1863	1448
Q Serve(g_s), s	2.0	0.0	15.3	6.6	2.8	3.4	5.9	15.0	4.3	5.5	5.9	2.1
Cycle Q Clear(g_c), s	2.0	0.0	15.3	6.6	2.8	3.4	5.9	15.0	4.3	5.5	5.9	2.1
Prop In Lane	1.00		0.21	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	0	537	328	800	726	171	414	322	162	403	314
V/C Ratio(X)	0.46	0.00	0.65	0.47	0.23	0.25	0.65	0.79	0.44	0.64	0.35	0.13
Avail Cap(c_a), veh/h	109	0	537	328	800	726	218	476	370	182	435	338
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	27.6	26.1	6.4	7.3	38.7	33.0	9.8	39.0	29.9	28.4
Incr Delay (d2), s/veh	4.1	0.0	6.0	1.0	0.7	0.8	4.4	8.0	0.9	6.1	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	8.5	3.1	1.5	1.6	2.9	8.6	1.8	2.7	3.1	0.8
LnGrp Delay(d),s/veh	45.7	0.0	33.6	27.1	7.1	8.1	43.0	41.0	10.7	45.1	30.4	28.6
LnGrp LOS	D		C	C	A	A	D	D	B	D	C	C
Approach Vol, veh/h		386			518			581			287	
Approach Delay, s/veh		34.7			13.4			34.0			35.4	
Approach LOS		C			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	24.0	22.1	31.0	13.4	23.5	8.4	44.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	21.0	12.0	25.0	10.0	19.0	4.0	33.0
Max Q Clear Time (g_c+I1), s	7.5	17.0	8.6	17.3	7.9	7.9	4.0	5.4
Green Ext Time (p_c), s	0.0	1.0	0.7	0.8	0.1	1.9	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.4
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	253	68	149	213	143	102	325	130	95	140	40
Future Volume (veh/h)	41	253	68	149	213	143	102	325	130	95	140	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	45	275	74	162	232	155	111	353	141	103	152	43
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	499	134	221	894	573	172	438	341	162	426	332
Arrive On Green	0.06	0.35	0.33	0.23	0.72	0.69	0.11	0.23	0.23	0.10	0.23	0.23
Sat Flow, veh/h	1634	1412	380	1634	2065	1324	1634	1863	1449	1634	1863	1449
Grp Volume(v), veh/h	45	0	349	162	197	190	111	353	141	103	152	43
Grp Sat Flow(s),veh/h/ln	1634	0	1792	1634	1770	1620	1634	1863	1449	1634	1863	1449
Q Serve(g_s), s	2.4	0.0	14.1	8.3	3.4	4.0	5.9	16.1	7.4	5.5	6.2	2.1
Cycle Q Clear(g_c), s	2.4	0.0	14.1	8.3	3.4	4.0	5.9	16.1	7.4	5.5	6.2	2.1
Prop In Lane	1.00		0.21	1.00		0.82	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	0	633	221	766	701	172	438	341	162	426	332
V/C Ratio(X)	0.50	0.00	0.55	0.73	0.26	0.27	0.65	0.81	0.41	0.64	0.36	0.13
Avail Cap(c_a), veh/h	127	0	633	254	766	701	236	497	386	182	435	338
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	23.6	33.3	7.5	8.5	38.7	32.5	29.2	39.0	29.1	27.6
Incr Delay (d2), s/veh	4.2	0.0	3.4	9.0	0.8	0.9	4.0	8.5	0.8	6.1	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	7.6	4.2	1.8	1.9	2.8	9.3	3.0	2.7	3.2	0.9
LnGrp Delay(d),s/veh	45.5	0.0	27.0	42.3	8.4	9.4	42.7	41.0	30.0	45.1	29.6	27.8
LnGrp LOS	D		C	D	A	A	D	D	C	D	C	C
Approach Vol, veh/h		394			549			605			298	
Approach Delay, s/veh		29.1			18.7			38.8			34.7	
Approach LOS		C			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	25.1	16.2	35.8	13.5	24.6	9.0	43.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	22.0	12.0	24.0	11.0	19.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	7.5	18.1	10.3	16.1	7.9	8.2	4.4	6.0
Green Ext Time (p_c), s	0.0	1.1	0.1	1.8	0.1	2.0	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	277	73	155	216	160	117	354	153	115	172	51
Future Volume (veh/h)	38	277	73	155	216	160	117	354	153	115	172	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	41	301	79	168	235	174	127	385	166	125	187	55
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	410	108	280	724	513	189	463	360	186	459	357
Arrive On Green	0.09	0.29	0.27	0.29	0.61	0.58	0.12	0.25	0.25	0.11	0.25	0.25
Sat Flow, veh/h	1634	1420	373	1634	1973	1400	1634	1863	1450	1634	1863	1449
Grp Volume(v), veh/h	41	0	380	168	210	199	127	385	166	125	187	55
Grp Sat Flow(s),veh/h/ln	1634	0	1793	1634	1770	1604	1634	1863	1450	1634	1863	1449
Q Serve(g_s), s	2.1	0.0	17.3	8.0	5.2	5.8	6.7	17.6	5.2	6.6	7.6	1.9
Cycle Q Clear(g_c), s	2.1	0.0	17.3	8.0	5.2	5.8	6.7	17.6	5.2	6.6	7.6	1.9
Prop In Lane	1.00		0.21	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	0	518	280	649	588	189	463	360	186	459	357
V/C Ratio(X)	0.27	0.00	0.73	0.60	0.32	0.34	0.67	0.83	0.46	0.67	0.41	0.15
Avail Cap(c_a), veh/h	152	0	518	280	649	588	236	497	387	200	459	357
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	0.0	29.1	29.5	12.0	13.2	38.2	32.0	10.2	38.3	28.4	13.0
Incr Delay (d2), s/veh	0.9	0.0	8.9	3.6	1.3	1.6	5.2	10.9	0.9	7.8	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	9.7	3.8	2.7	2.8	3.3	10.5	2.2	3.4	4.0	0.8
LnGrp Delay(d),s/veh	38.9	0.0	38.0	33.1	13.4	14.8	43.4	42.9	11.1	46.1	29.0	13.2
LnGrp LOS	D		D	C	B	B	D	D	B	D	C	B
Approach Vol, veh/h		421			577			678			367	
Approach Delay, s/veh		38.1			19.6			35.2			32.4	
Approach LOS		D			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	26.4	19.4	30.0	14.4	26.2	12.4	37.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	22.0	11.0	24.0	11.0	20.0	4.0	31.0
Max Q Clear Time (g_c+I1), s	8.6	19.6	10.0	19.3	8.7	9.6	4.1	7.8
Green Ext Time (p_c), s	0.0	0.7	0.1	0.6	0.1	2.3	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	277	73	163	236	160	117	376	153	115	180	53
Future Volume (veh/h)	45	277	73	163	236	160	117	376	153	115	180	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	49	301	79	177	257	174	127	409	166	125	196	58
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	437	115	235	805	525	189	479	373	186	475	370
Arrive On Green	0.06	0.31	0.29	0.24	0.66	0.62	0.12	0.26	0.26	0.11	0.25	0.25
Sat Flow, veh/h	1634	1420	373	1634	2048	1337	1634	1863	1450	1634	1863	1450
Grp Volume(v), veh/h	49	0	380	177	221	210	127	409	166	125	196	58
Grp Sat Flow(s),veh/h/ln	1634	0	1793	1634	1770	1616	1634	1863	1450	1634	1863	1450
Q Serve(g_s), s	2.6	0.0	16.8	9.0	4.9	5.5	6.7	18.8	5.4	6.6	7.9	2.8
Cycle Q Clear(g_c), s	2.6	0.0	16.8	9.0	4.9	5.5	6.7	18.8	5.4	6.6	7.9	2.8
Prop In Lane	1.00		0.21	1.00		0.83	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	0	551	235	695	635	189	479	373	186	475	370
V/C Ratio(X)	0.51	0.00	0.69	0.75	0.32	0.33	0.67	0.85	0.45	0.67	0.41	0.16
Avail Cap(c_a), veh/h	127	0	551	254	695	635	254	497	387	200	475	370
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	27.6	32.7	10.2	11.3	38.1	31.8	11.0	38.3	27.9	26.0
Incr Delay (d2), s/veh	4.2	0.0	6.9	11.1	1.2	1.4	4.1	13.3	0.8	7.8	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	9.3	4.7	2.6	2.6	3.2	11.4	2.2	3.4	4.1	1.1
LnGrp Delay(d),s/veh	45.3	0.0	34.5	43.8	11.4	12.7	42.2	45.1	11.9	46.0	28.5	26.2
LnGrp LOS	D		C	D	B	B	D	D	B	D	C	C
Approach Vol, veh/h		429			608			702			379	
Approach Delay, s/veh		35.7			21.3			36.7			33.9	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	27.1	17.0	31.7	14.4	26.9	9.3	39.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	22.0	12.0	23.0	12.0	19.0	5.0	30.0
Max Q Clear Time (g_c+I1), s	8.6	20.8	11.0	18.8	8.7	9.9	4.6	7.5
Green Ext Time (p_c), s	0.0	0.3	0.1	1.3	0.1	0.9	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	31.6
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	225	110	216	260	190	111	270	163	176	212	35
Future Volume (veh/h)	42	225	110	216	260	190	111	270	163	176	212	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	46	245	120	235	283	207	121	293	177	191	230	38
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	301	147	343	808	573	183	376	292	254	456	355
Arrive On Green	0.06	0.26	0.23	0.35	0.68	0.65	0.11	0.20	0.20	0.16	0.25	0.25
Sat Flow, veh/h	1634	1177	577	1634	1974	1400	1634	1863	1447	1634	1863	1449
Grp Volume(v), veh/h	46	0	365	235	253	237	121	293	177	191	230	38
Grp Sat Flow(s),veh/h/ln	1634	0	1754	1634	1770	1605	1634	1863	1447	1634	1863	1449
Q Serve(g_s), s	2.5	0.0	17.7	11.1	5.3	6.1	6.4	13.4	5.7	10.1	9.6	1.8
Cycle Q Clear(g_c), s	2.5	0.0	17.7	11.1	5.3	6.1	6.4	13.4	5.7	10.1	9.6	1.8
Prop In Lane	1.00		0.33	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	0	448	343	724	657	183	376	292	254	456	355
V/C Ratio(X)	0.50	0.00	0.81	0.69	0.35	0.36	0.66	0.78	0.61	0.75	0.50	0.11
Avail Cap(c_a), veh/h	127	0	448	343	724	657	236	414	322	254	456	355
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	31.8	26.7	9.3	10.3	38.3	34.0	10.6	36.4	29.3	26.3
Incr Delay (d2), s/veh	4.2	0.0	15.0	5.6	1.3	1.5	4.4	8.5	2.8	12.0	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	10.4	5.4	2.8	2.9	3.1	7.8	2.5	5.4	5.0	0.7
LnGrp Delay(d),s/veh	45.4	0.0	46.8	32.2	10.6	11.9	42.8	42.5	13.4	48.3	30.2	26.5
LnGrp LOS	D		D	C	B	B	D	D	B	D	C	C
Approach Vol, veh/h		411			725			591			459	
Approach Delay, s/veh		46.6			18.0			33.9			37.4	
Approach LOS		D			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	22.1	22.9	27.0	14.1	26.1	9.1	40.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	18.0	15.0	21.0	11.0	19.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	12.1	15.4	13.1	19.7	8.4	11.6	4.5	8.1
Green Ext Time (p_c), s	0.0	0.5	0.2	0.2	0.1	1.8	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	31.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	225	110	229	290	190	111	280	163	176	225	38
Future Volume (veh/h)	45	225	110	229	290	190	111	280	163	176	225	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	49	245	120	249	315	207	121	304	177	191	245	41
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	288	141	354	831	533	183	384	298	254	465	362
Arrive On Green	0.06	0.24	0.22	0.36	0.67	0.63	0.11	0.21	0.21	0.16	0.25	0.25
Sat Flow, veh/h	1634	1177	576	1634	2064	1324	1634	1863	1448	1634	1863	1450
Grp Volume(v), veh/h	49	0	365	249	269	253	121	304	177	191	245	41
Grp Sat Flow(s),veh/h/ln	1634	0	1753	1634	1770	1619	1634	1863	1448	1634	1863	1450
Q Serve(g_s), s	2.6	0.0	17.9	11.7	6.0	6.7	6.4	13.9	10.0	10.1	10.2	2.0
Cycle Q Clear(g_c), s	2.6	0.0	17.9	11.7	6.0	6.7	6.4	13.9	10.0	10.1	10.2	2.0
Prop In Lane	1.00		0.33	1.00		0.82	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	0	429	354	712	652	183	384	298	254	465	362
V/C Ratio(X)	0.51	0.00	0.85	0.70	0.38	0.39	0.66	0.79	0.59	0.75	0.53	0.11
Avail Cap(c_a), veh/h	127	0	429	354	712	652	236	414	322	254	465	362
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	32.8	26.3	9.8	10.8	38.3	33.9	32.3	36.4	29.2	26.1
Incr Delay (d2), s/veh	4.2	0.0	18.8	6.2	1.5	1.7	4.4	9.4	2.6	12.0	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	10.9	5.9	3.2	3.3	3.1	8.2	4.2	5.4	5.4	0.8
LnGrp Delay(d),s/veh	45.3	0.0	51.6	32.4	11.3	12.6	42.8	43.3	34.9	48.3	30.3	26.2
LnGrp LOS	D		D	C	B	B	D	D	C	D	C	C
Approach Vol, veh/h		414			771			602			477	
Approach Delay, s/veh		50.8			18.6			40.7			37.2	
Approach LOS		D			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	22.6	23.5	26.0	14.1	26.5	9.3	40.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	18.0	16.0	20.0	11.0	19.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	12.1	15.9	13.7	19.9	8.4	12.2	4.6	8.7
Green Ext Time (p_c), s	0.0	0.4	0.6	0.0	0.1	1.0	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	268	166	218	307	192	150	296	166	180	234	36
Future Volume (veh/h)	42	268	166	218	307	192	150	296	166	180	234	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	46	291	180	237	334	209	163	322	180	196	254	39
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	322	199	285	880	539	218	400	311	218	400	311
Arrive On Green	0.06	0.30	0.28	0.29	0.70	0.66	0.13	0.21	0.21	0.13	0.21	0.21
Sat Flow, veh/h	1634	1074	664	1634	2105	1290	1634	1863	1448	1634	1863	1448
Grp Volume(v), veh/h	46	0	471	237	280	263	163	322	180	196	254	39
Grp Sat Flow(s),veh/h/ln	1634	0	1738	1634	1770	1625	1634	1863	1448	1634	1863	1448
Q Serve(g_s), s	2.5	0.0	23.4	12.2	5.8	6.5	8.6	14.8	6.1	10.6	11.2	2.0
Cycle Q Clear(g_c), s	2.5	0.0	23.4	12.2	5.8	6.5	8.6	14.8	6.1	10.6	11.2	2.0
Prop In Lane	1.00		0.38	1.00		0.79	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	0	522	285	740	680	218	400	311	218	400	311
V/C Ratio(X)	0.50	0.00	0.90	0.83	0.38	0.39	0.75	0.81	0.58	0.90	0.64	0.13
Avail Cap(c_a), veh/h	127	0	522	285	740	680	218	414	322	218	414	322
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	30.6	30.7	8.8	9.8	37.5	33.6	11.7	38.4	32.1	28.5
Incr Delay (d2), s/veh	4.2	0.0	21.5	18.6	1.5	1.7	13.3	10.8	2.4	35.1	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	14.4	7.0	3.0	3.2	4.7	8.8	2.6	6.9	6.1	0.8
LnGrp Delay(d),s/veh	45.4	0.0	52.2	49.3	10.3	11.4	50.8	44.4	14.2	73.5	35.2	28.7
LnGrp LOS	D		D	D	B	B	D	D	B	E	D	C
Approach Vol, veh/h		517			780			665			489	
Approach Delay, s/veh		51.6			22.5			37.8			50.0	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	23.3	19.7	31.0	16.0	23.3	9.1	41.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	18.0	13.0	25.0	10.0	18.0	5.0	33.0
Max Q Clear Time (g_c+I1), s	12.6	16.8	14.2	25.4	10.6	13.2	4.5	8.5
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	1.4	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	268	166	231	337	192	150	306	166	180	247	39
Future Volume (veh/h)	45	268	166	231	337	192	150	306	166	180	247	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	49	291	180	251	366	209	163	333	180	196	268	42
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	322	199	279	899	505	218	406	316	218	406	316
Arrive On Green	0.06	0.30	0.28	0.29	0.69	0.65	0.13	0.22	0.22	0.13	0.22	0.22
Sat Flow, veh/h	1634	1074	664	1634	2182	1225	1634	1863	1448	1634	1863	1448
Grp Volume(v), veh/h	49	0	471	251	296	279	163	333	180	196	268	42
Grp Sat Flow(s),veh/h/ln	1634	0	1738	1634	1770	1637	1634	1863	1448	1634	1863	1448
Q Serve(g_s), s	2.6	0.0	23.4	13.3	6.5	7.2	8.6	15.3	6.1	10.6	11.8	2.1
Cycle Q Clear(g_c), s	2.6	0.0	23.4	13.3	6.5	7.2	8.6	15.3	6.1	10.6	11.8	2.1
Prop In Lane	1.00		0.38	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	0	522	279	729	675	218	406	316	218	406	316
V/C Ratio(X)	0.51	0.00	0.90	0.90	0.41	0.41	0.75	0.82	0.57	0.90	0.66	0.13
Avail Cap(c_a), veh/h	127	0	522	279	729	675	218	414	322	218	414	322
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	30.6	31.4	9.3	10.2	37.5	33.5	11.7	38.4	32.1	28.3
Incr Delay (d2), s/veh	4.2	0.0	21.5	29.6	1.7	1.9	13.3	12.1	2.3	35.1	3.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	14.4	8.2	3.5	3.5	4.7	9.2	2.6	6.9	6.5	0.9
LnGrp Delay(d),s/veh	45.3	0.0	52.2	61.0	10.9	12.1	50.8	45.6	14.0	73.5	35.9	28.5
LnGrp LOS	D		D	E	B	B	D	D	B	E	D	C
Approach Vol, veh/h		520			826			676			506	
Approach Delay, s/veh		51.5			26.5			38.5			49.8	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	23.6	19.4	31.0	16.0	23.6	9.3	41.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	18.0	13.0	25.0	10.0	18.0	5.0	33.0
Max Q Clear Time (g_c+I1), s	12.6	17.3	15.3	25.4	10.6	13.8	4.6	9.2
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	1.3	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	39.5
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	291	177	240	339	216	170	344	195	217	308	48
Future Volume (veh/h)	47	291	177	240	339	216	170	344	195	217	308	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	51	316	192	261	368	235	185	374	212	236	335	52
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	314	191	280	812	510	243	373	289	292	428	333
Arrive On Green	0.07	0.29	0.27	0.17	0.39	0.37	0.15	0.20	0.20	0.18	0.23	0.23
Sat Flow, veh/h	1634	1082	657	1634	2082	1309	1634	1863	1447	1634	1863	1449
Grp Volume(v), veh/h	51	0	508	261	312	291	185	374	212	236	335	52
Grp Sat Flow(s),veh/h/ln	1634	0	1739	1634	1770	1621	1634	1863	1447	1634	1863	1449
Q Serve(g_s), s	3.0	0.0	29.0	15.8	13.0	13.6	10.9	20.0	8.7	13.9	16.9	2.2
Cycle Q Clear(g_c), s	3.0	0.0	29.0	15.8	13.0	13.6	10.9	20.0	8.7	13.9	16.9	2.2
Prop In Lane	1.00		0.38	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	0	504	280	690	632	243	373	289	292	428	333
V/C Ratio(X)	0.44	0.00	1.01	0.93	0.45	0.46	0.76	1.00	0.73	0.81	0.78	0.16
Avail Cap(c_a), veh/h	117	0	504	280	690	632	261	373	289	294	428	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	35.9	40.9	22.6	23.3	40.9	40.0	15.2	39.4	36.1	17.4
Incr Delay (d2), s/veh	2.6	0.0	41.8	36.0	2.1	2.4	11.6	47.6	9.2	15.3	9.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	19.7	9.9	6.7	6.5	5.7	15.2	4.2	7.5	9.7	0.9
LnGrp Delay(d),s/veh	47.1	0.0	77.7	76.9	24.7	25.8	52.5	87.6	24.3	54.7	45.2	17.6
LnGrp LOS	D		F	E	C	C	D	F	C	D	D	B
Approach Vol, veh/h		559			864			771			623	
Approach Delay, s/veh		74.9			40.8			61.8			46.5	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.9	24.0	21.1	33.0	18.9	27.0	11.1	43.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	16.0	18.0	15.0	27.0	14.0	20.0	5.0	37.0
Max Q Clear Time (g_c+I1), s	15.9	22.0	17.8	31.0	12.9	18.9	5.0	15.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.5	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	54.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	291	177	253	369	216	170	354	195	217	321	51
Future Volume (veh/h)	50	291	177	253	369	216	170	354	195	217	321	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1716	1716	1863	1716
Adj Flow Rate, veh/h	54	316	192	275	401	235	185	385	212	236	349	55
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	309	188	296	877	508	261	390	303	280	412	320
Arrive On Green	0.06	0.29	0.27	0.30	0.68	0.65	0.16	0.21	0.21	0.17	0.22	0.22
Sat Flow, veh/h	1634	1082	657	1634	2155	1248	1634	1863	1448	1634	1863	1448
Grp Volume(v), veh/h	54	0	508	275	328	308	185	385	212	236	349	55
Grp Sat Flow(s),veh/h/ln	1634	0	1739	1634	1770	1633	1634	1863	1448	1634	1863	1448
Q Serve(g_s), s	3.4	0.0	30.0	17.2	9.0	9.8	11.3	21.6	8.9	14.7	18.9	2.5
Cycle Q Clear(g_c), s	3.4	0.0	30.0	17.2	9.0	9.8	11.3	21.6	8.9	14.7	18.9	2.5
Prop In Lane	1.00		0.38	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	0	497	296	720	665	261	390	303	280	412	320
V/C Ratio(X)	0.55	0.00	1.02	0.93	0.46	0.46	0.71	0.99	0.70	0.84	0.85	0.17
Avail Cap(c_a), veh/h	140	0	497	296	720	665	261	390	303	280	444	345
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	37.9	36.0	11.4	12.4	41.8	41.4	15.1	42.1	39.2	20.0
Incr Delay (d2), s/veh	4.8	0.0	46.1	34.4	2.1	2.3	8.5	41.8	6.9	20.2	13.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	20.7	10.5	4.7	4.7	5.7	15.7	4.1	8.2	11.2	1.0
LnGrp Delay(d),s/veh	52.8	0.0	84.0	70.4	13.5	14.7	50.3	83.2	22.0	62.3	52.8	20.2
LnGrp LOS	D		F	E	B	B	D	F	C	E	D	C
Approach Vol, veh/h		562			911			782			640	
Approach Delay, s/veh		81.0			31.1			58.8			53.5	
Approach LOS		F			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	26.0	23.0	34.0	20.8	27.2	10.3	46.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	16.0	20.0	17.0	28.0	13.0	23.0	7.0	38.0
Max Q Clear Time (g_c+I1), s	16.7	23.6	19.2	32.0	13.3	20.9	5.4	11.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.3	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.2
HCM 2010 LOS	D

Intersection 5
N Walnut St & Bear Mountain Blvd (SR 223)

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	135	293	27	68	359	91	0	0	127	0	0	103
Future Vol, veh/h	135	293	27	68	359	91	0	0	127	0	0	103
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	318	29	74	390	99	0	0	138	0	0	112

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	348	0	0	970	1165	179	991	1179	200
Stage 1	-	-	-	-	-	-	627	627	-	538	538	-
Stage 2	-	-	-	-	-	-	343	538	-	453	641	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1165	-	-	1208	-	-	208	193	833	200	189	808
Stage 1	-	-	-	-	-	-	438	474	-	495	521	-
Stage 2	-	-	-	-	-	-	646	521	-	556	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1160	-	-	1203	-	-	154	158	830	143	155	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	158	-	143	155	-
Stage 1	-	-	-	-	-	-	382	414	-	432	489	-
Stage 2	-	-	-	-	-	-	520	489	-	403	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1.1	10.2	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	830	1160	-	-	1203	-	-	805
HCM Lane V/C Ratio	0.166	0.126	-	-	0.061	-	-	0.139
HCM Control Delay (s)	10.2	8.6	-	-	8.2	-	-	10.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0.2	-	-	0.5

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	135	293	27	68	359	133	0	0	127	0	0	131
Future Vol, veh/h	135	293	27	68	359	133	0	0	127	0	0	131
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	318	29	74	390	145	0	0	138	0	0	142

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	348	0	0	970	1165	179	991	1179	200
Stage 1	-	-	-	-	-	-	627	627	-	538	538	-
Stage 2	-	-	-	-	-	-	343	538	-	453	641	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1165	-	-	1208	-	-	208	193	833	200	189	808
Stage 1	-	-	-	-	-	-	438	474	-	495	521	-
Stage 2	-	-	-	-	-	-	646	521	-	556	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1160	-	-	1203	-	-	147	158	830	143	155	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	158	-	143	155	-
Stage 1	-	-	-	-	-	-	382	414	-	432	489	-
Stage 2	-	-	-	-	-	-	497	489	-	403	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1	10.2	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	830	1160	-	-	1203	-	-	805
HCM Lane V/C Ratio	0.166	0.126	-	-	0.061	-	-	0.177
HCM Control Delay (s)	10.2	8.6	-	-	8.2	-	-	10.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0.2	-	-	0.6

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	137	314	27	69	370	97	0	0	128	0	0	104
Future Vol, veh/h	137	314	27	69	370	97	0	0	128	0	0	104
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	149	341	29	75	402	105	0	0	139	0	0	113

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	402	0	0	371	0	0	1005	1206	190	1020	1220	206
Stage 1	-	-	-	-	-	-	654	654	-	552	552	-
Stage 2	-	-	-	-	-	-	351	552	-	468	668	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1153	-	-	1184	-	-	196	182	820	191	179	800
Stage 1	-	-	-	-	-	-	422	461	-	486	513	-
Stage 2	-	-	-	-	-	-	639	513	-	545	455	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1148	-	-	1179	-	-	144	148	817	135	146	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	148	-	135	146	-
Stage 1	-	-	-	-	-	-	367	401	-	423	480	-
Stage 2	-	-	-	-	-	-	511	480	-	392	396	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1.1	10.3	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	817	1148	-	-	1179	-	-	797
HCM Lane V/C Ratio	0.17	0.13	-	-	0.064	-	-	0.142
HCM Control Delay (s)	10.3	8.6	-	-	8.3	-	-	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0.2	-	-	0.5

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	137	314	27	69	370	139	0	0	128	0	0	132
Future Vol, veh/h	137	314	27	69	370	139	0	0	128	0	0	132
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	149	341	29	75	402	151	0	0	139	0	0	143

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	402	0	0	371	0	0	1005	1206	190	1020	1220	206
Stage 1	-	-	-	-	-	-	654	654	-	552	552	-
Stage 2	-	-	-	-	-	-	351	552	-	468	668	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1153	-	-	1184	-	-	196	182	820	191	179	800
Stage 1	-	-	-	-	-	-	422	461	-	486	513	-
Stage 2	-	-	-	-	-	-	639	513	-	545	455	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1148	-	-	1179	-	-	137	148	817	135	146	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	148	-	135	146	-
Stage 1	-	-	-	-	-	-	367	401	-	423	480	-
Stage 2	-	-	-	-	-	-	489	480	-	392	396	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1	10.3	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	817	1148	-	-	1179	-	-	797
HCM Lane V/C Ratio	0.17	0.13	-	-	0.064	-	-	0.18
HCM Control Delay (s)	10.3	8.6	-	-	8.3	-	-	10.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0.2	-	-	0.7

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	153	350	31	77	415	108	0	0	141	0	0	114
Future Vol, veh/h	153	350	31	77	415	108	0	0	141	0	0	114
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	166	380	34	84	451	117	0	0	153	0	0	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	414	0	0	1123	1348	212	1141	1365	231
Stage 1	-	-	-	-	-	-	730	730	-	618	618	-
Stage 2	-	-	-	-	-	-	393	618	-	523	747	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1106	-	-	1141	-	-	160	150	793	156	146	771
Stage 1	-	-	-	-	-	-	380	426	-	443	479	-
Stage 2	-	-	-	-	-	-	603	479	-	505	418	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1101	-	-	1136	-	-	112	118	790	105	115	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	112	118	-	105	115	-
Stage 1	-	-	-	-	-	-	323	362	-	376	444	-
Stage 2	-	-	-	-	-	-	466	444	-	344	355	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1.1	10.7	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	790	1101	-	-	1136	-	-	768
HCM Lane V/C Ratio	0.194	0.151	-	-	0.074	-	-	0.161
HCM Control Delay (s)	10.7	8.9	-	-	8.4	-	-	10.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.5	-	-	0.2	-	-	0.6

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	153	350	31	77	415	150	0	0	141	0	0	142
Future Vol, veh/h	153	350	31	77	415	150	0	0	141	0	0	142
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	166	380	34	84	451	163	0	0	153	0	0	154

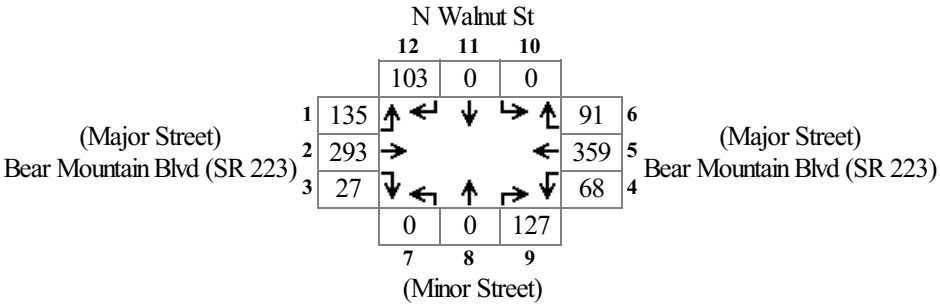
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	414	0	0	1123	1348	212	1141	1365	231
Stage 1	-	-	-	-	-	-	730	730	-	618	618	-
Stage 2	-	-	-	-	-	-	393	618	-	523	747	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1106	-	-	1141	-	-	160	150	793	156	146	771
Stage 1	-	-	-	-	-	-	380	426	-	443	479	-
Stage 2	-	-	-	-	-	-	603	479	-	505	418	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1101	-	-	1136	-	-	106	118	790	105	115	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	118	-	105	115	-
Stage 1	-	-	-	-	-	-	323	362	-	376	444	-
Stage 2	-	-	-	-	-	-	444	444	-	344	355	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1	10.7	10.9
HCM LOS			B	B

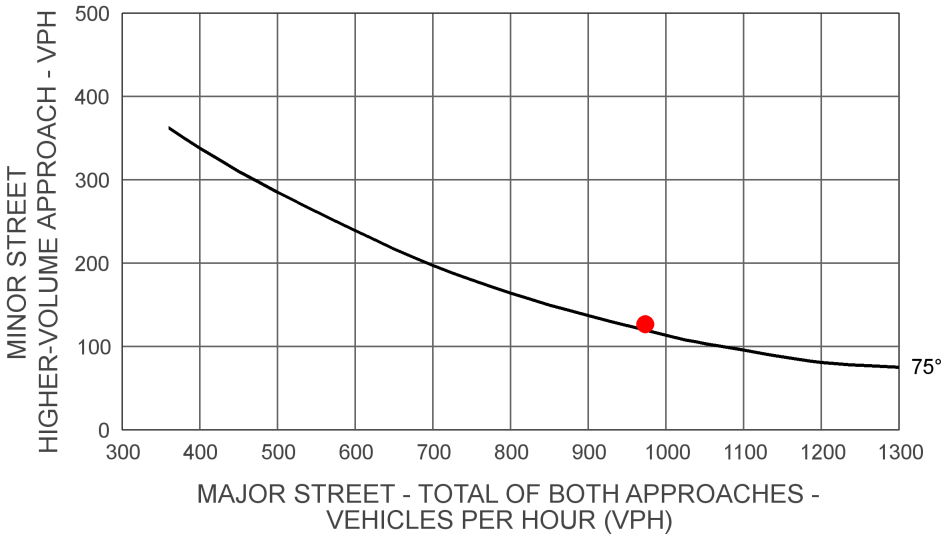
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	790	1101	-	-	1136	-	-	768
HCM Lane V/C Ratio	0.194	0.151	-	-	0.074	-	-	0.201
HCM Control Delay (s)	10.7	8.9	-	-	8.4	-	-	10.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.5	-	-	0.2	-	-	0.7

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Existing
Intersection #: 5

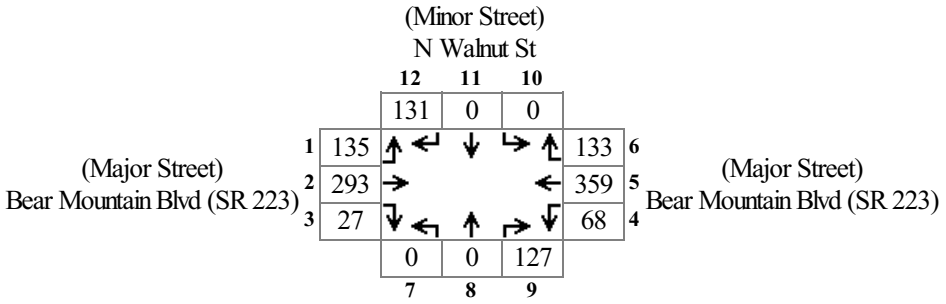


Major Total: 973
Minor High Volume: 127

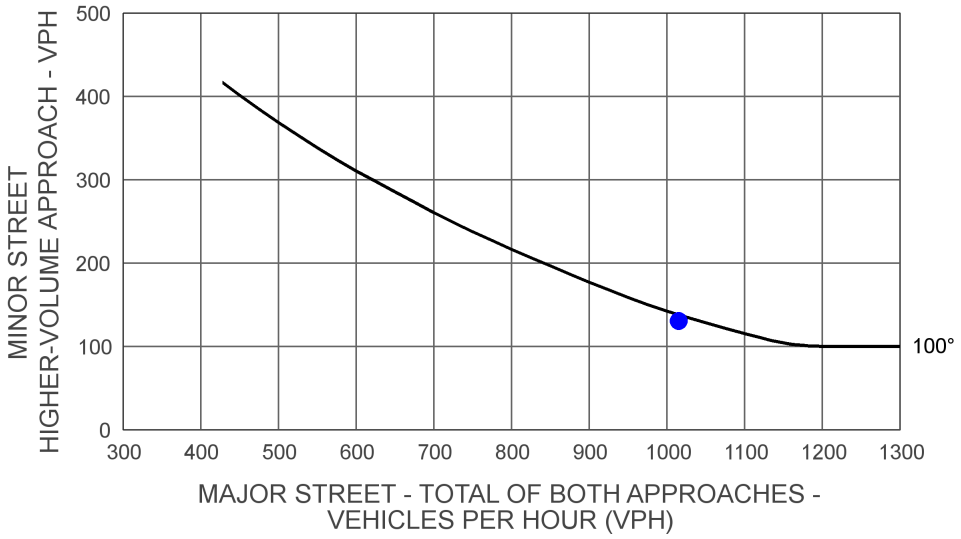


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 5

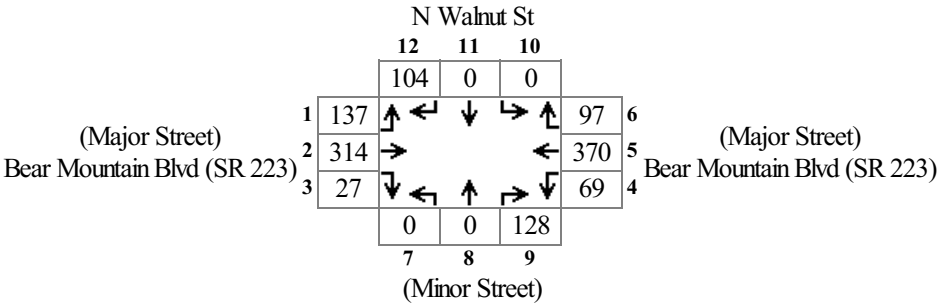


Major Total: 1015
Minor High Volume: 131

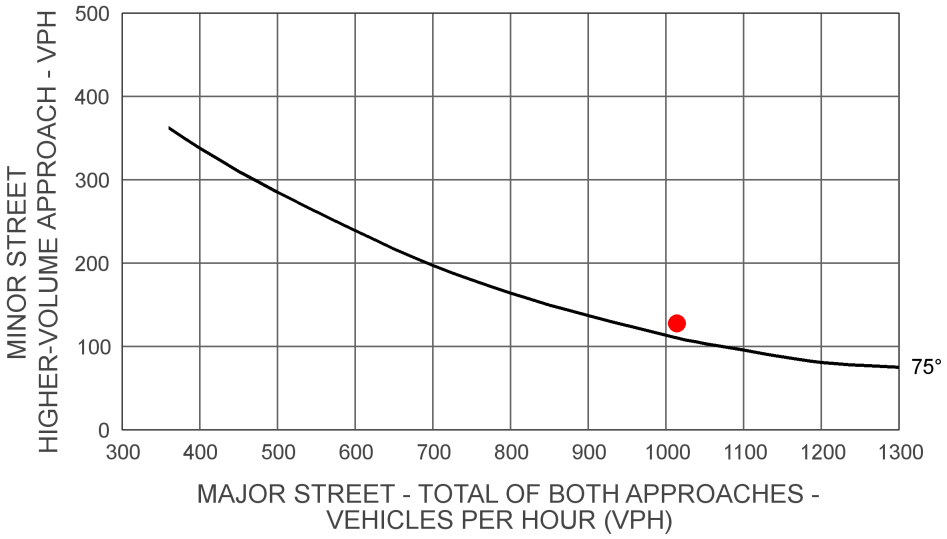


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 5

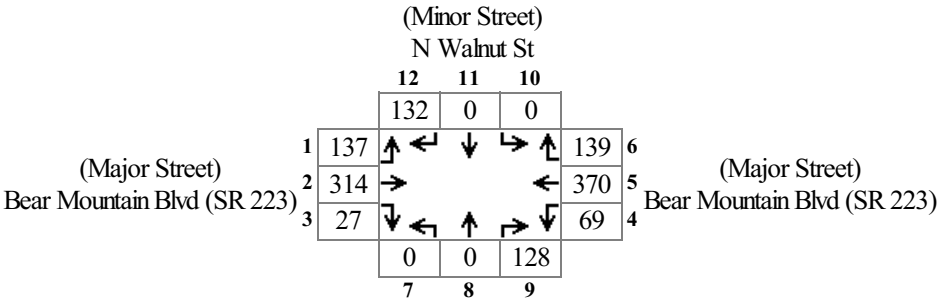


Major Total: 1014
Minor High Volume: 128

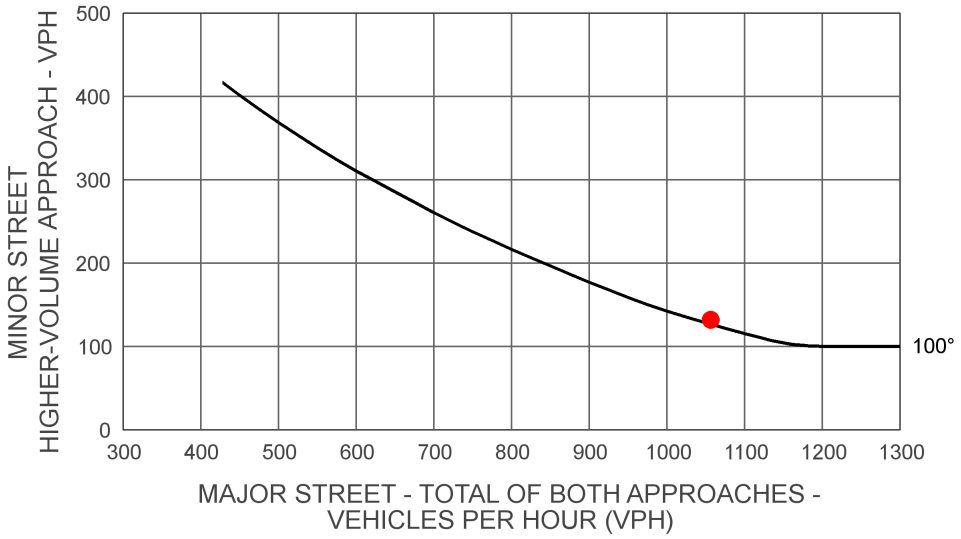


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 5

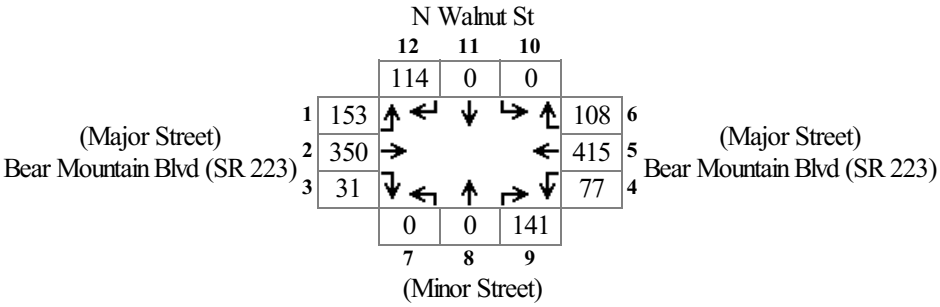


Major Total: 1056
Minor High Volume: 132

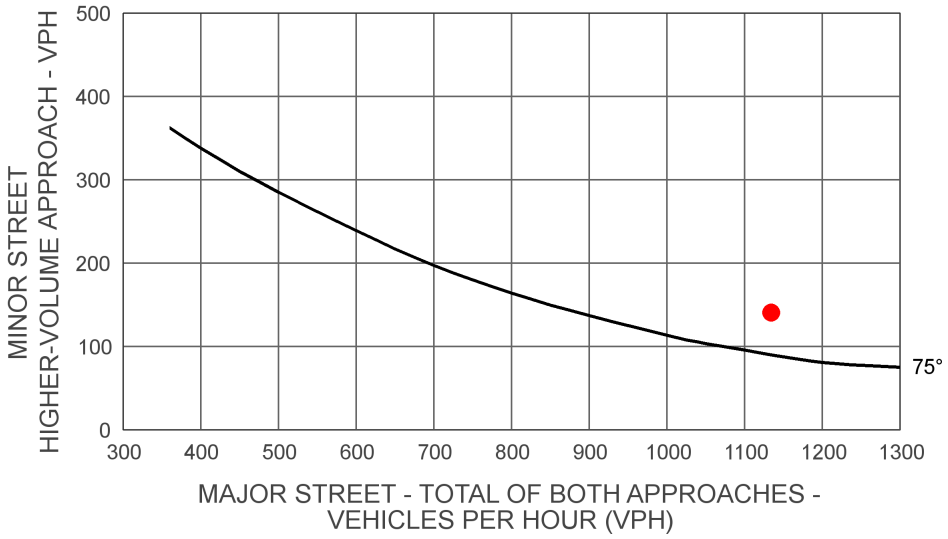


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 5

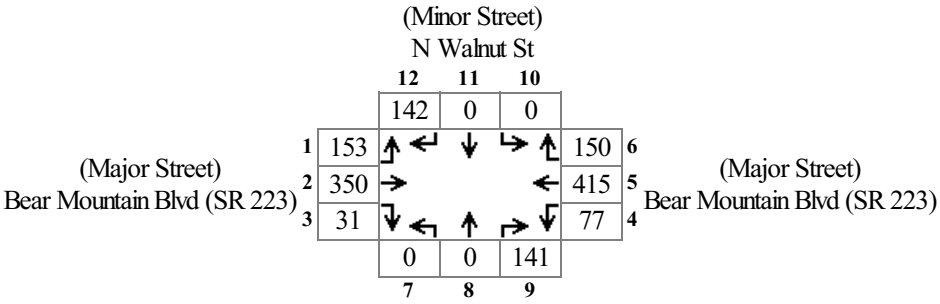


Major Total: 1134
Minor High Volume: 141

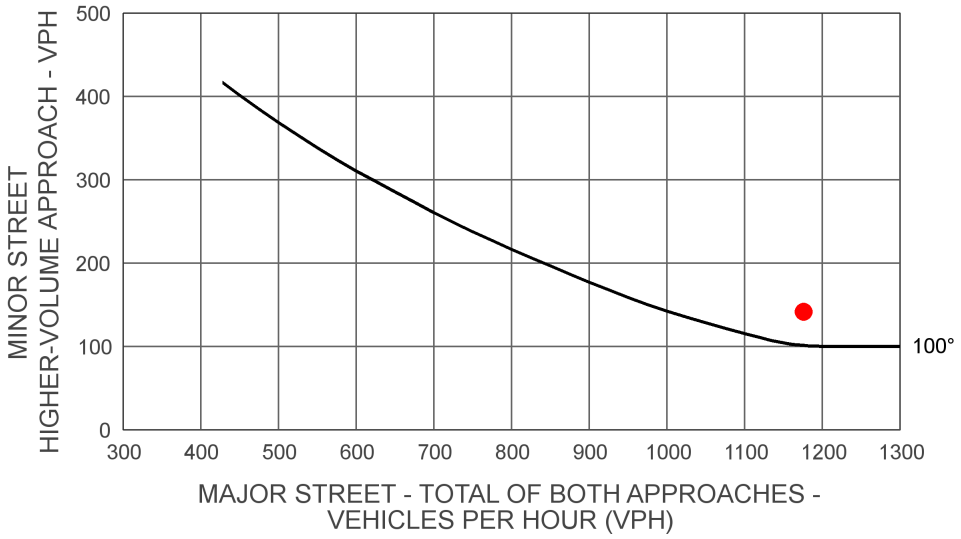


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 5



Major Total: 1176
Minor High Volume: 142



Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	89	474	47	109	582	78	0	0	117	0	0	102
Future Vol, veh/h	89	474	47	109	582	78	0	0	117	0	0	102
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	515	51	118	633	85	0	0	127	0	0	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	633	0	0	566	0	0	1287	1604	288	1321	1630	321
Stage 1	-	-	-	-	-	-	734	734	-	870	870	-
Stage 2	-	-	-	-	-	-	553	870	-	451	760	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	946	-	-	1002	-	-	121	104	709	115	101	675
Stage 1	-	-	-	-	-	-	378	424	-	313	367	-
Stage 2	-	-	-	-	-	-	485	367	-	557	413	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	942	-	-	998	-	-	84	82	706	79	80	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	82	-	79	80	-
Stage 1	-	-	-	-	-	-	339	380	-	281	324	-
Stage 2	-	-	-	-	-	-	356	324	-	408	370	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	1.3	11.2	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	706	942	-	-	998	-	-	672
HCM Lane V/C Ratio	0.18	0.103	-	-	0.119	-	-	0.165
HCM Control Delay (s)	11.2	9.3	-	-	9.1	-	-	11.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.4	-	-	0.6

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	89	474	47	109	582	97	0	0	117	0	0	145
Future Vol, veh/h	89	474	47	109	582	97	0	0	117	0	0	145
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	515	51	118	633	105	0	0	127	0	0	158

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	633	0	0	566	0	0	1287	1604	288	1321	1630	321
Stage 1	-	-	-	-	-	-	734	734	-	870	870	-
Stage 2	-	-	-	-	-	-	553	870	-	451	760	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	946	-	-	1002	-	-	121	104	709	115	101	675
Stage 1	-	-	-	-	-	-	378	424	-	313	367	-
Stage 2	-	-	-	-	-	-	485	367	-	557	413	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	942	-	-	998	-	-	77	82	706	79	80	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	82	-	79	80	-
Stage 1	-	-	-	-	-	-	339	380	-	281	324	-
Stage 2	-	-	-	-	-	-	326	324	-	408	370	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	1.3	11.2	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	706	942	-	-	998	-	-	672
HCM Lane V/C Ratio	0.18	0.103	-	-	0.119	-	-	0.235
HCM Control Delay (s)	11.2	9.3	-	-	9.1	-	-	12
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.3	-	-	0.4	-	-	0.9

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	90	521	48	110	633	102	0	0	118	0	0	103
Future Vol, veh/h	90	521	48	110	633	102	0	0	118	0	0	103
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	566	52	120	688	111	0	0	128	0	0	112

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	618	0	0	1371	1715	314	1406	1741	349
Stage 1	-	-	-	-	-	-	788	788	-	927	927	-
Stage 2	-	-	-	-	-	-	583	927	-	479	814	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	902	-	-	958	-	-	105	89	682	99	86	647
Stage 1	-	-	-	-	-	-	350	400	-	289	345	-
Stage 2	-	-	-	-	-	-	465	345	-	537	390	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	898	-	-	954	-	-	72	69	679	66	67	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	72	69	-	66	67	-
Stage 1	-	-	-	-	-	-	312	356	-	257	302	-
Stage 2	-	-	-	-	-	-	334	302	-	386	347	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	1.2	11.5	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	679	898	-	-	954	-	-	644
HCM Lane V/C Ratio	0.189	0.109	-	-	0.125	-	-	0.174
HCM Control Delay (s)	11.5	9.5	-	-	9.3	-	-	11.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.4	-	-	0.4	-	-	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	90	521	48	110	633	121	0	0	118	0	0	146
Future Vol, veh/h	90	521	48	110	633	121	0	0	118	0	0	146
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	566	52	120	688	132	0	0	128	0	0	159

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	618	0	0	1371	1715	314	1406	1741	349
Stage 1	-	-	-	-	-	-	788	788	-	927	927	-
Stage 2	-	-	-	-	-	-	583	927	-	479	814	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	902	-	-	958	-	-	105	89	682	99	86	647
Stage 1	-	-	-	-	-	-	350	400	-	289	345	-
Stage 2	-	-	-	-	-	-	465	345	-	537	390	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	898	-	-	954	-	-	65	69	679	66	67	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	69	-	66	67	-
Stage 1	-	-	-	-	-	-	312	356	-	257	302	-
Stage 2	-	-	-	-	-	-	305	302	-	386	347	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	1.2	11.5	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	679	898	-	-	954	-	-	644
HCM Lane V/C Ratio	0.189	0.109	-	-	0.125	-	-	0.246
HCM Control Delay (s)	11.5	9.5	-	-	9.3	-	-	12.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.4	-	-	0.4	-	-	1

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	101	580	53	124	705	112	0	0	130	0	0	113
Future Vol, veh/h	101	580	53	124	705	112	0	0	130	0	0	113
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	630	58	135	766	122	0	0	141	0	0	123

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	766	0	0	688	0	0	1532	1915	349	1571	1944	388
Stage 1	-	-	-	-	-	-	879	879	-	1036	1036	-
Stage 2	-	-	-	-	-	-	653	1036	-	535	908	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	843	-	-	902	-	-	80	67	647	75	64	611
Stage 1	-	-	-	-	-	-	309	363	-	248	307	-
Stage 2	-	-	-	-	-	-	423	307	-	497	352	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	839	-	-	898	-	-	51	49	644	47	47	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	51	49	-	47	47	-
Stage 1	-	-	-	-	-	-	268	315	-	215	261	-
Stage 2	-	-	-	-	-	-	286	261	-	336	306	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	1.3	12.2	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	839	-	-	898	-	-	608
HCM Lane V/C Ratio	0.219	0.131	-	-	0.15	-	-	0.202
HCM Control Delay (s)	12.2	9.9	-	-	9.7	-	-	12.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.4	-	-	0.5	-	-	0.8

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	101	580	53	124	705	131	0	0	130	0	0	156
Future Vol, veh/h	101	580	53	124	705	131	0	0	130	0	0	156
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	200	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	630	58	135	766	142	0	0	141	0	0	170

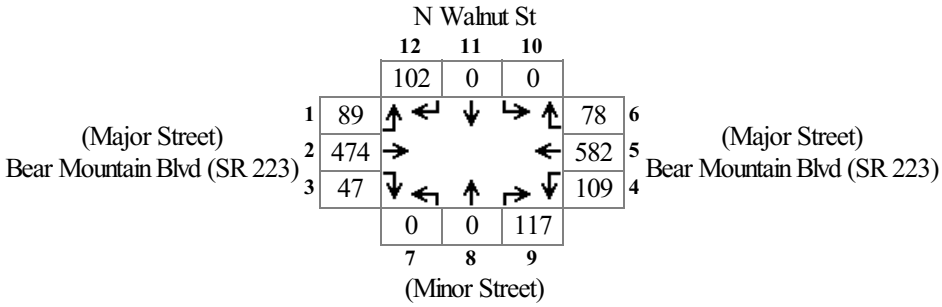
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	766	0	0	688	0	0	1532	1915	349	1571	1944	388
Stage 1	-	-	-	-	-	-	879	879	-	1036	1036	-
Stage 2	-	-	-	-	-	-	653	1036	-	535	908	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	843	-	-	902	-	-	80	67	647	75	64	611
Stage 1	-	-	-	-	-	-	309	363	-	248	307	-
Stage 2	-	-	-	-	-	-	423	307	-	497	352	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	839	-	-	898	-	-	46	49	644	47	47	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	49	-	47	47	-
Stage 1	-	-	-	-	-	-	268	315	-	215	261	-
Stage 2	-	-	-	-	-	-	258	261	-	336	306	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	1.3	12.2	13.2
HCM LOS			B	B

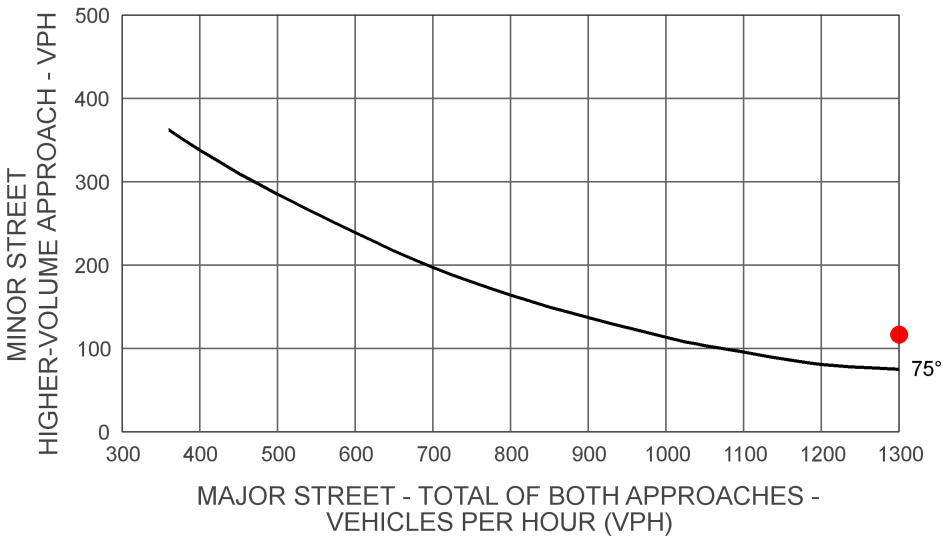
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	839	-	-	898	-	-	608
HCM Lane V/C Ratio	0.219	0.131	-	-	0.15	-	-	0.279
HCM Control Delay (s)	12.2	9.9	-	-	9.7	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.4	-	-	0.5	-	-	1.1

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing
Intersection #: 5

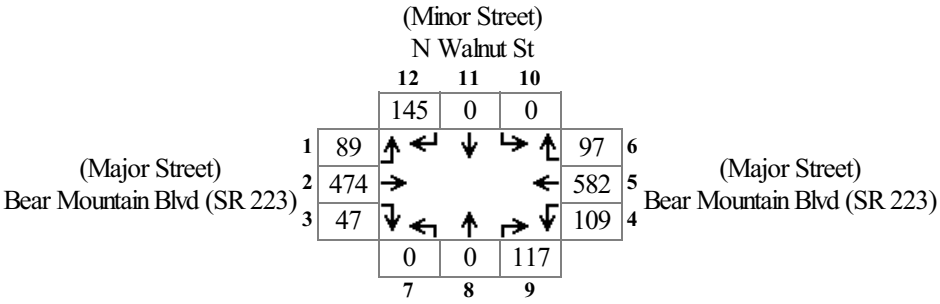


Major Total: 1379
Minor High Volume: 117

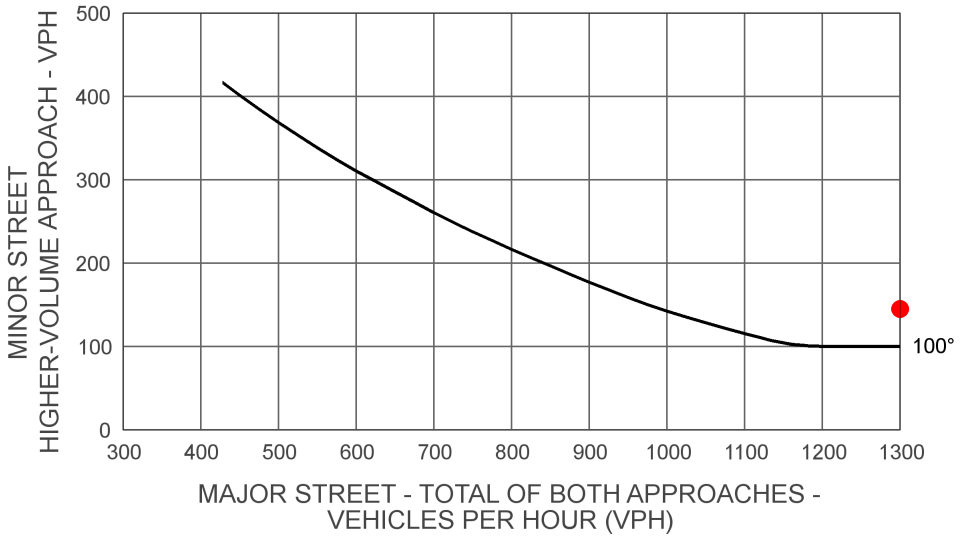


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Existing+Project
Intersection #: 5

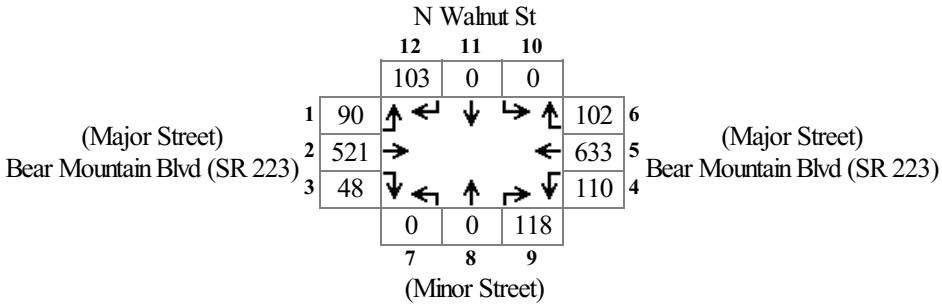


Major Total: 1398
Minor High Volume: 145

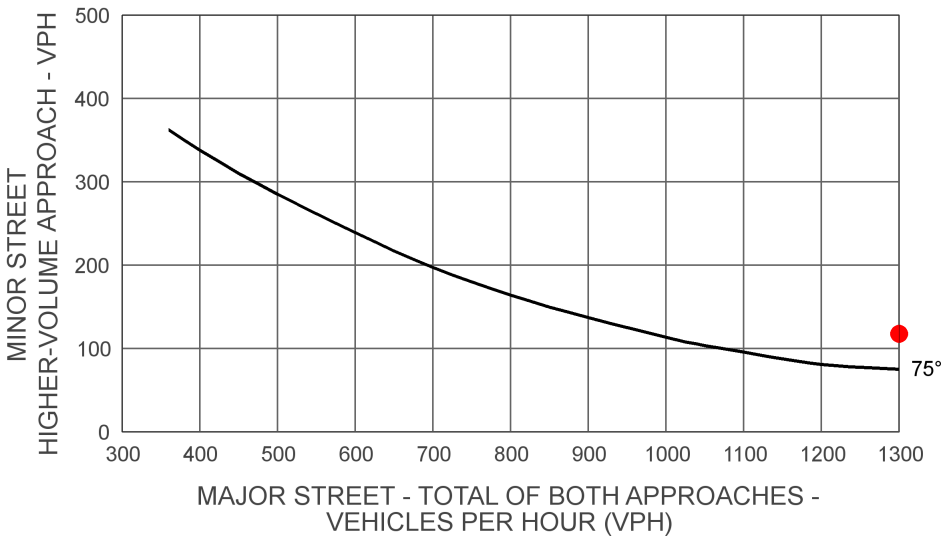


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 5

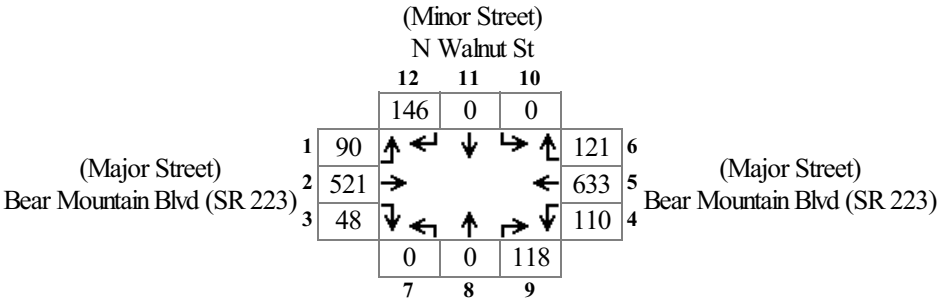


Major Total: 1504
Minor High Volume: 118

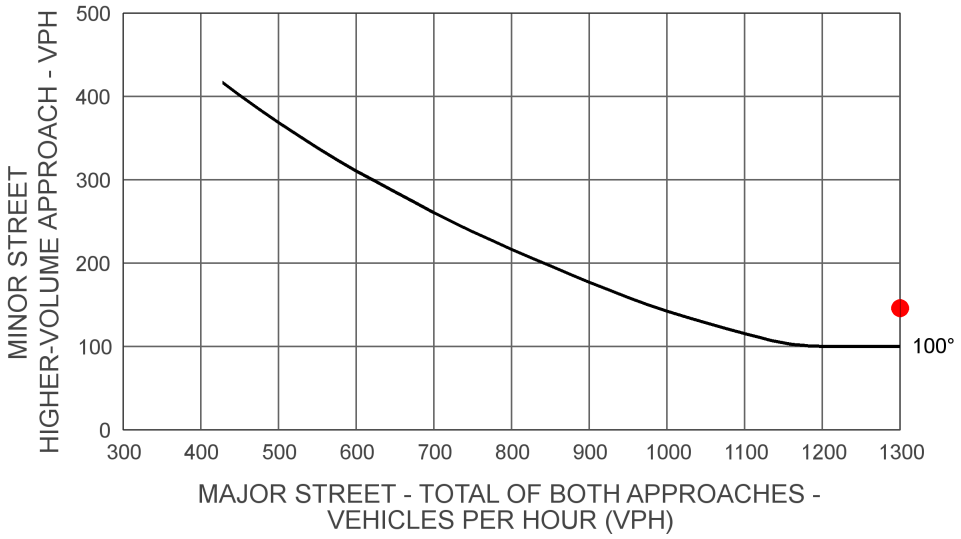


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 5

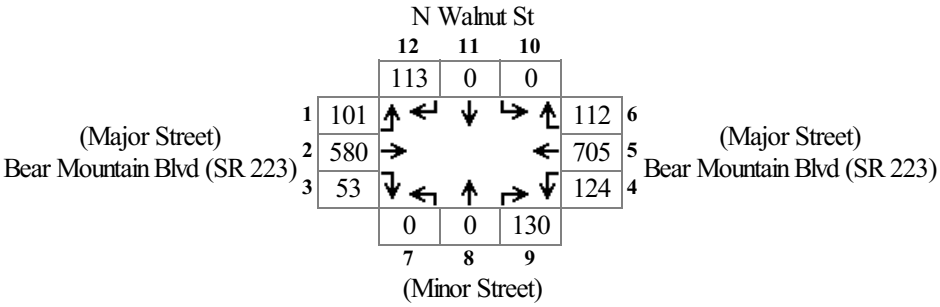


Major Total: 1523
Minor High Volume: 146

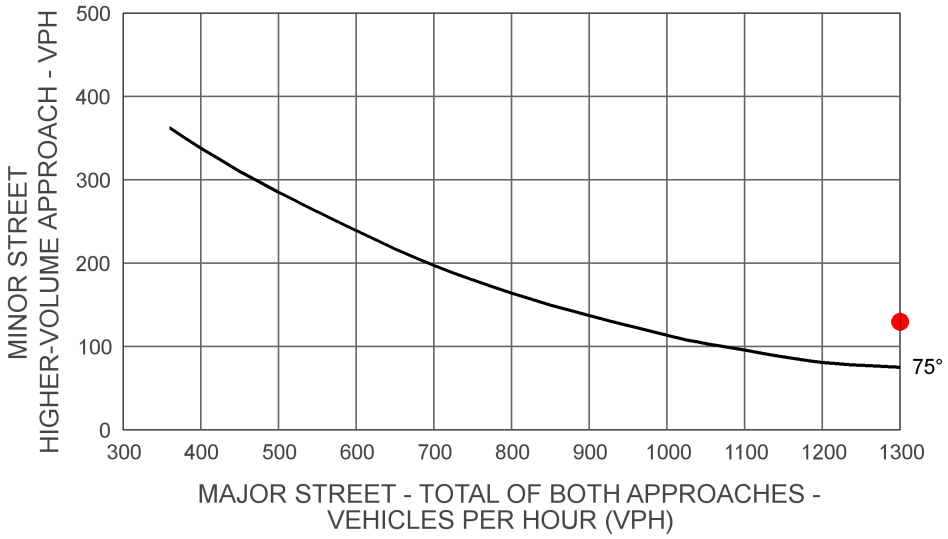


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 5

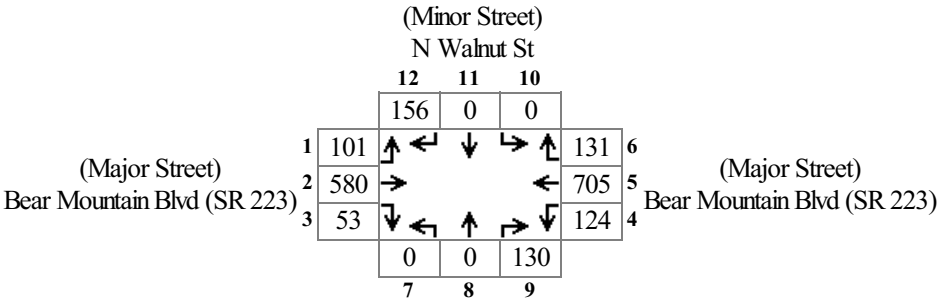


Major Total: 1675
Minor High Volume: 130

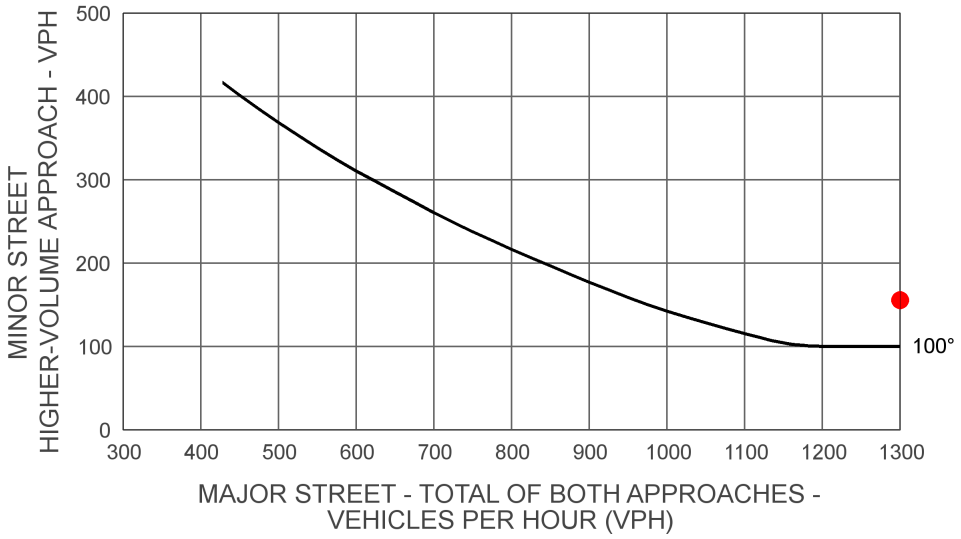


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 5



Major Total: 1694
Minor High Volume: 156



Intersection 6
Campus Dr/Meyer St & Bear Mountain Blvd (SR 223)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	208	42	51	241	54	84	227	28	45	185	118
Future Volume (veh/h)	136	208	42	51	241	54	84	227	28	45	185	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	148	226	46	55	262	59	91	247	30	49	201	128
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	1626	325	103	897	199	234	408	50	198	467	365
Arrive On Green	0.61	1.00	1.00	0.06	0.31	0.29	0.25	0.25	0.23	0.25	0.25	0.25
Sat Flow, veh/h	1634	2940	588	1634	2882	638	964	1630	198	1011	1863	1458
Grp Volume(v), veh/h	148	134	138	55	159	162	91	0	277	49	201	128
Grp Sat Flow(s),veh/h/ln	1634	1770	1759	1634	1770	1750	964	0	1828	1011	1863	1458
Q Serve(g_s), s	3.9	0.0	0.0	2.9	6.1	6.4	7.9	0.0	12.1	4.1	8.2	6.5
Cycle Q Clear(g_c), s	3.9	0.0	0.0	2.9	6.1	6.4	16.0	0.0	12.1	16.1	8.2	6.5
Prop In Lane	1.00		0.33	1.00		0.36	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	499	978	972	103	551	544	234	0	458	198	467	365
V/C Ratio(X)	0.30	0.14	0.14	0.53	0.29	0.30	0.39	0.00	0.61	0.25	0.43	0.35
Avail Cap(c_a), veh/h	499	978	972	163	551	544	335	0	650	304	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	0.0	0.0	40.9	23.5	23.8	35.1	0.0	29.9	36.9	28.3	27.7
Incr Delay (d2), s/veh	0.3	0.3	0.3	4.2	1.3	1.4	1.1	0.0	1.3	0.6	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.1	0.1	1.4	3.2	3.3	2.2	0.0	6.3	1.2	4.3	2.7
LnGrp Delay(d),s/veh	13.3	0.3	0.3	45.0	24.8	25.2	36.1	0.0	31.2	37.6	29.0	28.3
LnGrp LOS	B	A	A	D	C	C	D		C	D	C	C
Approach Vol, veh/h		420			376			368			378	
Approach Delay, s/veh		4.9			27.9			32.4			29.9	
Approach LOS		A			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		26.5	9.7	53.8		26.5	31.5	32.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	7.0	35.0		30.0	16.0	26.0
Max Q Clear Time (g_c+I1), s		18.0	4.9	2.0		18.1	5.9	8.4
Green Ext Time (p_c), s		2.4	0.0	1.5		2.4	1.1	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	208	42	51	261	78	106	271	28	63	201	118
Future Volume (veh/h)	136	208	42	51	261	78	106	271	28	63	201	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	148	226	46	55	284	85	115	295	30	68	218	128
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	1242	248	253	1216	357	266	482	49	212	539	422
Arrive On Green	0.25	0.84	0.80	0.15	0.45	0.43	0.29	0.29	0.27	0.29	0.29	0.29
Sat Flow, veh/h	1634	2940	588	1634	2700	793	949	1664	169	968	1863	1458
Grp Volume(v), veh/h	148	134	138	55	184	185	115	0	325	68	218	128
Grp Sat Flow(s),veh/h/ln	1634	1770	1759	1634	1770	1723	949	0	1833	968	1863	1458
Q Serve(g_s), s	7.4	1.3	1.4	2.6	5.8	6.0	10.0	0.0	13.8	5.9	8.5	6.2
Cycle Q Clear(g_c), s	7.4	1.3	1.4	2.6	5.8	6.0	18.5	0.0	13.8	19.7	8.5	6.2
Prop In Lane	1.00		0.33	1.00		0.46	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	207	747	743	253	797	776	266	0	531	212	539	422
V/C Ratio(X)	0.71	0.18	0.19	0.22	0.23	0.24	0.43	0.00	0.61	0.32	0.40	0.30
Avail Cap(c_a), veh/h	327	747	743	253	797	776	328	0	652	276	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	4.1	4.6	33.3	15.2	15.5	33.1	0.0	27.7	36.1	25.7	24.9
Incr Delay (d2), s/veh	4.5	0.5	0.6	0.4	0.7	0.7	1.1	0.0	1.1	0.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.7	0.8	1.2	3.0	3.0	2.7	0.0	7.1	1.6	4.4	2.5
LnGrp Delay(d),s/veh	36.6	4.7	5.1	33.7	15.9	16.3	34.3	0.0	28.8	37.0	26.2	25.3
LnGrp LOS	D	A	A	C	B	B	C		C	D	C	C
Approach Vol, veh/h		420			424			440			414	
Approach Delay, s/veh		16.1			18.3			30.3			27.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.1	17.9	42.0		30.1	15.4	44.5
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	6.0	36.0		30.0	16.0	26.0
Max Q Clear Time (g_c+I1), s		20.5	4.6	3.4		21.7	9.4	8.0
Green Ext Time (p_c), s		2.6	0.0	0.9		2.4	0.2	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	229	53	52	258	55	93	237	29	46	193	121
Future Volume (veh/h)	138	229	53	52	258	55	93	237	29	46	193	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	150	249	58	57	280	60	101	258	32	50	210	132
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	477	1540	352	106	905	191	242	429	53	204	491	385
Arrive On Green	0.58	1.00	1.00	0.06	0.31	0.29	0.26	0.26	0.24	0.26	0.26	0.26
Sat Flow, veh/h	1634	2862	655	1634	2910	614	953	1626	202	999	1863	1458
Grp Volume(v), veh/h	150	152	155	57	169	171	101	0	290	50	210	132
Grp Sat Flow(s),veh/h/ln	1634	1770	1747	1634	1770	1754	953	0	1827	999	1863	1458
Q Serve(g_s), s	4.2	0.0	0.0	3.0	6.5	6.8	8.9	0.0	12.5	4.2	8.4	6.6
Cycle Q Clear(g_c), s	4.2	0.0	0.0	3.0	6.5	6.8	17.3	0.0	12.5	16.7	8.4	6.6
Prop In Lane	1.00		0.37	1.00		0.35	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	477	952	940	106	551	546	242	0	482	204	491	385
V/C Ratio(X)	0.31	0.16	0.16	0.54	0.31	0.31	0.42	0.00	0.60	0.24	0.43	0.34
Avail Cap(c_a), veh/h	477	952	940	163	551	546	330	0	650	296	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	40.8	23.6	24.0	34.7	0.0	29.1	36.3	27.5	26.8
Incr Delay (d2), s/veh	0.4	0.4	0.4	4.2	1.4	1.5	1.1	0.0	1.2	0.6	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.1	0.1	1.5	3.4	3.5	2.4	0.0	6.5	1.2	4.4	2.7
LnGrp Delay(d),s/veh	14.5	0.4	0.4	44.9	25.0	25.5	35.8	0.0	30.3	36.9	28.1	27.4
LnGrp LOS	B	A	A	D	C	C	D		C	D	C	C
Approach Vol, veh/h		457			397			391			392	
Approach Delay, s/veh		5.0			28.1			31.7			29.0	
Approach LOS		A			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.7	9.8	52.4		27.7	30.3	32.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	7.0	35.0		30.0	16.0	26.0
Max Q Clear Time (g_c+I1), s		19.3	5.0	2.0		18.7	6.2	8.8
Green Ext Time (p_c), s		2.5	0.0	1.6		2.5	1.2	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	229	53	52	278	79	115	281	29	64	209	121
Future Volume (veh/h)	138	229	53	52	278	79	115	281	29	64	209	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	150	249	58	57	302	86	125	305	32	70	227	132
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1444	330	106	1206	337	268	493	52	213	554	434
Arrive On Green	0.26	1.00	0.96	0.06	0.44	0.42	0.30	0.30	0.28	0.30	0.30	0.30
Sat Flow, veh/h	1634	2862	655	1634	2732	765	938	1658	174	957	1863	1458
Grp Volume(v), veh/h	150	152	155	57	194	194	125	0	337	70	227	132
Grp Sat Flow(s),veh/h/ln	1634	1770	1747	1634	1770	1728	938	0	1832	957	1863	1458
Q Serve(g_s), s	7.5	0.0	0.1	3.0	6.2	6.5	11.1	0.0	14.3	6.1	8.8	6.3
Cycle Q Clear(g_c), s	7.5	0.0	0.1	3.0	6.2	6.5	19.8	0.0	14.3	20.4	8.8	6.3
Prop In Lane	1.00		0.37	1.00		0.44	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	209	893	881	106	781	762	268	0	545	213	554	434
V/C Ratio(X)	0.72	0.17	0.18	0.54	0.25	0.25	0.47	0.00	0.62	0.33	0.41	0.30
Avail Cap(c_a), veh/h	327	893	881	145	781	762	322	0	651	269	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	0.3	40.8	15.8	16.1	33.2	0.0	27.3	36.0	25.3	24.4
Incr Delay (d2), s/veh	4.6	0.4	0.4	4.2	0.8	0.8	1.3	0.0	1.3	0.9	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.1	0.2	1.5	3.2	3.2	3.0	0.0	7.4	1.7	4.6	2.6
LnGrp Delay(d),s/veh	36.6	0.4	0.7	45.0	16.5	16.9	34.5	0.0	28.6	36.9	25.8	24.8
LnGrp LOS	D	A	A	D	B	B	C		C	D	C	C
Approach Vol, veh/h		457			445			462			429	
Approach Delay, s/veh		12.4			20.4			30.2			27.3	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.8	9.8	49.4		30.8	15.5	43.7
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	6.0	36.0		30.0	16.0	26.0
Max Q Clear Time (g_c+I1), s		21.8	5.0	2.1		22.4	9.5	8.5
Green Ext Time (p_c), s		2.5	0.0	2.5		2.4	0.2	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	254	58	60	297	64	118	304	37	60	248	156
Future Volume (veh/h)	155	254	58	60	297	64	118	304	37	60	248	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	168	276	63	65	323	70	128	330	40	65	270	170
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1319	296	116	1248	267	275	549	67	236	627	491
Arrive On Green	0.20	0.92	0.87	0.07	0.43	0.41	0.34	0.34	0.31	0.34	0.34	0.34
Sat Flow, veh/h	1634	2873	645	1634	2902	621	871	1630	198	929	1863	1458
Grp Volume(v), veh/h	168	168	171	65	195	198	128	0	370	65	270	170
Grp Sat Flow(s),veh/h/ln	1634	1770	1749	1634	1770	1753	871	0	1828	929	1863	1458
Q Serve(g_s), s	9.0	0.9	1.1	3.5	6.4	6.6	12.0	0.0	15.2	5.6	10.1	7.9
Cycle Q Clear(g_c), s	9.0	0.9	1.1	3.5	6.4	6.6	22.2	0.0	15.2	20.8	10.1	7.9
Prop In Lane	1.00		0.37	1.00		0.35	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	163	812	803	116	761	754	275	0	615	236	627	491
V/C Ratio(X)	1.03	0.21	0.21	0.56	0.26	0.26	0.47	0.00	0.60	0.28	0.43	0.35
Avail Cap(c_a), veh/h	163	812	803	163	761	754	417	0	914	388	931	729
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	2.0	2.4	40.4	16.4	16.7	31.8	0.0	24.9	33.5	23.2	22.4
Incr Delay (d2), s/veh	78.0	0.6	0.6	4.2	0.8	0.8	1.2	0.0	0.9	0.6	0.5	0.4
Initial Q Delay(d3),s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.5	0.6	1.7	3.3	3.3	3.0	0.0	7.8	1.5	5.3	3.2
LnGrp Delay(d),s/veh	114.3	2.6	3.1	44.6	17.2	17.6	33.0	0.0	25.9	34.1	23.6	22.8
LnGrp LOS	F	A	A	D	B	B	C		C	C	C	C
Approach Vol, veh/h		507			458			498			505	
Approach Delay, s/veh		39.8			21.3			27.7			24.7	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.3	10.4	45.3		34.3	13.0	42.7
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		43.0	7.0	22.0		43.0	7.0	22.0
Max Q Clear Time (g_c+I1), s		24.2	5.5	3.1		22.8	11.0	8.6
Green Ext Time (p_c), s		4.1	0.0	2.5		4.2	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	254	58	60	317	88	140	348	37	78	264	156
Future Volume (veh/h)	155	254	58	60	317	88	140	348	37	78	264	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	168	276	63	65	345	96	152	378	40	85	287	170
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	747	168	386	1088	299	299	614	65	244	690	540
Arrive On Green	0.20	0.52	0.48	0.24	0.40	0.37	0.37	0.37	0.35	0.37	0.37	0.37
Sat Flow, veh/h	1634	2873	645	1634	2746	754	857	1657	175	888	1863	1458
Grp Volume(v), veh/h	168	168	171	65	221	220	152	0	418	85	287	170
Grp Sat Flow(s),veh/h/ln	1634	1770	1749	1634	1770	1730	857	0	1832	888	1863	1458
Q Serve(g_s), s	9.0	5.1	5.4	2.8	7.7	8.0	14.4	0.0	16.8	7.8	10.3	7.5
Cycle Q Clear(g_c), s	9.0	5.1	5.4	2.8	7.7	8.0	24.8	0.0	16.8	24.5	10.3	7.5
Prop In Lane	1.00		0.37	1.00		0.44	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	163	460	455	386	701	685	299	0	679	244	690	540
V/C Ratio(X)	1.03	0.37	0.38	0.17	0.31	0.32	0.51	0.00	0.62	0.35	0.42	0.31
Avail Cap(c_a), veh/h	163	460	455	386	701	685	416	0	928	365	944	739
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	17.2	17.9	27.3	18.7	19.1	30.3	0.0	23.2	33.1	21.1	20.2
Incr Delay (d2), s/veh	78.0	2.2	2.4	0.2	1.2	1.2	1.3	0.0	0.9	0.9	0.4	0.3
Initial Q Delay(d3),s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	2.7	2.8	1.3	4.0	4.1	3.5	0.0	8.7	2.0	5.3	3.1
LnGrp Delay(d),s/veh	114.3	19.4	20.2	27.5	19.9	20.4	31.6	0.0	24.1	34.0	21.5	20.5
LnGrp LOS	F	B	C	C	B	C	C		C	C	C	C
Approach Vol, veh/h		507			506			570			542	
Approach Delay, s/veh		51.1			21.1			26.1			23.1	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		37.3	25.3	27.4		37.3	13.0	39.7
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		43.6	7.0	21.4		43.6	7.0	21.4
Max Q Clear Time (g_c+I1), s		26.8	4.8	7.4		26.5	11.0	10.0
Green Ext Time (p_c), s		4.6	0.4	1.0		4.6	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	370	79	170	544	50	108	192	94	69	239	118
Future Volume (veh/h)	106	370	79	170	544	50	108	192	94	69	239	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	115	402	86	185	591	54	117	209	102	75	260	128
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	808	171	468	1130	103	253	358	175	229	563	441
Arrive On Green	0.44	0.56	0.51	0.29	0.34	0.32	0.30	0.30	0.28	0.30	0.30	0.30
Sat Flow, veh/h	1634	2907	616	1634	3280	299	913	1183	578	980	1863	1458
Grp Volume(v), veh/h	115	243	245	185	318	327	117	0	311	75	260	128
Grp Sat Flow(s),veh/h/ln	1634	1770	1754	1634	1770	1810	913	0	1761	980	1863	1458
Q Serve(g_s), s	4.1	7.6	7.9	8.2	12.9	13.0	10.7	0.0	13.5	6.3	10.2	6.0
Cycle Q Clear(g_c), s	4.1	7.6	7.9	8.2	12.9	13.0	20.9	0.0	13.5	19.9	10.2	6.0
Prop In Lane	1.00		0.35	1.00		0.17	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	359	492	487	468	610	623	253	0	532	229	563	441
V/C Ratio(X)	0.32	0.49	0.50	0.40	0.52	0.52	0.46	0.00	0.58	0.33	0.46	0.29
Avail Cap(c_a), veh/h	359	492	487	468	610	623	301	0	626	281	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	16.1	16.8	25.8	23.6	23.7	33.9	0.0	26.9	35.1	25.5	24.0
Incr Delay (d2), s/veh	0.5	3.5	3.7	0.5	3.2	3.1	1.3	0.0	1.0	0.8	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.1	4.2	3.8	6.8	7.0	2.8	0.0	6.7	1.8	5.3	2.5
LnGrp Delay(d),s/veh	21.3	19.7	20.4	26.4	26.8	26.9	35.3	0.0	27.9	35.9	26.0	24.4
LnGrp LOS	C	B	C	C	C	C	D		C	D	C	C
Approach Vol, veh/h		603			830			428			463	
Approach Delay, s/veh		20.3			26.7			29.9			27.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.2	29.8	29.0		31.2	23.8	35.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	19.0	23.0		30.0	13.0	29.0
Max Q Clear Time (g_c+I1), s		22.9	10.2	9.9		21.9	6.1	15.0
Green Ext Time (p_c), s		2.3	0.7	1.4		2.5	0.6	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	370	79	170	553	61	118	212	94	97	263	118
Future Volume (veh/h)	106	370	79	170	553	61	118	212	94	97	263	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	115	402	86	185	601	66	128	230	102	105	286	128
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	1126	239	253	1108	121	260	398	176	241	605	474
Arrive On Green	0.39	0.77	0.73	0.15	0.34	0.32	0.32	0.32	0.30	0.32	0.32	0.32
Sat Flow, veh/h	1634	2907	616	1634	3217	353	892	1224	543	961	1863	1458
Grp Volume(v), veh/h	115	243	245	185	330	337	128	0	332	105	286	128
Grp Sat Flow(s),veh/h/ln	1634	1770	1754	1634	1770	1801	892	0	1767	961	1863	1458
Q Serve(g_s), s	4.5	3.8	4.2	9.7	13.5	13.6	12.0	0.0	14.1	9.2	11.0	5.8
Cycle Q Clear(g_c), s	4.5	3.8	4.2	9.7	13.5	13.6	23.1	0.0	14.1	23.3	11.0	5.8
Prop In Lane	1.00		0.35	1.00		0.20	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	323	685	679	253	610	620	260	0	574	241	605	474
V/C Ratio(X)	0.36	0.36	0.36	0.73	0.54	0.54	0.49	0.00	0.58	0.44	0.47	0.27
Avail Cap(c_a), veh/h	323	685	679	381	610	620	288	0	628	271	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	6.7	7.2	36.3	23.8	24.0	33.4	0.0	25.5	35.0	24.2	22.5
Incr Delay (d2), s/veh	0.7	1.4	1.5	4.1	3.4	3.4	1.4	0.0	1.1	1.2	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.0	2.1	4.7	7.2	7.3	3.1	0.0	7.0	2.5	5.7	2.4
LnGrp Delay(d),s/veh	23.9	8.1	8.6	40.3	27.2	27.4	34.9	0.0	26.7	36.2	24.8	22.8
LnGrp LOS	C	A	A	D	C	C	C		C	D	C	C
Approach Vol, veh/h		603			852			460			519	
Approach Delay, s/veh		11.3			30.1			28.9			26.6	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.2	17.9	38.8		33.2	21.8	35.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	19.0	23.0		30.0	13.0	29.0
Max Q Clear Time (g_c+I1), s		25.1	11.7	6.2		25.3	6.5	15.6
Green Ext Time (p_c), s		2.0	0.3	2.0		1.9	0.2	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	429	89	173	618	51	124	208	97	71	253	121
Future Volume (veh/h)	107	429	89	173	618	51	124	208	97	71	253	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	116	466	97	188	672	55	135	226	105	77	275	132
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	1131	234	255	1215	99	265	389	181	240	602	471
Arrive On Green	0.35	0.77	0.73	0.16	0.37	0.34	0.32	0.32	0.30	0.32	0.32	0.32
Sat Flow, veh/h	1634	2921	604	1634	3314	271	897	1204	560	962	1863	1458
Grp Volume(v), veh/h	116	281	282	188	359	368	135	0	331	77	275	132
Grp Sat Flow(s),veh/h/ln	1634	1770	1756	1634	1770	1815	897	0	1764	962	1863	1458
Q Serve(g_s), s	4.8	4.7	5.1	9.9	14.5	14.6	12.7	0.0	14.1	6.5	10.5	6.1
Cycle Q Clear(g_c), s	4.8	4.7	5.1	9.9	14.5	14.6	23.2	0.0	14.1	20.7	10.5	6.1
Prop In Lane	1.00		0.34	1.00		0.15	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	289	685	680	255	649	665	265	0	570	240	602	471
V/C Ratio(X)	0.40	0.41	0.41	0.74	0.55	0.55	0.51	0.00	0.58	0.32	0.46	0.28
Avail Cap(c_a), veh/h	289	685	680	363	649	665	294	0	627	271	662	519
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	6.7	7.2	36.2	22.6	22.8	33.4	0.0	25.7	34.0	24.2	22.7
Incr Delay (d2), s/veh	0.9	1.8	1.9	4.6	3.4	3.3	1.5	0.0	1.1	0.8	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.5	2.6	4.8	7.7	7.9	3.2	0.0	7.0	1.8	5.5	2.5
LnGrp Delay(d),s/veh	26.4	8.6	9.1	40.8	26.0	26.1	34.9	0.0	26.8	34.8	24.7	23.0
LnGrp LOS	C	A	A	D	C	C	C		C	C	C	C
Approach Vol, veh/h		679			915			466			484	
Approach Delay, s/veh		11.8			29.1			29.1			25.8	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.1	18.1	38.9		33.1	19.9	37.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		30.0	18.0	24.0		30.0	11.0	31.0
Max Q Clear Time (g_c+I1), s		25.2	11.9	7.1		22.7	6.8	16.6
Green Ext Time (p_c), s		1.9	0.3	2.3		2.5	0.2	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	429	89	173	627	62	134	228	97	99	277	121
Future Volume (veh/h)	107	429	89	173	627	62	134	228	97	99	277	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	116	466	97	188	682	67	146	248	105	108	301	132
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	844	175	380	1158	114	272	429	182	251	643	503
Arrive On Green	0.33	0.58	0.53	0.23	0.36	0.33	0.35	0.35	0.32	0.35	0.35	0.35
Sat Flow, veh/h	1634	2921	604	1634	3256	320	876	1243	526	943	1863	1458
Grp Volume(v), veh/h	116	281	282	188	370	379	146	0	353	108	301	132
Grp Sat Flow(s),veh/h/ln	1634	1770	1756	1634	1770	1806	876	0	1770	943	1863	1458
Q Serve(g_s), s	5.0	8.8	9.2	9.0	15.4	15.4	14.1	0.0	14.8	9.5	11.4	5.9
Cycle Q Clear(g_c), s	5.0	8.8	9.2	9.0	15.4	15.4	25.4	0.0	14.8	24.3	11.4	5.9
Prop In Lane	1.00		0.34	1.00		0.18	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	271	511	507	380	629	642	272	0	611	251	643	503
V/C Ratio(X)	0.43	0.55	0.56	0.49	0.59	0.59	0.54	0.00	0.58	0.43	0.47	0.26
Avail Cap(c_a), veh/h	271	511	507	380	629	642	291	0	649	271	683	535
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	15.4	16.0	30.0	23.6	23.8	32.9	0.0	24.4	34.1	23.0	21.2
Incr Delay (d2), s/veh	1.1	4.2	4.3	1.0	4.0	3.9	1.7	0.0	1.1	1.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.8	4.9	4.1	8.2	8.4	3.5	0.0	7.4	2.6	5.9	2.4
LnGrp Delay(d),s/veh	27.8	19.6	20.4	30.9	27.6	27.7	34.6	0.0	25.5	35.2	23.5	21.5
LnGrp LOS	C	B	C	C	C	C	C		C	D	C	C
Approach Vol, veh/h		679			937			499			541	
Approach Delay, s/veh		21.3			28.3			28.2			25.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.1	24.9	30.0		35.1	18.9	36.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		31.0	17.0	24.0		31.0	11.0	30.0
Max Q Clear Time (g_c+I1), s		27.4	11.0	11.2		26.3	7.0	17.4
Green Ext Time (p_c), s		1.7	0.5	1.7		2.1	0.4	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	474	99	201	707	59	156	265	124	91	324	156
Future Volume (veh/h)	120	474	99	201	707	59	156	265	124	91	324	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	130	515	108	218	768	64	170	288	135	99	352	170
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	583	122	446	782	65	293	502	235	272	778	609
Arrive On Green	0.24	0.20	0.18	0.27	0.24	0.22	0.42	0.42	0.40	0.42	0.42	0.42
Sat Flow, veh/h	1634	2916	609	1634	3308	276	807	1201	563	884	1863	1458
Grp Volume(v), veh/h	130	312	311	218	411	421	170	0	423	99	352	170
Grp Sat Flow(s),veh/h/ln	1634	1770	1755	1634	1770	1814	807	0	1763	884	1863	1458
Q Serve(g_s), s	7.3	18.8	19.0	12.3	25.4	25.4	21.1	0.0	20.3	10.6	14.9	8.5
Cycle Q Clear(g_c), s	7.3	18.8	19.0	12.3	25.4	25.4	36.0	0.0	20.3	31.0	14.9	8.5
Prop In Lane	1.00		0.35	1.00		0.15	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	387	354	351	446	418	429	293	0	737	272	778	609
V/C Ratio(X)	0.34	0.88	0.89	0.49	0.98	0.98	0.58	0.00	0.57	0.36	0.45	0.28
Avail Cap(c_a), veh/h	387	354	351	446	418	429	440	0	1058	433	1118	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	42.7	43.1	33.5	41.8	41.9	35.9	0.0	24.8	36.4	23.0	21.1
Incr Delay (d2), s/veh	0.5	25.4	26.5	0.8	39.7	39.3	1.8	0.0	0.7	0.8	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	11.7	11.8	5.7	17.1	17.4	4.8	0.0	10.1	2.6	7.7	3.4
LnGrp Delay(d),s/veh	35.3	68.2	69.6	34.4	81.5	81.2	37.7	0.0	25.5	37.3	23.4	21.4
LnGrp LOS	D	E	E	C	F	F	D		C	D	C	C
Approach Vol, veh/h		753			1050			593			621	
Approach Delay, s/veh		63.1			71.6			29.0			25.0	
Approach LOS		E			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		50.0	34.0	26.0		50.0	30.0	30.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		64.0	8.0	20.0		64.0	4.0	24.0
Max Q Clear Time (g_c+I1), s		38.0	14.3	21.0		33.0	9.3	27.4
Green Ext Time (p_c), s		6.0	0.0	0.0		6.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.5
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	474	99	201	716	70	166	285	124	119	348	156
Future Volume (veh/h)	120	474	99	201	716	70	166	285	124	119	348	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1716	1863	1750	1716	1863	1750	1716	1863	1750	1716	1863	1716
Adj Flow Rate, veh/h	130	515	108	218	778	76	180	310	135	129	378	170
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	639	133	362	807	79	308	548	239	291	829	649
Arrive On Green	0.39	0.44	0.40	0.22	0.25	0.23	0.44	0.44	0.43	0.44	0.44	0.44
Sat Flow, veh/h	1634	2916	609	1634	3258	318	788	1232	536	867	1863	1458
Grp Volume(v), veh/h	130	312	311	218	422	432	180	0	445	129	378	170
Grp Sat Flow(s),veh/h/ln	1634	1770	1755	1634	1770	1807	788	0	1768	867	1863	1458
Q Serve(g_s), s	6.1	16.0	16.3	12.6	24.8	24.8	21.6	0.0	19.7	13.6	14.8	7.7
Cycle Q Clear(g_c), s	6.1	16.0	16.3	12.6	24.8	24.8	36.5	0.0	19.7	33.4	14.8	7.7
Prop In Lane	1.00		0.35	1.00		0.18	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	316	388	384	362	438	447	308	0	787	291	829	649
V/C Ratio(X)	0.41	0.80	0.81	0.60	0.96	0.96	0.58	0.00	0.57	0.44	0.46	0.26
Avail Cap(c_a), veh/h	316	388	384	362	438	447	415	0	1027	409	1082	847
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	27.5	28.3	36.7	39.0	39.2	33.0	0.0	21.9	34.1	20.3	18.3
Incr Delay (d2), s/veh	0.9	16.1	16.7	2.8	34.9	34.6	1.8	0.0	0.6	1.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.4	9.5	6.0	16.3	16.6	4.9	0.0	9.7	3.3	7.7	3.1
LnGrp Delay(d),s/veh	28.7	43.6	45.0	39.5	74.0	73.8	34.8	0.0	22.5	35.1	20.7	18.5
LnGrp LOS	C	D	D	D	E	E	C		C	D	C	B
Approach Vol, veh/h		753			1072			625			677	
Approach Delay, s/veh		41.6			66.9			26.0			22.9	
Approach LOS		D			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		50.7	27.3	27.0		50.7	24.3	30.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		59.0	7.0	21.0		59.0	4.0	24.0
Max Q Clear Time (g_c+I1), s		38.5	14.6	18.3		35.4	8.1	26.8
Green Ext Time (p_c), s		6.2	0.0	0.7		6.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Cumulative Projects

TRIP GENERATION

CUMULATIVE PROJECTS

9/20/2019

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
110	General Light Industrial	310 1000 sq ft GFA	eq	1233	eq	88% 91	12% 12	eq	13% 10	87% 70
220	Multifamily Housing (Low Rise)	549 Dwelling Units	eq	4110	eq	23% 55	77% 185	eq	63% 169	37% 99
820	Shopping Center	233 1000 sq ft GLA	eq	10686	eq	62% 166	38% 102	eq	48% 488	52% 528
sub-total				16,029		312	299		667	697
Adjustments										
Capture[1]		5%		740		11	14		33	31
Pass-by[2]		15%		1,603		25	15		73	79
Total				13,686		276	270		561	587

[1]Shopping Center and Multifamily Housing only

[2]Shopping Center only

Vehicle Turn Movement Data

Location ID: 1
North/South: Comanche Drive
East/West: Varsity Avenue

Date: 8/20/2019
City: Arvin, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	30	32	14	0	5	10	58	7	0	0	0	156
7:15	0	39	52	35	0	9	46	77	0	7	0	0	265
7:30	0	63	81	45	0	9	80	99	1	0	0	0	378
7:45	0	55	35	54	0	19	16	83	0	0	0	1	263
8:00	0	30	22	17	0	5	2	69	0	0	0	0	145
8:15	0	29	21	9	0	0	4	56	2	0	0	0	121
8:30	0	23	14	11	0	1	3	53	0	0	0	0	105
8:45	1	25	10	7	0	4	3	51	0	0	0	0	101
Total Volume:	1	294	267	192	0	52	164	546	10	7	0	1	1534
Approach %	0%	52%	48%	79%	0%	21%	23%	76%	1%	88%	0%	13%	

Peak Hr Begin:	7:00												
PHV	0	187	200	148	0	42	152	317	8	7	0	1	1062
PHF	0.672			0.651			0.663			0.286			0.702

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	1	55	12	14	0	3	3	43	0	1	0	1	133
14:15	1	50	15	9	0	4	6	60	0	2	0	1	148
14:30	0	59	25	11	0	4	7	54	0	0	0	0	160
14:45	2	70	42	23	0	2	47	63	1	0	0	0	250
15:00	0	85	37	64	0	28	29	80	1	1	0	0	325
15:15	0	102	37	42	0	20	23	102	0	0	0	0	326
15:30	0	64	39	31	0	8	9	116	0	0	0	0	267
15:45	0	90	28	36	0	3	4	122	0	0	0	0	283
Total Volume:	4	575	235	230	0	72	128	640	2	4	0	2	1892
Approach %	0%	71%	29%	76%	0%	24%	17%	83%	0%	67%	0%	33%	

Location ID: 2
North/South: Campus Drive
East/West: Varsity Avenue

Date: 8/20/2019
City: Arvin, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	3	2	1	3	0	0	9	20	16	5	11	72
7:15	0	5	0	9	11	5	5	28	44	33	5	14	159
7:30	3	10	2	10	18	5	10	31	67	90	11	14	271
7:45	7	15	0	7	21	6	6	23	49	87	11	10	242
8:00	2	1	0	1	7	3	2	4	11	18	8	3	60
8:15	0	2	0	0	3	0	0	1	7	19	5	4	41
8:30	0	0	0	0	2	0	0	1	6	12	3	3	27
8:45	0	2	0	0	3	3	1	2	7	5	2	0	25
Total Volume:	14	38	4	28	68	22	24	99	211	280	50	59	897
Approach %	25%	68%	7%	24%	58%	19%	7%	30%	63%	72%	13%	15%	

Peak Hr Begin:	7:00												
PHV	12	33	4	27	53	16	21	91	180	226	32	49	744
PHF	0.557			0.706			0.676			0.667			0.686

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	4	2	0	1	6	0	2	2	6	12	4	0	39
14:15	2	0	0	0	4	0	1	1	11	7	6	1	33
14:30	2	2	0	0	3	1	3	1	8	20	4	3	47
14:45	5	4	1	1	16	2	6	5	40	14	9	5	108
15:00	8	39	2	1	9	4	10	3	50	76	4	0	206
15:15	12	30	5	3	12	3	5	4	45	60	19	11	209
15:30	5	2	3	1	10	5	3	5	18	35	20	7	114
15:45	2	9	2	0	13	2	4	4	28	18	17	7	106
Total Volume:	40	88	13	7	73	17	34	25	206	242	83	34	862
Approach %	28%	62%	9%	7%	75%	18%	13%	9%	78%	67%	23%	9%	

Location ID: 3
North/South: Comanche Drive
East/West: Bear Mountain Boulevard (SR 223)

Date: 8/20/2019
City: Arvin, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	14	17	11	25	29	12	14	59	27	9	45	11	273
7:15	8	30	25	37	47	21	36	85	17	10	54	17	387
7:30	6	31	36	51	56	62	46	90	16	22	76	4	496
7:45	9	37	21	28	52	45	32	52	22	10	59	2	369
8:00	4	17	20	32	49	19	7	43	15	4	30	9	249
8:15	6	9	10	28	25	24	11	29	19	6	31	9	207
8:30	7	16	19	15	39	16	9	32	11	6	31	5	206
8:45	9	8	16	22	28	19	11	19	12	6	34	1	185
Total Volume:	63	165	158	238	325	218	166	409	139	73	360	58	2372
Approach %	16%	43%	41%	30%	42%	28%	23%	57%	19%	15%	73%	12%	

Peak Hr Begin:	7:00												
PHV	37	115	93	141	184	140	128	286	82	51	234	34	1525
PHF	0.839			0.688			0.816			0.782			0.769

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	11	38	16	26	43	24	16	35	16	14	31	7	277
14:15	6	22	34	28	31	24	37	48	8	14	37	3	292
14:30	8	30	35	21	48	29	19	35	27	22	48	15	337
14:45	8	38	25	55	63	35	34	67	23	16	56	13	433
15:00	7	73	54	42	58	66	32	60	27	33	54	6	512
15:15	8	51	44	42	71	42	50	85	39	24	60	12	528
15:30	7	34	34	62	64	35	50	69	24	30	52	13	474
15:45	13	54	44	44	67	73	31	56	21	23	59	11	496
Total Volume:	68	340	286	320	445	328	269	455	185	176	397	80	3349
Approach %	10%	49%	41%	29%	41%	30%	30%	50%	20%	27%	61%	12%	

Location ID: 4
North/South: Walnut Street
East/West: Bear Mountain Boulevard (SR 223)

Date: 8/20/2019
City: Arvin, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	0	0	10	58	4	14	0	0	2	53	11	160
7:15	21	0	0	21	85	15	34	0	0	5	67	35	283
7:30	39	0	0	36	116	28	49	0	0	10	103	58	439
7:45	35	0	0	24	100	21	30	0	0	10	70	31	321
8:00	5	0	0	9	93	11	16	0	0	2	50	1	187
8:15	1	0	0	5	68	10	19	0	0	3	52	6	164
8:30	3	0	0	2	61	4	9	0	0	3	60	5	147
8:45	4	0	0	4	56	9	13	0	0	1	60	4	151
Total Volume:	116	0	0	111	637	102	184	0	0	36	515	151	1852
Approach %	100%	0%	0%	13%	75%	12%	100%	0%	0%	5%	73%	22%	

Peak Hr Begin:	7:15												
PHV	100	0	0	90	394	75	129	0	0	27	290	125	1230
PHF	0.641			0.776			0.658			0.646			0.700

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	4	0	0	6	91	21	6	0	0	5	68	5	206
14:15	1	0	0	12	85	10	21	0	0	7	106	3	245
14:30	4	0	0	13	93	18	17	0	0	6	92	5	248
14:45	8	0	0	18	129	22	27	0	0	4	104	11	323
15:00	22	0	0	20	153	36	24	0	0	11	117	16	399
15:15	11	0	0	18	150	28	28	0	0	17	131	26	409
15:30	13	0	0	26	140	15	36	0	0	12	108	31	381
15:45	56	0	0	14	139	30	29	0	0	7	118	16	409
Total Volume:	119	0	0	127	980	180	188	0	0	69	844	113	2620
Approach %	100%	0%	0%	10%	76%	14%	100%	0%	0%	7%	82%	11%	

Location ID: 5
North/South: Campus Drive
East/West: Bear Mountain Boulevard (SR 223)

Date: 8/20/2019
City: Arvin, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	13	7	8	31	8	4	33	21	7	28	20	186
7:15	17	42	11	20	50	7	4	80	25	8	53	37	354
7:30	47	66	14	16	86	14	3	73	19	14	56	51	459
7:45	48	64	13	10	74	22	17	41	19	13	71	28	420
8:00	8	19	10	5	62	17	8	15	25	9	41	10	229
8:15	7	8	4	4	51	14	14	10	21	8	51	13	205
8:30	10	6	6	8	40	10	8	7	14	11	36	11	167
8:45	15	3	7	5	38	7	14	10	17	5	42	22	185
Total Volume:	158	221	72	76	432	99	72	269	161	75	378	192	2205
Approach %	35%	49%	16%	13%	71%	16%	14%	54%	32%	12%	59%	30%	

Peak Hr Begin:	7:15												
PHV	120	191	48	51	272	60	32	209	88	44	221	126	1462
PHF	0.707			0.825			0.755			0.808			0.796

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Lanes:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	15	11	8	8	80	22	18	10	17	9	47	11	256
14:15	9	21	5	6	64	16	23	16	30	22	86	19	317
14:30	15	15	10	4	98	18	25	23	21	22	67	14	332
14:45	15	13	10	11	121	33	16	62	28	16	61	37	423
15:00	50	103	14	18	162	50	17	48	20	21	81	27	611
15:15	24	39	16	14	128	44	24	54	32	18	106	30	529
15:30	13	24	13	8	143	47	22	55	32	21	97	26	501
15:45	31	73	26	10	111	29	31	35	24	19	86	23	498
Total Volume:	172	299	102	79	907	259	176	303	204	148	631	187	3467
Approach %	30%	52%	18%	6%	73%	21%	26%	44%	30%	15%	65%	19%	